

**PARENTS' ATTRIBUTIONAL, EMOTIONAL AND
BEHAVIOURAL REACTIONS TOWARDS AGGRESSIVE
BEHAVIOUR IN LEARNING DISABLED AND NON LEARNING
DISABLED CHILDREN**

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DECLARATION

I declare that this thesis has been written by myself and that the work contained herein is my own.

Nicola I. Logan

DEDICATION

I would like to dedicate this thesis to my grandmother, Brigita Valovic

and

in loving memory of my grandfather, Villiam Valovic (1923 – 2000)

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ABSTRACT

Objective: The attributions parents make about the challenging behaviour of their children have been shown to be important determinants of their emotional and behavioural responses to such behaviour. In general, studies have found that if parents judge a child's behaviour to be caused by factors that are internal or controllable, then they will experience more negative emotions and respond using more punitive discipline strategies. To date, no study has directly compared parents' attributional, emotional and behavioural responses to challenging behaviour in learning disabled children with that of non-learning disabled children. In this study, it was hypothesised that parents would have different attributional, emotional and behavioural responses to aggressive challenging behaviour in a learning disabled child in comparison to a non-learning disabled child, on account of the child's learning disability.

Design: A questionnaire method was used to analyse within-subjects and between-subjects differences on measures of attributional, emotional and behavioural responses to vignettes of aggressive challenging behaviour in learning disabled and non-learning disabled children.

Method: Fifty-four parents of children with aggressive challenging behaviour (20 with a learning disabled child and 34 with a non-learning disabled child) took part in the study. Participants read two vignettes depicting a learning disabled and a non-learning-disabled child with aggressive challenging behaviour. They were then asked to complete questionnaire measures of attributional, emotional and behavioural response in relation to each vignette.

Results: In comparison to aggressive behaviour in the non-learning disabled child, participants rated the learning disabled child's aggressive behaviour as being due to more global, more stable and less controllable causes, and reported that they would respond with less negative emotion and less punitive discipline strategies. No group differences (i.e. comparing parents with a learning disabled child and parents with a

non-learning disabled child) were found in attributional, emotional or behavioural responses to the two vignettes. The results are discussed with reference to previous research findings and clinical implications. Consideration is also given to the methodological shortcomings of the current study and suggestions for future research are made.

INTRODUCTION

GENERAL OVERVIEW OF THESIS

Children are often referred to clinical psychology services for challenging behaviour (defined below) so it is important for psychologists to understand how parents view such behaviour in their children. An understanding of how parents interpret challenging behaviour in children is important in explaining their responses to such behaviour and guiding subsequent psychological interventions (e.g. Joiner & Wagner, 1996; Dagnan, Tower & Smith, 1998). A number of studies have used attribution theory to explain the way in which parents respond to challenging behaviour in their children. According to attribution theory (e.g. Weiner, 1986), parental beliefs about the causes of their child's challenging behaviour will affect their emotional and behavioural responses to it (e.g. Dix & Grusec, 1985; Geller & Johnston, 1995; Mills & Rubin, 1990). In general, these studies have supported the application of attribution theory, finding that if parents judge the child's behaviour to be caused by factors that are internal (i.e. to do with the child rather than the environment or situation) or controllable (i.e. within the child's control), then they will experience more negative emotional and behavioural responses to the behaviour (i.e. they will experience more negative emotions such as anger and respond using more punitive discipline strategies such as smacking or shouting).

The majority of studies have considered children without learning disabilities. Only one study has applied attribution theory to learning disabled children (Chavira et al., 2000), the findings of which support the application of the theory with this group. Chavira et al. also found that most mothers in the study viewed their child as not being responsible for the behaviour. Paediatric literature has shown that parents of children with chronic medical illnesses have more lenient expectations of their child's behaviour and, as a result, tend to be less strict in disciplining them. Walker et al (1995) found that in comparison to well children, parents view the misbehaviour of children with a chronic medical illness as being less intentional, less controllable

and less internal, and they subsequently respond with less anger and punishment. Given that learning disabled children have some form of brain damage, it is possible that parents will make extra allowances for challenging behaviour in learning disabled children and subsequently use more lax discipline strategies on account of the child's learning disability. Having a learning disability may be a factor that influences attributional, emotional and behavioural responses to a child's behaviour. To date, no study has directly compared parents' attributional, emotional and behavioural responses to challenging behaviour in learning disabled children with that of non-learning disabled children. If there were differences in responses at these levels, psychological interventions for learning disabled children with challenging behaviour would have to take into account the attributions parents make for the behaviour, as this would have an effect on the parents' engagement in treatment. Research findings that inform the development of early interventions for challenging behaviours in learning disabled children may help to prevent such behaviours being maintained into adulthood.

This thesis will examine parents' attributional, emotional and behavioural responses towards one type of challenging behaviour – aggressive behaviour - in children. In particular, it will compare the responses of parents to aggressive behaviour in learning disabled children and aggressive behaviour in non learning-disabled children. As will be described, beliefs about challenging behaviour vary according to the type of behaviour being considered (Hastings et al., 1995), which is why only one type of challenging behaviour will be studied in this thesis. Aggressive behaviour will be selected, as it is a form of challenging behaviour that is commonly seen in both learning disabled and non-learning disabled children.

The introduction to this thesis will review the relevant literature and develop a rationale for the study. Section One will “set the scene” by providing definitions and contextual information. Section Two will provide relevant background information about the causal and maintaining factors of challenging behaviour in children. Given that attributional processes are central to this thesis, Section Three will describe attribution theory and review the literature applying attribution theory to challenging

behaviour in children and also adults with learning disabilities. Section Four will outline the rationale for why parental attributions and responses to challenging behaviour might be different for learning disabled children in comparison to non-learning disabled children by drawing on, amongst other research, the paediatric sick role literature.

Although there is a substantial amount of research into attributional, emotional and behavioural responses in parents of non-learning disabled children with challenging behaviour, there is very little research in this field in relation to parents of children with learning disabilities. Therefore, wherever possible, this introduction will draw on the literature about challenging behaviour in adults with learning disabilities. In the absence of directly comparable studies, this will help to provide both a child and a learning disability perspective.

SECTION ONE: DEFINITIONS AND CONTEXTUAL INFORMATION

Section one will provide contextual information, which is pertinent to this thesis. This will include: a definition of learning disability and information about the prevalence of learning disability in children; a definition of challenging behaviour and information about the presentation and prevalence of challenging behaviour in non-learning disabled and learning-disabled children; information about aggression in children, as this is the specific type of challenging behaviour that will be studied in this thesis; and information about the consequences of challenging behaviour.

DEFINITION OF LEARNING DISABILITY

It is important to note at the outset that there are international variations in the terminology used to describe learning disability. For example, terms such as “intellectual disability” and “mental retardation” are used in America. However, the term *learning disability* is the preferred option in the UK (British Psychological Society, 2000), and will therefore be used throughout this thesis.

Internationally, various classification systems are used to define and diagnose the presence of a learning disability (e.g. American Psychiatric Association, 1994; American Association on Mental Retardation, 1992; World Health Organisation, 1992). Despite minor variations in wording and emphasis, most systems agree that three criteria must be met before a child (or adult) can be classified as having a learning disability. These are: a significant impairment of intellectual functioning (i.e. IQ<70); a significant impairment of adaptive/social functioning; and onset before the age of 18 years.

Learning disability can be further sub-classified according to severity. The most widely used system is that of the International Classification of Disease (ICD-10) (World Health Organisation, 1992) (see Table 1). Within this system, there are four classifications of severity of learning disability that reflect the level of intellectual impairment and are based on standardised IQ scores. However, the British Psychological Society (2000) recently introduced a new classification system for severity of intellectual functioning. In the UK, severity is now classified as “significant impairment” (IQ 55-69) and “severe” impairment (IQ <55). Consideration should also be given to adaptive behaviour when making a judgement about level of learning disability (Emerson et al., 1998).

Severity of Learning Disability	IQ level
Mild	50-70
Moderate	35-49
Severe	20-34
Profound	<20

Table 1: ICD-10 Classification of severity of learning disability

PREVALENCE OF LEARNING DISABILITY IN CHILDREN

Most prevalence studies of learning disability are total population estimates, which combine adults and children. Based on these studies, 2-3% of children have learning disabilities (Scott, 1994). Of this group, approximately 89% have a mild learning disability, 7% have a moderate learning disability, 3% have a severe learning disability and 1% have a profound learning disability (Madle, 1990). The number of

children and adults with learning disabilities in the UK has increased in the last 35 years and it is estimated that it will continue to increase by at least 1% a year, over the next ten years (McGrother & Thorpe, 1999). According to Janicki (2000), this increase is attributed to a rise in the birth rate of learning disabled children and an increase in the life expectancy of people with learning disabilities due to medical advances and improved environmental conditions. This demographic change is likely to lead to an increased demand for social and health services for the learning disabled population.

DEFINITION OF CHALLENGING BEHAVIOUR IN THE LEARNING DISABILITY FIELD

A large proportion of children and adults with learning disabilities engage in behaviours that have been labelled “challenging”. The most commonly cited prevalence estimate of challenging behaviour in the learning disability population is 10-15% (Emerson, 1998). Challenging behaviour is one of the most significant clinical issues in the field of learning disabilities and a substantial amount of research has been carried out on this subject. The term *challenging behaviour* is defined as “culturally abnormal behaviour of such an intensity, frequency or duration that the physical safety of the person or others is likely to be placed in serious jeopardy, or behaviour which is likely to seriously limit use of, or result in the person being denied access to, ordinary community facilities” (Emerson, 2001 pp3). Unlike previous descriptions of problem behaviours, the term “challenging behaviour” implies that the onus is on the service and carers to meet the challenge rather than the problem being located within the individual.

Any behaviour that poses a management problem for carers could be considered “challenging”. However, the three most commonly identified forms of challenging behaviour are aggressive/destructive behaviour, self-injurious behaviour and stereotypical behaviour (Hastings & Remington, 1994). Examples of these include physical or verbal aggression (e.g. hitting, biting, kicking, verbal abuse), damage to property (e.g. breaking objects), self-harm (e.g. head banging, skin picking),

stereotypical/repetitive behaviour (e.g. rocking) and anti-social behaviour (e.g. screaming, shouting, sexually inappropriate acts).

“Challenging behaviour” is the preferred terminology used in the literature to describe problem behaviour in adults and children with learning disabilities. However, the term “behavioural problems” tends to be used to describe problem behaviour in non-learning disabled children. In order to avoid pejorative labelling, the term “challenging behaviour” will be used throughout this thesis to refer to problem behaviour in learning-disabled children, non-learning disabled children and learning-disabled adults.

PRESENTATION AND PREVALENCE OF CHALLENGING BEHAVIOUR IN CHILDREN

Presentation and Prevalence of Challenging Behaviour in Non-Learning Disabled Children

Challenging behaviours are commonly found in school age children (i.e. 5-16 years old), with prevalence rates ranging from 6% to 20% (Richman et al. 1982). The referral of children to clinicians for treatment of challenging behaviour comprises a third to a half of all child and adolescent clinic referrals (Kazdin, 1995; Farrington, 1995; Patterson et al., 1992). Examples of such behaviours include non-compliance, aggression, oppositional-defiant behaviours, violations of classroom and adult authority (e.g. lying and cheating); and in adolescence, violations of the law or of community authority (e.g. shoplifting).

For some children, the behaviour is so severe that it meets the diagnostic criteria for behavioural disorders such as “Oppositional-Defiant Disorder” and “Conduct Disorder”. The distinction between challenging behaviour and behavioural disorders in non-learning disabled children is one of severity and extent. Behavioural disorders tend to be associated with a higher degree of destruction and disruption, occur in more than one setting (e.g. at home and at school), persist over time and

have early onset (Webster-Stratton & Herbert, 1994). McMahon & Estes (1997) note that behavioural disorders are among the most frequently occurring child disorders, with prevalence rates ranging from 2-9% for Conduct Disorder and from 6%-10% for Oppositional Defiant Disorder. Further, Conduct Disorder is more prevalent in boys than girls, with a male: female ratio of 2:1 (Carr, 1999).

Presentation and Prevalence of Challenging Behaviour in Learning Disabled Children

It is widely recognised that learning-disabled children are at increased risk of emotional and behavioural disturbance, presenting four times more challenging behaviours than children without learning disabilities (Cormack et al, 2000). Prevalence rates in learning disabled children range from 22% (Kiernan & Kiernan, 1994) to 50 % (Wilkin, 1979). The severity of the child's learning disability has been shown to be strongly associated with an increased risk of challenging behaviour (Kiernan & Kiernan, 1994; Quine, 1986; Oliver et al, 1987). In addition, longitudinal studies of learning disabled children with challenging behaviours suggest that, once the behaviours are established, they often persist over time (Kollier et al, 1983; Carr, 1992)

The challenging behaviours seen in learning disabled children may differ in type, duration, intensity and frequency in comparison to those seen in non-learning disabled children (Saxby & Morgan, 1993). Quine's (1986) study of 200 5-18 year old children with severe learning disabilities provides a good illustration of the range of challenging behaviours displayed by learning disabled children. This study revealed that 29% of learning disabled children were "attention seeking", 21% were over-active, 25% had temper tantrums, 21% were aggressive, 22% screamed, 18% wandered, 14% were destructive and 12% engaged in self-injurious behaviour. In an earlier study of learning disabled children, Pahl & Quine (1984) found that 51% had night settling problems and 67% had night waking problems. Although many of the challenging behaviours seen in non-learning disabled children are also seen in learning disabled children, there would appear to be some qualitative differences in

the types of challenging behaviour exhibited by both groups. First, as might be expected in learning-disabled children (who typically show global developmental delay), there is increased prevalence of behaviours that would usually be associated with earlier developmental stages in non-learning disabled children (e.g. sleeping problems and temper tantrums). Second, learning-disabled children display specific challenging behaviours that are comparatively uncommon in non-learning disabled children (e.g. self-injury and stereotypical behaviour). Third, learning disabled children tend not to be diagnosed as having behavioural disorders.

Aggressive Behaviour in Children

Aggression is one form of challenging behaviour and will be described in more detail, as this is the specific type of behaviour that will be studied in this thesis. According to Herbert (1998), aggression is a generic term for a variety of complicated and multi-faceted phenomena, which include aggressive actions (behaviour), states of mind such as rage, anger or hostility (feelings) and aggressive drives, inclinations, thoughts and intentions (motivations). Herbert (1998) divides childhood aggression into three different acts. These are: *destructiveness* (the act of destroying, damaging or attempting to damage an object); *physical aggression* (actual or attempted assault on someone of sufficient intensity to potentially or actually inflict pain); and *verbal aggression* (shouting or screaming at another person such that it is of sufficient intensity and duration to be unpleasant to the other person, or when the content of the speech is abusive).

Much of a child's aggressiveness arises as a natural side-effect of becoming socialised (Herbert, 1994). Aggression during early childhood is considered to be developmentally normal. At the age of approximately two years old, children go through the developmental stage commonly referred to as the "terrible twos". This is characterised by a "normal" increase in non-compliance, temper tantrums and aggressive behaviour and signifies the child's desire to develop independence (Walker & Roberts, 1992). During this stage, children are considered to have a repertoire of coercive behaviours (e.g. tantrums, crying, whining, yelling and

commanding), which they use to influence their parents. Coercive behaviours decline steadily in frequency, as children get older. By the age of four, there are substantial improvements in the ability of children to control their negative commands, destructiveness and attempts to coerce by aggressive means. This increase in self-control is seen as a sign that the child is maturing and learning more socially acceptable ways of meeting their needs. According to Herbert (1994), an older child who displays coercive behaviours at a level commensurate with a three year old would be an example of arrested socialisation. Usually, as a child gets older, certain coercive behaviours (e.g. whining, crying, tantrums) are no longer acceptable to parents and these behaviours become the target of careful monitoring and sanctions, which in turn are accompanied by reductions in their frequency and severity. Therefore, many children display aggressive behaviour as they mature. However, according to Herbert (1994), aggression is considered problematic when it is extreme (in terms of frequency or intensity) or persistent (in terms of duration). According to Bacon & Ashmore (1985), parents expect their children to have developed some control over aggression by early childhood and by middle childhood parents consider aggression to be a problematic behaviour. It is important to note, however, that these expectations may be different for parents of learning disabled children in view of the anticipated delays in global development and maturation.

CONSEQUENCES OF CHALLENGING BEHAVIOUR IN CHILDREN

Challenging behaviour often causes immense distress, sometimes with major repercussions for learning disabled and non-learning disabled children and their families (Chadwick et al., 2001). For parents, challenging behaviours are associated with decreased levels of psychological and physical well-being (Quine & Pahl, 1985) and reduced employment and leisure opportunities (Hirst, 1985). Studies have repeatedly found associations between child behaviour problems and variables such as maternal stress and marital discord (Quine, 1986). Parents of children with challenging behaviour have been found to experience more negative interactions with their children and less efficacy and satisfaction in the parenting role than parents of children without significant behaviour problems (Johnston & Mash, 1989).

Parents of conduct-disordered children are at increased risk of developing stress related disorders such as anxiety, depression and psychophysiological disorders (Brody & Forehand, 1986; Webster-Stratton & Hammond, 1988). Further, children with challenging behaviour are at greater risk of abuse from their parents (Zirpoli, Snell & Lloyd, 1987), their families are more likely to place them in residential care (Sherman, 1988), and they contribute to a higher level of family distress (e.g. Quine & Pahl, 1985).

The long-term impact of behavioural disorders (e.g. conduct disorder) in non-learning disabled children has also been well documented. Such children are at increased risk of being rejected by their peers and of scholastic underachievement and failure, which can have debilitating short and long-term consequences (Herbert, 1995). In addition, several longitudinal studies indicate that childhood conduct disorder predicts anti-social behaviour in adult life. There are increased rates of delinquency and anti-social personality disorders (Farrington, 1995). Follow up studies suggest high rates not only of alcoholism, substance abuse, physical illness, suicide and accidental death, but also for widespread social dysfunction, with poor work records and difficulties in all relationships, including marital relationships (Robbins & Rutter, 1990).

Finally, research in the adult learning disability field may also provide useful information about the impact of challenging behaviour. Studies have shown that care givers engage in fewer social interactions with people who engage in challenging behaviours (Hastings & Remington, 1994), and severe self-injury and aggression can result in significant harm to care givers and to individuals engaging in these actions. Further, individuals who engage in challenging behaviours are likely to be perceived more negatively by care givers than those who do not (Jones, Wint & Ellis, 1990).

SUMMARY OF SECTION ONE

Approximately 2-3 % of children have a learning disability, many of whom present with challenging behaviours such as aggression, self-injury and stereotypy.

Challenging behaviours are also common in non-learning disabled children, although there may be some qualitative differences in the types of behaviours displayed by these children in comparison to learning disabled children. Challenging behaviour often has a major negative impact on children and their families.

The next section will review the factors that cause and maintain challenging behaviour in children, and their implications for psychological intervention.

SECTION TWO: FACTORS THAT INFLUENCE THE DEVELOPMENT AND MAINTENANCE OF CHALLENGING BEHAVIOUR IN CHILDREN

It is important to consider the factors that contribute to the development and maintenance of challenging behaviour in children. This section will provide a brief general overview of these factors. The influence of parenting on challenging behaviour in children will then be discussed in more detail as this is of particular relevance to this thesis. Literature relating to the influence of carers' behaviour on challenging behaviour in adults with learning disabilities will also be reviewed to provide a learning disability perspective. Finally, the management of challenging behaviour will be discussed.

FACTORS THAT INFLUENCE THE DEVELOPMENT AND MAINTAINANCE OF CHALLENGING BEHAVIOUR IN CHILDREN

It is beyond the scope of this thesis to provide a comprehensive review of the multitude of complex factors that contribute to the development and maintenance challenging behaviour in learning disabled and non-learning disabled children. However, authors such as Emerson (2001) and Carr (1999) identify behavioural factors (e.g. through operant conditioning processes, the child learns to use challenging behaviour as a way of communicating his or her needs); medical factors (e.g. as an underlying symptom of a medical condition such as Autistic Spectrum Disorder, Fragile-X Syndrome or Prader-Willi Syndrome); neurobiological factors (e.g. self-injury is thought to lead to the release of beta endorphin which, through its

analgesic and euphoria inducing properties, acts as an automatic reinforcer); exposure to family problems in early life (e.g. parental depression/alcohol abuse/criminality, marital discord); exposure to stresses in early life (e.g. bereavements, parent-child separation, child abuse, social disadvantage, institutional upbringing); and systems factors (e.g. challenging behaviour develops and is maintained by the way in which the behaviour is responded to by parents/care givers). The latter of these examples (i.e. systems factors) is of most relevance to this thesis and will now be discussed in more detail.

The Role of Parenting in the Development and Maintenance of Challenging Behaviour in Children

It is generally accepted that parents have the prime responsibility for meeting the basic physical and emotional needs of their children. The establishment of responsive, sensitive parenting is regarded as the most critical foundation on which a child's social development is based (Herbert, 1999). Parenting is considered to be a skill, which is developed through intuition, common sense and empathy (Herbert, 1999). Parental factors such as maternal depression (Pound et al., 1985; Webster-Stratton 1988), social network factors (Carr, 1999) and intergenerational parenting experiences (Douglas, 1989) can interfere with the development of successful parenting skills.

It is widely documented that ineffectual parenting is one of the most important determinants in the development and maintenance of challenging behaviour in children (Menna et al., 2001). Indeed some areas of research have been successful in identifying parenting styles that contribute to behavioural and emotional problems in children (Kendall, 2000). Reviews of the extensive literature on parenting suggest that by combining the two orthogonal dimensions of warmth and control, four parenting styles can be identified and each of these is associated with particular developmental outcomes for the child (Darling & Steinberg, 1993). *Authoritative parents* adopt a warm, child-centred approach, coupled with a mild degree of control which allows the child to take age appropriate responsibility, and provide a context

which is maximally beneficial for children's development as autonomous, confident individuals. Children of *authoritarian parents* who are warm but controlling tend to develop into shy adults who are reluctant to take initiative. Children of *permissive parents* who are warm but lax in discipline have difficulty internalising rules about appropriate behaviour. Finally, children of *neglectful parents* receive little warmth from their parents and are either harshly disciplined or inconsistently supervised. These children either learn to use aggression to resolve conflict or tend not to internalise the boundaries associated with acceptable behaviour. Overall, it is thought that authoritarian, permissive and neglectful parenting styles fail to offer children the secure attachments and authoritative parenting they require for their psychosocial needs to be met.

Challenging behaviour in children is often maintained by the way in which parents respond to the behaviour (Carr, 1999). In particular, maladaptive patterns of parent-child interactions become established. The four main ones are: inappropriate reinforcement of behaviour, coercive interaction, inconsistent discipline, and confused communication. These are described below.

First, the dominant approach has been to view challenging behaviour as a product of operant conditioning. Operant conditioning theory (Skinner, 1953) states that behaviour is learned and maintained by positive and negative reinforcement. Parents of children with challenging behaviour often inadvertently reinforce challenging behaviour simply by attending to it and they conversely fail to reinforce appropriate behaviour. Thus the child learns that displaying challenging behaviour is an effective way of getting a response from the parents.

Second, coercive interaction patterns are thought to be central to the maintenance of challenging behaviour in children (Patterson, 1982). Children with challenging behaviour become involved in escalating patterns of negative interaction with their parents. Within such patterns, the child responds to parental criticism with increasingly aggressive or destructive behaviour. Eventually, on some occasions parents withdraw from these exchanges. This withdrawal leads both the child and

the parent to experience relief. This experience of relief reinforces the behaviour of both the child and the parent. For the child, a high level of aggressive and destructive behaviour is reinforced. For the parent, withdrawal from the child in the face of escalating behavioural difficulties is reinforced. This process has been described as the *negative reinforcement trap* (Wahler, 1969).

Third, inconsistent disciplining by parents can maintain challenging behaviour. Where the rules governing acceptable and unacceptable behaviour and the consequences associated with adherence to rules or rule violations are either unclear or clear but inconsistently enforced, problem maintaining parent-child interaction patterns may emerge (Kazdin, 1995). Children may refuse to comply with parental requests, because it is unclear what the consequences for compliance or defiance will be. In such situations, the child finds it difficult to internalise the rules for acceptable behaviour and so may continue to show problem behaviour. For example, parents of children with conduct disorder have been reported to be more violent, erratic and inconsistent in their use of discipline, and to be more likely to reinforce inappropriate behaviours and to ignore or punish pro-social behaviours (Patterson & Stouthamer, 1984; Webster-Stratton, 1985).

Fourth, challenging behaviour can be maintained by confused communication patterns (Jacob, 1987; Dadds, 1995). These are characterised by problematic parental listening or by giving unclear and indirect messages to the child. For example, Forehand & McMahon (1981) found that parents of children without challenging behaviour tend to use more alpha commands (i.e. clear, specific and direct commands that are given one at a time and are followed by a five second delay for compliance). However, parents of children who display challenging behaviour tend to use more beta commands (i.e. vaguely worded chains of instructions, often delivered as questions and frequently followed by a rationalisation). Unclear parent-child communication can lead to the child having no clear boundaries within which to behave, which in turn maintains and exacerbates challenging behaviour.

The parenting factors described above also apply to learning disabled children. However, learning disabled children have additional deficits in their comprehension and communication skills which may further complicate the process of establishing adaptive parenting strategies. Given these deficits, learning disabled children implicitly learn to use their challenging behaviour functionally (e.g. to get social attention from their parents). For example, Oliver (1995) has described two common behavioural patterns that maintain self-injurious and aggressive behaviour in learning disabled children. In the first pattern, a period of social isolation leads the child to a state of heightened need for social contact, and the challenging behaviour occurs. In response to this, the parent provides social contact until the child's need for contact is satiated. This increases the likelihood of the child engaging in challenging behaviour in the future because it has been positively reinforced by the parent's attention. It is also more likely that the parent will provide social contact in response to challenging behaviour, since giving attention ultimately leads the parent to experience relief when the challenging behaviour stops. In the second pattern, the parent places demands upon the child and, in response, the child engages in challenging behaviour which leads the parent to stop placing demands upon the child. Thus the child is more likely in future to engage in challenging behaviour when demands are placed upon them because in the past this has led to a cessation of demands. The parent is also more likely to stop making demands in response to the challenging behaviour since this has led to a cessation of the child's challenging behaviour. These patterns are similar to the negative reinforcement trap, which was described earlier.

There are a number of additional factors specific to learning-disabled children that may interfere with the establishment of adaptive parent-child interaction in the early years. First, when parents are informed that their child has a learning disability, they often experience a grief reaction (Turk, 1996). The emotional distress associated with this reaction may limit the parents' capacity to develop consistent discipline strategies and routines at the crucial early stages in the child's development. Second, many learning-disabled children are born with additional medical complications, which require treatment in their early years (e.g. epilepsy, heart conditions, sensory problems, mobility problems). It feels intuitively likely that parents of these children

will feel guilty about imposing boundaries and consequences on their child's behaviour because they do not want to be responsible for causing the child further distress. This may result in the child having no clear boundaries within which to behave and this can contribute to the development and maintenance of challenging behaviour. Third, it is not uncommon for parents of learning-disabled children to believe that challenging behaviour is an inevitable aspect of having a learning disabled child. This may cause parents to feel helpless and believe that they cannot do anything to modify their child's behaviour, which in turn reduces their motivation to change their situation. Therefore, parents can become stuck in cycles of parent-child interaction that maintain the child's challenging behaviour.

The Role of Care Givers in the Development and Maintenance of Challenging Behaviour in Adults with Learning Disabilities

As is the case in the child parenting literature, research in the adult learning disability field has demonstrated that care staff often contribute to the development and maintenance of challenging behaviour in learning disabled adults. Arguably, the most influential theories in this field have been based on the behavioural principles of either positive or negative reinforcement (Hastings & Remington, 1994). First, challenging behaviours may occur because of the positively reinforcing nature of the events that follow them. Often implicated is the attention of other people because carers frequently attend to individuals who engage in challenging behaviour either to reassure or to reprimand (Oliver, 1991). This attention positively reinforces the challenging behaviour. Second, negative reinforcement theories claim that challenging behaviours function to avoid or escape aversive consequences. A common example is escape from demands associated with imposed tasks, engaging in self-injury for instance may terminate a teaching session (Carr, Newson & Binkhoff, 1980). In support of these theoretical models, recent data show that for many people with learning disabilities challenging behaviour appears to serve a social function. One study found that 72% of clients' challenging behaviours were mediated by attention or escape (Derby et al., 1992). According to Thurman (1997), the term challenging behaviour implicitly acknowledges that the behaviour is

functional for the individual. As people with a learning disability by definition have impairments in adaptive and intellectual functioning they, therefore, potentially have a more limited repertoire of behaviour or communication available to ensure that their needs are met. Thus behaviours that are challenging to others can be viewed as an attempt by the learning disabled individual to communicate something or to gain access to/escape from something.

If challenging behaviours are to be considered social in nature then this implies that they affect and are affected by other people (Hastings, 1995). Therefore, the way in which care staff interact with adults with challenging behaviour is an important contributory factor in the development and maintenance of the behaviour. Unfortunately, research has shown that care staff often respond in a manner that maintains the problem behaviour (Hastings & Remington, 1994). For example, staff may only spend around 10% of their working day interacting with the people in their care and are more likely to spend time with people who engage in challenging behaviours (during active challenging behaviour) than those who do not (Hastings, 1995). Staff have also been shown to respond differentially to the type of challenging behaviours they have to deal with. Self-report studies indicate that behaviours that are potentially physically damaging (such as severe self injury and aggression) elicit responses from staff more frequently than other challenging behaviours (Maurice & Trudel, 1982; Hill & Bruininks, 1984; Intagliata et al., 1982). According to Hastings et al., (1995), these findings are concerning because staff appear to provide relatively high levels of attention contingent on the occurrence of challenging behaviour, despite the fact that attention has been identified as a positive reinforcer. Studies have also demonstrated that staff may act in ways that select more intense challenging behaviours. By responding only to crises, more damaging behaviours may be differentially reinforced (Hastings et al., 1995). In addition, Hastings (1996) reports that socially acceptable actions, which are functionally equivalent to challenging behaviours, are unlikely to receive a sufficient response from staff to enable them to compete successfully with challenging behaviours.

MANAGEMENT OF CHALLENGING BEHAVIOUR

Various interventions for challenging behaviour are available (e.g. cognitive behavioural therapy, play therapy and family therapy for non-learning disabled children, and functional communication training, non-aversive approaches and various behavioural procedures such as Differential Reinforcement of Other behaviour (DRO) for learning disabled adults and children). It is beyond the scope of this thesis to describe all of the available interventions in detail. Therefore, the interventions discussed will be those that involve parents and carers, as these are of particular relevance to this thesis.

The management of challenging behaviour in non-learning disabled and learning-disabled children will be discussed with reference to the parent skills training approach. As the efficacy literature on interventions for learning disabled children is limited, studies pertaining to learning disabled adults (with reference to the staff/carer skills training approach) will be included to provide a learning disability perspective.

Management of Challenging Behaviour in Non-Learning Disabled Children

As described, parents have been shown to have a significant role in maintaining challenging behaviour in children. Therefore, many interventions for challenging behaviour in children are aimed at changing parents' behaviour towards their children in order to establish better control over the challenging behaviour. This type of intervention is described in the literature as "parent skills training", and is delivered in one-to-one and group formats.

Parent skills training is usually based on behavioural principles and typically involves educating parents about child behaviour and their own role in maintaining their child's challenging behaviour. Parents are generally taught skills such as positive parenting (e.g. playing with children, using praise and tangible rewards); effective limit setting (e.g. dealing with non-compliance, using positive

reinforcement and consequences); positive communication (e.g. increasing alpha commands); and handling misbehaviour (e.g. using time out and other penalties, ignoring misbehaviour and preventative strategies). One of the major strategies of parent training involves teaching parents to alter the reinforcement contingencies that maintain the challenging behaviour in their children (Kazdin, 1987). Nevertheless, these interventions are not exclusively concerned with teaching skills. According to Herbert (1995), by the time parents receive intervention, they are often depressed, demoralised and feel ineffectual in their parental role. Therefore, an implicit aim of parent training is to empower parents, enhance their self-esteem and increase their sense of competence in their child-rearing skills in order to create an atmosphere of optimism and positive expectation for change (Herbert, 1995). Indeed, parent training has been shown to have wider implications than direct effects on the child's challenging behaviour such as decreasing maternal depression and improving the behaviour of siblings (Webster-Stratton & Herbert, 1994).

Reviews of a variety of parent skills training programmes based on one-to-one therapy have generally supported their effectiveness (e.g. Kazdin, 1985; McMahon & Forehand, 1984; Patterson, 1982). There is also evidence that parent skills training is effective and cost efficient when delivered in a group format (Webster-Stratton et al., 1989). Leading authors such as Webster-Stratton et al. (1989) have demonstrated that parent skills training is effective in improving parenting attitudes and behaviours, as well as in reducing the level of challenging behaviour in the child. Further, longitudinal studies have demonstrated that the positive effects of parent skills training are maintained long term (Long et al., 1994).

Management of Challenging Behaviour in Learning Disabled Adults

The consultancy model has also been widely used in the management of challenging behaviour in learning disabled adults. Interventions have focussed on teaching staff about the function and maintenance of challenging behaviour, and how to intervene more effectively. Staff training approaches fit with contemporary behavioural interventions because they base treatment of the problem on a hypothesis about its

cause. Hastings & Remington (1994) propose that staff often lack knowledge or skills to work with challenging behaviour in appropriate ways and this can have a negative impact on the clients with whom they work.

Staff training has been shown to be an effective way of improving staff knowledge and shaping their attitudes about challenging behaviour (Kobe & Mulick, 1995; Nagarajaiah et al., 1994; Morch & Eikeseth, 1992, Wilson et al., 1991; Allen et al., 1997). McKenzie et al. (2000) carried out an evaluation of a training course in challenging behaviour, reporting that in comparison to controls the trained group significantly increased their knowledge and potential practice as indicated by their written responses to scenarios. In addition, they found that the changes were maintained one year post training. Binny (1992) found that training increased staff knowledge and understanding of challenging behaviour and resulted in them having more positive attitudes towards their clients. However, Cullen & Mappin (1998) found that staff training produced only modest changes in staff behaviour, therefore increased knowledge may not necessarily be put into practice.

The content of training varies according to the theoretical preference of the trainers. Training approaches are usually based on behavioural analyses and intervention strategies (e.g. La Vigna & Donnellan, 1986) or non-aversive approaches (e.g. McGee et al., 1987). Berryman et al. (1994) showed that outcomes on staff beliefs depend on the theoretical orientation of the training.

Management of Challenging Behaviour in Learning Disabled Children

The parent skills training approach is often used in the management of challenging behaviour in learning disabled children although significantly less research attention has been paid to demonstrating the effectiveness of this approach with this group. Nevertheless, a few studies have reported noteworthy improvements relative to control groups (Chadwick et al., 2001). For example, Howlin & Rutter (1987) evaluated home-based interventions for parents of autistic children with challenging behaviour. The authors found that long-term interventions incorporating a variety of

behavioural training techniques resulted in marked improvements in the child's challenging behaviour, as well as improvements in parent-child relationships. Furthermore, these improvements were still present a year later. Unlike with non-learning disabled children, solely group-based interventions do not appear to have the same potential as individually based interventions for learning disabled children. Chadwick et al. (2001) conducted a randomised trial of brief individual versus group parent training for challenging behaviour in children with severe learning disabilities. This study revealed that individually based interventions were more effective than group interventions, not only in leading to improvements in child behaviour, but also in their acceptability and attendance levels. The authors concluded that, with this population, individualized interventions might be more effective because functional analysis of the behaviour is likely to be more accurate when carried out on an individual basis than in a group context where only general principles can be considered. In addition, individualized input provides greater scope for ensuring precision in the identification and specification of management strategies appropriate to particular behaviour problems. Interventions that combine group based and individualized interventions have been shown to be effective (e.g. the "The National Autistic Society Early Bird Programme (1999), which is a group and individually based intervention programme for parents of pre-school children with Autistic Spectrum Disorder).

Herbert (1999) notes that a more structured approach is required when delivering interventions for learning disabled children with challenging behaviour. As has been described in previous sections, challenging behaviour is often functional for learning disabled children (Oliver, 1991). Therefore, interventions to reduce the frequency of challenging behaviours should be based on a thorough functional analysis of the immediate antecedents and consequences of the behaviour. A wider ecological assessment is also required to identify both personal attributes and relatively enduring features of the physical and social environment which may predispose children and their parents to evolve mutually reinforcing patterns of behaviour that maintain the challenging behaviour (Evans & Meyer, 1985; Oliver, 1995). According to Yule & Carr (1987), a functional analysis will suggest potential

interventions, and these may fall into three broad categories: stimulus control interventions (which aim to alter the antecedent conditions that give rise to the challenging behaviour); contingency management interventions (which aim to alter the consequences of the challenging behaviour so that it is no longer reinforced); and functional equivalence training (which aims to teach the child more appropriate ways of having their needs met).

SUMMARY OF SECTION TWO

Ineffective parenting is one of the most important determinants in the development and maintenance of challenging behaviour in children. Similar findings have also been reported in the learning disability field where carers have been shown to respond in ways that maintain challenging behaviour in adults with learning disabilities. Consequently, interventions for challenging behaviours often focus on training parents and carers to help them to understand the function and maintenance of challenging behaviour, and to intervene more appropriately.

Considering the significant role of parents in the development and maintenance of challenging behaviour in children, it is important to understand the factors that influence parents' responses to challenging behaviour. Attribution theory may provide one explanation and will be explored in the following section.

SECTION THREE: FACTORS THAT INFLUENCE PARENTS' RESPONSES TO CHALLENGING BEHAVIOUR IN CHILDREN

Previous sections have outlined how parenting practices often contribute to the development and maintenance of challenging behaviour in children. A considerable amount of research has been carried out to try to identify factors that influence the way in which parents respond to challenging behaviour. Parental beliefs and attributions about the cause of the child's challenging behaviour have been shown to affect parents' own emotional reactions to the behaviour, which in turn influence the parenting strategies used to manage the behaviour.

This section will outline attribution theory and its application to the understanding of challenging behaviour. The literature applying attribution theory to challenging behaviour in non-learning disabled and learning-disabled children will be reviewed. As the literature on learning disabled children is limited, studies pertaining to learning disabled adults will also be included to provide a learning disability perspective.

ATTRIBUTION THEORY

Attribution theory is concerned with how people make sense of their own behaviour and the behaviour of others. Social cognition theorists view the interpretations or causal attributions that individuals make about events as having a central role in predicting emotional reactions and behaviour (Heider, 1958; Jones & Davis, 1965; Kelley, 1973; Weiner, 1986). From a social cognitive perspective, attributions are formed along certain causal dimensions. The four main causal dimensions are described below.

Internal – External (Heider, 1958): This dimension relates to the degree to which the cause of the behaviour is seen as within the person or external to the person. According to Jones & Davis (1965) attributing a person's behaviour to an internal cause implies that their behaviour is a disposition or personality characteristic whereas making an external attribution implies that the cause of the behaviour is related to the situation or environment.

Stable – Unstable (Weiner et al., 1971): This dimension was developed because it was recognised that some internal causes fluctuate over time whereas others remain relatively constant. Therefore, if the cause of the behaviour is believed to be unlikely to change in the future then it is rated as stable whereas if the cause is perceived as being more variable, changing from moment to moment, then it is rated as unstable.

Controllable – Uncontrollable (Weiner, 1979): This dimension relates to the degree to which the cause of the behaviour is seen as something that the person has some

control over. If the person is considered to be able to control the cause of their behaviour then it is rated as controllable whereas if the person is considered to be unable to control the cause of their behaviour then it is rated as uncontrollable.

Global – Specific (Abramson, Seligman & Teasdale, 1979): This dimension reflects the extent to which a cause of the behaviour is specific to a particular situation or generalisable across different situations. Therefore, the cause is rated as global if it is likely to have an impact on a wide range of situations. If the cause is specific to a particular situation then it is rated as specific.

Although causal attributions have been studied for decades, it is only recently that social cognitive theories have been applied to clinically related fields. Particular emphasis has been placed on Weiner's (1985) attributional theory of emotion and help giving. This theory may help to explain the relationship between the causal beliefs caregivers have about challenging behaviour and their associated feelings and behavioural responses. According to Weiner, the way a person attributes the cause of another person's behaviour (e.g. along the dimensions of internality, stability, globality and controllability) will influence their emotional and behavioural reactions to it. In particular, attributions of controllability and stability are considered the primary determinants of emotional reactions of sympathy and anger, which respectively promote or reduce helping behaviour. Therefore in line with Weiner's theory, whether a person's challenging behaviour elicits negative emotions (e.g. anger) and negative behavioural reactions (e.g. punishment) from carers will depend on the attributions made by the carer about the challenging behaviour (e.g. whether the behaviour is judged to be controllable). If a parent perceives a child's aggressive behaviour, for example, as being outside his or her control, external to the child or unintentional then the parent is less likely to experience anger. In contrast, if a parent judges the child to be responsible for his or her behaviour and attributes the behaviour to internal, controllable factors then the parent is more likely to experience anger. Attribution theory further postulates that the parents' feelings will be likely to lead to specific parental behaviour (e.g. angry feelings will be related to harsh reactions such as shouting or smacking).

Most contemporary attributional studies include at least some of Weiner's four original dimensions (i.e. internality, stability, globality and controllability). However, researchers have also measured other closely related dimensions, the main one being *intentionality* (which is also referred to in the literature as *responsibility*). The terms intentionality and responsibility appear to describe the same concept and are defined as "purposefully, knowingly, recklessly and/or negligently causing something to happen" (Weiner, 1979; Fincham & Jasper, 1980). Studies have shown that the dimensions of intentionality/responsibility and controllability are highly correlated (Anderson, 1983) and it is therefore questionable whether or not they are conceptually distinct.

On revising his earlier conceptual analysis, Weiner (1995) later concluded that intentionality and responsibility were in fact not causal attributions. Weiner (1995) stated that controllability refers to the characteristics of a cause, which may or may not be subject to volitional alteration. On the other hand, intentionality and responsibility refer to a judgement made about a person. Thus when making a judgement of responsibility, thoughts progress from a causal attribution to making an inference about the person. Intentionality and responsibility are therefore not causal attributions (Weiner, 1995). On the basis of these findings, this thesis will measure the four attributional dimensions originally outlined by Weiner (1986). Intentionality and responsibility will not be measured, as these are no longer considered to be attributional dimensions. However, previous studies of intentionality and responsibility will be included in the following literature review as they have been shown to measure the same concept as controllability, and controllability is one of the attributional dimensions that will be measured in this thesis.

THE APPLICATION OF ATTRIBUTION THEORY TO CHALLENGING BEHAVIOUR

Research Supporting Attribution Theory and Challenging Behaviour in Non-Learning Disabled Children

The way in which parents interpret child behaviour is increasingly recognised as an important influence on parenting behaviour. A number of studies have investigated the role of attributions in determining the emotional and behavioural responses of parents to children's challenging behaviour. In this field, parents' beliefs about the causes of their child's behaviour have been shown to affect their emotional and behavioural responses to child behaviour (Burgental, Blue & Crucosa, 1989; Cote & Azar, 1997; Dix & Grusec, 1985; Dix, Ruble, Grusec & Nixon, 1986; Gellar & Johnston, 1995; Johnston, Patenaude & Inman, 1992; Johnston & Patenaude, 1994; Larrance & Twentyman, 1983; Mills & Rubin, 1990; Walker, Garber & Van Slyke, 1995).

Research consistently indicates that when parents perceive child misbehaviour as intentional, they are more upset by the behaviour and are more likely to use power-assertive discipline (Dix & Lochman, 1990). Using a postal questionnaire, Dix, Ruble and Zambarano (1989) exposed 117 mothers of four to twelve year old children to hypothetical scenarios of children engaged in challenging behaviours and asked them to rate their attributions of control and emotional reactions towards the children. As predicted, mothers who believed the child was responsible for the behaviour were likely to report feeling angry and adopt more punitive parenting strategies. Geller & Johnston (1995) used a postal questionnaire to study 82 mothers' attributions of challenging behaviour in their own children and found that mothers who perceived their child's negative behaviour as being due to internal, controllable causes had a more negative behavioural response to it. In a study of 66 undergraduate students, using a postal questionnaire design, Johnston, Patenaude and Inman (1992) tested causal attributions for hyperactive and aggressive child behaviour. Participants who perceived a child's behaviour to be under the child's control had

more negative emotional reactions to the behaviour. One of the disadvantages of this study was that the participants comprised of university students, none of whom had children. Therefore, the study findings may not be generalisable to a clinical or parent population. Further, the three studies described above used postal questionnaires. There are a number of methodological disadvantages with using this type of design most notably, that postal questionnaires generally yield a low response rate, which may consequently bias the sample (the Geller and Johnston study had a 70% response rate and the other two studies did not report their response rates). In a study of 122 mothers and 67 fathers of four-year-old children, Mills & Rubin (1990) studied parental cognitive, emotional and behavioural reactions to problem behaviour in early childhood. During an interview, parents were asked to read hypothetical scenarios depicting various forms of challenging behaviour and asked open-ended questions about the described behaviour. The researchers found that compared to other problem behaviours, aggression aroused stronger negative emotions (anger, disappointment and embarrassment) and was managed using more punitive strategies. Badden and Howe (1992) studied mothers of 40 conduct disordered and 40 matched control children (aged between 11 and 18). They were asked to think about their own child's misbehaviour and complete questionnaires assessing their attributional, emotional and behavioural responses to the behaviour. The researchers found that, compared to controls, mothers of children described as having a conduct disorder were more likely to interpret their child's misbehaviour as due to intentional, stable and global factors which were outside the mother's control. As a result of these attributions, these mothers were more likely to feel helpless and less likely to consider their parenting as effective. One of the methodological difficulties of asking parents to rate their responses to the behaviour of their own children, as opposed to using vignettes depicting a fictional child's behaviour, is that the stimulus material is not standardised which can increase stimulus variability and bias responses. Smith and O'Leary (1995) studies 40 mothers of pre-school aged children. They were shown videotapes of mother child discipline interactions and asked to rate their attributional and emotional responses whilst watching the videos. The researchers found that mothers' emotional arousal and over-reactive or harsh behavioural responses were mediated by internal and controllable child-centred

attributions. A methodological strength of this study is the use of videotape as stimulus material. Many studies in this field ask participants to rate their attributions and responses to written vignettes. The problem with using these methodologies is that what parents say they would do in a hypothetical situation may not accurately reflect what they would actually do in that situation. This is an ongoing methodological issue in this field. However, by using videotapes and capturing the parents' immediate responses, Smith and O'Leary have introduced what could be considered to be a more reliable methodology for this type of research. Finally, Walker, Garber & Van Slyke (1995) studied attributions and responses to descriptions of child misbehaviour in children with symptoms of physical and emotional illness. Participants were 160 mothers and 160 fathers who read case vignettes and completed a questionnaire measure. The authors found that parents who rated their child as being less responsible for their misbehaviour responded with less anger, disappointment, blame and punishment. A methodological weakness of this study was that the participants were a non-clinical sample, recruited from an airport departure lounge. Therefore, these findings may not be generalisable to a clinical population of parents of children with physical illnesses.

McGuinness & Dagnan (2001) recently carried out a study into the attributional, emotional and behavioural responses of 47 paid carers of children with challenging behaviour in residential settings. During an interview with the authors, participants were presented with vignettes of common behaviour problems and asked to rate attributions, emotional responses and willingness to help the child. The results provided support for Weiner's model: attributions of controllability and globality were found to be important predictors of sympathy and helping behaviour in response to difficult behaviours in children, in that the more controllable and global the attribution the less sympathy was engendered.

There is also evidence in the developmental literature to suggest that there is a relationship between parental attributions of challenging behaviour in children and child age (Dix, Ruble & Nixon, 1986; Dix, Ruble & Zambarano, 1989; Gretarsson & Gelfand, 1988, Johnston, Patenaude & Inman, 1992). The results of these studies

suggest that as children get older, parents tend to make stronger internal attributions, and react with stronger negative emotional and behavioural responses when children misbehave.

The described studies demonstrate that there is considerable support in the child literature for an attributional model in parenting. In general, these studies have found that the more internal and controllable the child's challenging behaviour is seen to be, the more negative the emotional and behavioural reaction, thus giving some support to Weiner's theory.

Research Supporting Attribution Theory and Challenging Behaviour in Adults with Learning Disabilities

A limited amount of research has also been carried out into attributional, emotional and behavioural reactions towards challenging behaviour in the field of adults with learning disabilities. In particular, attribution theory has been applied to the understanding of care staff beliefs about the causes of challenging behaviour and how it relates to behavioural intervention in adults with learning disabilities. These studies appear to offer support to Weiner's theory. Fenwick (1995) considered it possible that staff who attribute challenging behaviour to causes within the individual's control, may feel the need to punish the person and view non-aversive approaches as inappropriate or too lenient. Using vignettes and a questionnaire measure, Hastings (1995) studied 246 care staff's beliefs about the causes of challenging behaviour in learning disabled adults and found that staff viewed 74% of challenging behaviours as intentional. Hastings considered that, as a result of this view, staff may be more likely to blame clients for their actions and to deem punishment based procedures as appropriate. This well-designed study was one of the first to specifically examine care staff beliefs about the causation of challenging behaviour learning disabled adults.

Cottle et al. (1995) focussed specifically on attributions regarding violent incidents amongst staff on three hospital wards supporting people with learning disabilities and

mental health problems. Forty-eight care staff were interviewed about their experiences of violent incidents with patients, including how they felt towards the perpetrator of the incident and the reasons care staff gave as to their belief about the cause of the incident. Staff also completed self-report measures of anxiety, expressed emotion and coping for up to a month following the incident. The results indicated that staff rarely blamed themselves for incidents but instead attributed violent episodes to factors internal to the client, external to themselves and uncontrollable by staff. A methodological weakness of this study was that some of the self-report measures used (e.g. expressed emotion) were not taken at baseline, therefore subjects may have had high levels of anxiety and expressed emotion prior to the violent incident taking place. Further, the study did not include a control group of care staff that were not victims of violent incidents. Despite these limitations, the study produced interesting findings about staff responses to violent incidents. As part of a survey of the needs of people with learning disabilities living in a single metropolitan borough, Bromley & Emerson (1995) asked care staff to estimate what proportion of staff would feel each of six emotions in response to challenging behaviour. During structured interviews, these participants reported that significant proportions of staff would feel sadness, annoyance, despair, anger and fear in response to behaviours such as self-injury and aggression. Further, patterns of emotions varied with the type of behaviour under consideration. Aggression was thought to elicit annoyance and sadness and self-injury was thought to elicit sadness and despair. One of the limitations of this study was the restrictive influence of collecting all of the data within one geographical location. However, the study was intended as an exploratory study, the findings of which were used to inform subsequent research.

Two published studies have directly examined the application of Weiner's helping model to staff working with adults with learning disabilities and challenging behaviour. Dagnan (1998) explored the applicability of Weiner's cognitive-emotional model of helping behaviour to care staff responses to challenging behaviour of adults with learning disabilities. Forty care staff (20 who worked with people with learning disabilities and 20 who did not) were asked to read vignettes

about six different forms of challenging behaviour and complete self-report measures of attributional, emotional and behavioural response in relation to each behaviour. This study found that, in support of Weiner's theory, staff who viewed challenging behaviour as controllable by the learning disabled person reported increased negative emotion, a lower level of optimism and less willingness to offer the person extra help. Dagnan also found that when staff thought the learning disabled person was responsible for the challenging behaviour they were more likely to make a negative evaluation of the person. This demonstrated that staff tend to generalise from behaviour evaluations to evaluations about the person as a whole. This was generally a well-designed study, although it had a relatively small sample size compared with other studies in this field. Stanley & Standen (2000) also applied Weiner's attributional model of helping to the care of learning disabled adults with challenging behaviour. Fifty care staff working in challenging behaviour day services were presented with six case studies depicting various forms of challenging behaviour and asked to complete self-report measures of attributional and emotional response and their willingness to offer help. The authors claim to improve on methodological difficulties of Dagnan's (1998) study by taking into account the effect of behavioural topography on attributions. Dagnan used six vignettes depicting different behaviours but then summed the ratings across the six behaviours. According to Stanley and Standen, this method does not develop a factorial approach to topography, which they believe is essential for an adequate test of Weiner's model. Using a factorial model, Stanley and Standen found that the more outer directed the challenging behaviour was (e.g. aggression), the greater the carer's attributions of control and negative emotion, and the less the propensity to help. Conversely, the more self-directed the challenging behaviour was (e.g. self-injury), the greater the carer's attribution of stability, positive emotion and propensity to help. These results clearly identified relationships between causal attribution dimensions, emotion and helping behaviour. This study, however, did not include a control group.

Research Supporting Attribution Theory and Challenging Behaviour in Learning Disabled Children

Research involving parents whose children have challenging behaviour and learning disabilities appears to be very limited. This is interesting in itself and it is difficult to say with certainty why this is the case. One reason may be that child learning disability is simply not a popular field in which to do research, indeed specialist clinical services for this population of children are still very limited. Alternatively, perhaps it is often assumed that the research findings for children with learning disabilities will be the same as for children without learning disabilities.

This author could only find one study investigating attributional, emotional and behavioural responses of parents towards children with learning disabilities. Chavira et al (2000) examined the applicability of attribution theory to mothers' perceptions and reactions to their learning disabled child's challenging behaviour. One hundred and forty-nine Latino mothers of children with learning disabilities were interviewed regarding specific incidents in which their child exhibited challenging behaviour. The findings indicated that most mothers viewed their child as not being responsible for the behaviour. Furthermore, as predicted by attribution theory, those mothers who did ascribe high responsibility to the child were significantly more likely to report negative emotions (i.e. anger and frustration) and aggressive/harsh behavioural reactions (e.g. shouting and smacking) than those who ascribed low responsibility. These results provide support for the applicability of an attributional framework with this group. One of the methodological weaknesses of this study was that it did not include a control or comparison group. In addition, it is unclear whether the results are generalisable to a non-Latino sample. Although the current study is not a direct replication of Chavira et al.'s study, these methodological weaknesses will be taken into account. In addition, the Chavira study employed an open-ended methodology to identify mothers' emotional and behavioural reactions. A positive aspect of using this format is that it allows the respondents to report a much wider range of emotions and behaviours than using a forced choice format. However, the process of coding the open-ended responses increases the possibility of oversimplifying or

misinterpreting the intended meaning of parents' comments. For example, Chavira categorised the negative emotional responses into "positive" and "negative". Many studies do not indicate from which perspective the coder is making their judgement (e.g. whether it is coded "positive" or "negative" from the child's or parents perspective). This methodological difficulty affects many studies that use open-ended questions.

SUMMARY OF SECTION THREE

Using a variety of different methodologies, studies have consistently shown that attribution theory can be applied to parents with reference to their child's challenging behaviour. In particular, parental beliefs about the cause of challenging behaviour in their child have been shown to affect their emotional and behavioural responses to it. Parents who attribute challenging behaviour as being intentional, internal and controllable by the child are more likely to experience negative emotional responses and use punitive behavioural management strategies. This causal relationship also applies to carers/parents of learning disabled adults and children.

In separate studies, attribution theory has been shown to apply to parents of both non learning-disabled and learning-disabled children with challenging behaviour. However, to date, no studies have directly compared parents' attributional, emotional and behavioural responses to challenging behaviour in non-learning disabled children with that of learning disabled children. This thesis postulates that parents will attribute and respond differently to challenging behaviour in a learning disabled child in comparison to a non-learning disabled child who displays the same behaviour. The rationale for this argument will be presented in the following section.

SECTION 4: THESIS RATIONALE

This thesis will investigate whether parents will make different causal attributions for the challenging behaviour of a learning disabled child than they would for the challenging behaviour of a non-learning disabled child. Attribution theory suggests

that the causal attributions that parents make for their child's challenging behaviour have a significant impact on both their emotional and behavioural responses. Therefore, attributions can directly influence the strategies used by parents to manage their child's challenging behaviour.

There are two separate areas in the literature which offer support to the prediction that parents will have different attributional, emotional and behavioural responses to challenging behaviour in a learning disabled child in comparison to a non-learning disabled child. The first area is the paediatric sick role literature and the second is the child development literature. These will now be discussed with reference to their applicability to this thesis.

RELEVANT LITERATURE ON THE PAEDIATRIC SICK ROLE

Recent studies have used sick-role theory to explore whether parents of children with physical and emotional illnesses have a tendency to discount their child's misbehaviour because of their illness. Sick-role theory suggests that cultural expectations of responsibility change under conditions of illness such that individuals who are sick are not held responsible for normal role behaviour (Parsons, 1951). The literature suggests that parents judge illness as an acceptable excuse for child behaviour that would normally be regarded as unacceptable. Walker et al. (1995) assessed attributions and responses of 320 parents to descriptions of misbehaviour displayed by children with chronic medical illnesses and well children. The authors found that parents viewed the misbehaviour of children with a chronic medical illness as less intentional, less controllable, more excusable and due to causes that were less internal to the child, than well children. Parents held the children with chronic medical illnesses as less responsible for their misbehaviour and indicated that they would respond to them with less anger, disappointment, blame and punishment than children in the other experimental conditions. Furthermore, the excuse value of children's physical symptoms was found to be greatest when they were associated with a medical diagnosis. One of the methodological weaknesses of this study was that the participants comprised of a non-clinical sample that were recruited at an

airport and did not necessarily have any experience of children with chronic medical illnesses. Therefore, the findings may not be generalisable to parents of children with chronic illnesses, which is perhaps the most likely population to benefit from the study findings. This methodological weakness will be taken into account in this thesis by recruiting clinical samples that are relevant to the study (i.e. parents of learning disabled and non learning disabled children with aggressive behaviour). In another study, Whitt (1984) found that parents of children with chronic illnesses held their children to different standards and were less strict in disciplining them. Similarly, children with recurrent pain have been shown to perceive their parents as more likely to grant them special privileges and relief from normal responsibilities on account of their illness (Walker, Garber & Green, 1993).

Sick-role theory has been applied to the parental attributions of misbehaviour in children with paediatric illness (e.g. Walker, 1995). It is possible, therefore, that parents may attribute and respond to the challenging behaviour of a learning-disabled child in a similar way. Learning-disabled children have experienced some form of brain damage, the cause of which may or may not be known. In most cases, the child has received a medical diagnosis, and is likely to exhibit visible behavioural signs and symptoms of his or her learning disability. If the child goes on to develop challenging behaviour such as aggression, these signs and symptoms may help parents to conclude that the child's behaviour is largely due to the child's disability. In other words, the child's behaviour is outside his or her volitional control, and the child is not held responsible. Such a position, if true, would suggest that parents may have a tendency to make more allowances for behaviour problems in a learning disabled child (in the same way that they would a child with a paediatric illness), than in a child without learning disabilities. Indeed some support for this assumption is provided by Chavira's (2000) finding that mothers tend to regard their learning disabled children as not being responsible for their challenging behaviour. In line with Weiner's theory, these mothers experienced less negative emotional responses and used less harsh/punitive behavioural responses with their learning disabled children.

RELEVANT LITERATURE ON CHILD DEVELOPMENT

Related literature on child development suggests that the age or developmental level of the child may influence parental attributions and reactions to challenging behaviour. Judgements about intentionality and responsibility have been examined with respect to parental beliefs and attributions about the social, behavioural and intellectual characteristics of their children. Correspondent inference theory (Jones & Davis, 1965) suggests that parental causal analysis will be guided by an assessment of intentionality. Specifically, if parents think that sufficient motivation and control (i.e. knowledge, ability, motivation) are present, they will infer that their child must have intended the effects of the behaviour. If, on the other hand, parents infer that the necessary knowledge, ability or motivation are absent they will perceive the effects of their child's behaviour to be unintended, reflecting developmental or situational constraints. In line with this theory, the age of a child has been shown to affect parental attributions for challenging behaviour. For example, there is evidence that as children grow older, parents view the cause of child misbehaviour as more dispositional, intentional and under the child's control. This leads to more negative emotional reactions and punitive responses (Dix et al., 1986; Gretarsson and Gelfand, 1988).

Attribution theory would therefore suggest that causal attributions for challenging behaviour may be influenced by factors such as whether the child has a learning disability (as this will affect their skills, ability and understanding), and that these factors are likely to influence judgements about control and intentionality, which in turn influence the affective and behavioural reactions of parents. The presence of a learning disability may influence parent's causal beliefs about challenging behaviour, with children with learning disabilities perhaps being seen as having less responsibility for, and control over, their behaviour. This may be reflected in the behaviour being blamed on the child's lack of understanding or an inability to communicate their needs. On the other hand, children without a learning disability may be more likely to be judged as having the cognitive capacity to be responsible for, and in control of, their behaviour. As a consequence, one may expect that

parents will feel more negative emotions towards these children and use more punitive discipline strategies.

To the researcher's knowledge, this is the first study to directly compare parents' attributional, emotional and behavioural responses to challenging behaviour in non-learning disabled children with that of learning disabled children. Since previous research has identified that carers distinguish between different topographies of challenging behaviour in terms of their causes (Hastings et al., 1995), only one type of challenging behaviour will be studied in this thesis. Aggressive behaviour will be selected, as it is a form of challenging behaviour that is commonly seen in both learning disabled and non-learning disabled children (Carr, 1999).

CLINICAL IMPLICATIONS OF THIS THESIS

In addition to extending previous research in this field, this thesis has a number of important clinical implications. First, it will inform the management of challenging behaviour in learning disabled children. Psychological interventions for children with challenging behaviour usually involve working with parents to help them develop more effective ways of responding to the behaviour. Previous research suggests that the carers' beliefs affect how appropriate they perceive different interventions to be (Emerson, Hastings & McGill, 1993; Hastings & Remington, 1994). If there is a mismatch between carers beliefs and the principles underlying the planned intervention, this may be one explanation as to why intervention programmes fail to be implemented effectively. For example, if parents believe that the challenging behaviour of their learning disabled child is beyond the child's control, then the parents may find it difficult to accept that they can influence their child's behaviour by changing their own behaviour. This would, in turn, negatively influence their motivation to engage in interventions. Thus before providing any direct practical intervention for the challenging behaviour, psychologists may have to do cognitive therapy with the parents in an effort to modify their attributions. Indeed Chavira et al. (2000) found that parents viewed their learning disabled children as not being responsible for their challenging behaviour. The authors concluded that

psychologists might have to work with parents of learning-disabled children to increase their perceptions that their child is responsible for the behaviour. Chavira warned that although there is a risk that such an attributional stance is associated with negative affect and harsh behavioural responses, it may also be associated with a greater effort on the part of the parent to teach the child appropriate behavioural skills. Overall, current psychological interventions may have to be modified to meet the needs of parents of learning disabled children by taking into account their attributions, and the subsequent effect of these on emotional and behavioural responses.

A second clinical implication of this thesis is that if consistent attributions can be identified in relation to challenging behaviour in learning disabled children, then it may be necessary for psychologists to routinely measure parental attributions as part of the psychological assessment process. This would allow psychologists to identify and modify parental attributions that may otherwise have a negative effect on their engagement in psychological interventions. Further, providing early intervention (e.g. by modifying the parental attributions as early as possible before they become schemata) may help to prevent the child's challenging behaviour from persisting into adulthood.

RESEARCH AIMS AND HYPOTHESES

AIMS

The main aim of this study is to examine parents' attributional, emotional and behavioural reactions towards aggressive behaviour in children. In particular, responses of parents to aggressive behaviour in a learning disabled child and aggressive behaviour in a non learning-disabled child will be compared. A secondary aim of the study is to examine whether parents' attributional, emotional and behavioural responses to aggressive behaviour in children will be affected by whether the parent actually has a learning disabled child with aggressive behaviour or a non-learning disabled child with aggressive behaviour.

HYPOTHESES

Hypotheses Relating to the Main Research Aim

Within-Subjects Attributions Hypotheses

- 1a. Parents will rate causal attributions of aggression in a learning disabled child as being less internal (i.e. more external) than a non-learning disabled child.** This hypothesis generalises from Walker et al.'s (1995) study of children with paediatric illnesses, which showed that parents attribute challenging behaviour in these children to factors that are external to the child.
- 1b. Parents will rate the globality causal attribution of aggression in a learning disabled child differently than a non-learning disabled child.** The globality attribution dimension was not measured in the Walker et al. (1995) study hence it is not possible to predict direction. However, the premise of this thesis is that parents will attribute differently for learning disabled and non-learning disabled children with challenging behaviour. Therefore, a non-directional difference on the globality dimension is predicted.
- 1c. Parents will rate causal attributions of aggression in a learning disabled child as being less controllable (i.e. more uncontrollable) than a non-learning disabled child.** This hypothesis generalises from Walker et al.'s (1995) study of children with paediatric illnesses, which showed that parents attribute challenging behaviour in these children to factors that are uncontrollable by the child.
- 1d. Parents will rate the stability causal attribution of aggression in a learning disabled child differently than a non-learning disabled child.** The stability attribution dimension was not measured in the Walker et al.

(1995) study hence it is not possible to predict direction. However, the premise of this thesis is that parents will attribute differently for learning disabled and non-learning disabled children with challenging behaviour. Therefore, a non-directional difference on the stability dimension is predicted.

Within-Subjects Emotions Hypotheses

2. **Parents will rate themselves as experiencing less negative emotion in response to aggressive behaviour in a learning disabled child than aggressive behaviour in a non-learning disabled child.** This hypothesis is based on Walker et al.'s (1995) finding that parents experience less negative emotion in response to misbehaviour in children with a chronic medical illness, compared with well children. This hypothesis is also based on consistent findings in the literature indicating that when parents perceive challenging behaviour as being unintentional and uncontrollable by the child, they have less negative emotional responses to it (e.g. Dix & Lochman, 1990). Following on from hypotheses 1a and 1c, less negative responses are expected from parents in response to a learning disabled child with aggressive challenging behaviour.

Within-Subjects Behaviours Hypotheses

- 3a. **Parents will describe themselves as using less punitive interventions (i.e. "punishment") in response to aggressive behaviour in a learning disabled child than aggressive behaviour in a non-learning disabled child.** This hypothesis is based on Walker et al.'s (1995) finding that parents use less punitive interventions in response to misbehaviour in children with a chronic medical illness, compared with well children. This hypothesis is also based on consistent findings in the literature indicating that when parents perceive challenging behaviour as being unintentional and uncontrollable by the child, they have less punitive behavioural responses to it (e.g. Dix & Lochman,

1990). Following on from hypotheses 1a and 1c, less punitive behavioural responses are expected from parents of learning disabled children with aggressive challenging behaviour.

- 3b. In general, parents will describe themselves as generally using different intervention strategies in response to aggressive behaviour in a learning disabled child than aggressive behaviour in a non-learning disabled child.** Based on the previous literature, it is not possible to hypothesise about the direction of these strategies with the exception of “punishment” (i.e. see hypothesis 3a). However, the premise of this thesis is that on the basis of attribution theory parents’ behavioural reactions will be different in response to challenging behaviour in learning disabled and non-learning disabled children.

Hypothesis Relating to the Secondary Research Aim

There will be further differences in parental attributional, emotional and behavioural responses to aggressive behaviour in a learning disabled and a non-learning disabled child, as follows:

Between-Subjects Attribution Hypothesis

- 4a. Parents who actually have a learning disabled child with aggressive behaviour will have different attributional responses to the children described in the vignettes, than parents who have a non-learning disabled child with aggressive behaviour.**

Between-Subjects Emotions Hypothesis

- 4b. Parents who actually have a learning disabled child with aggressive behaviour will have different emotional responses to the children described in the vignettes, than parents who have a non-learning disabled child with aggressive behaviour.**

Between-Subjects Behaviours Hypothesis

- 4c. Parents who actually have a learning disabled child with aggressive behaviour will have different behavioural responses to the children described in the vignettes, than parents who have a non-learning disabled child with aggressive behaviour.**

These hypotheses are based on research findings indicating that parental factors such as maternal depression (Geller & Johnston, 1995) and having a child with conduct disorder (e.g. Baden & Howe, 1992) influence parents' attributions and responses to child behaviour. Therefore, it is possible that the parental factor of having a learning disabled child will influence parental attributions and responses to child behaviour. However, there is no previous research comparing parents of learning-disabled and non-learning disabled children, hence a non-directional difference is predicted.

THESIS DESIGN

As can be seen from the previously described research, a number of methodological approaches have been used in this field. The studies described in this literature review apply to various client groups (e.g. child, child learning disability and adult learning disability), use various criteria for defining challenging behaviour (e.g. some use cut off scores on standardised assessments and others use self report), assess various topographies of challenging behaviour (e.g. aggression, self injurious behaviour, social withdrawal, childhood misbehaviours), employ various

methodologies (e.g. interview, self-report instruments) and use a number of different self-report measures (e.g. standardised assessments, analogue scales, open-ended questions). The studies also investigate a variety of different causal attributions, emotional responses and behavioural responses to challenging behaviour. Despite the methodological variability in the literature, there appears to be general agreement about the effect of attributions on emotional and behavioural responses to challenging behaviour.

Various methodologies have been used in studies investigating carers' attributions and responses to challenging behaviour, each of which has strengths and limitations. Some studies use case vignettes depicting a person with challenging behaviour as stimulus material and ask participants to complete questionnaire measures about the vignettes. The advantage of using case vignettes is that they allow the author to control the information provided in them, which reduces stimulus variability and the consequent biases associated with this. Although less realistic than actual child behaviours, written descriptions of child behaviour offer enhanced control over behavioural presentation that would be difficult to achieve with more ecologically valid, live presentations of child behaviour. The disadvantage of using written case vignettes is that the information in them tends to be very limited to avoid biasing the participants' responses. This can make vignettes difficult for participants to conceptualise. An alternative method to using written case vignettes as stimulus material is to ask participants to think of a person that is known to them who displays challenging behaviour and answer questions about that individual. The advantage of this approach is that it tends to be easier for participants to conceptualise because the process of thinking about a real person is more tangible. However, the disadvantage of this approach is that it increases variation in the stimulus material, which may bias the participants' responses.

In terms of assessing attributional, emotional and behavioural responses to the stimulus material, many studies have used self-report questionnaires using analogue assessment scales. This is arguably the most commonly used methodology in this field because it allows researchers to gather a lot of data in a small amount of time.

This approach also tends to be an easier, more standardised and less expensive way of gathering data. Further, analogue assessment measures produce single scores, which lend themselves to the type of correlational or comparative statistics that are often used in these studies. However, the disadvantage of using analogue assessment scales to measure attributions and responses to challenging behaviour is that they restrict the data produced and can yield biased responses (e.g. halo effects). A general difficulty with the use of self-report questionnaires is that it is difficult to establish whether the participants are responding in a socially desirable manner. There is also no way of knowing whether what participants say they would do in response to a written hypothetical situation involving challenging behaviour accurately reflects what they would actually do in that situation.

Some studies have used interview techniques to assess participants' attributional, emotional and behavioural responses to stimulus material. The advantage of using interviews is that they tend to provide richer, more informative information. They also provide an opportunity for the researcher to develop a rapport with the participant, which may make them more likely to respond in an open and honest manner. The interviewer also has the opportunity to clarify any misunderstandings about the questions, which improves the quality of the data. The disadvantage of using interviews is that they tend to be a more expensive and time-consuming way of gathering data. In addition, the process of coding and categorising open-ended responses is open to misinterpretation and misclassification, which can bias the data.

The current study is the first of its kind to directly compare parents attributional, emotional and behavioural responses to challenging behaviour in a learning disabled child with that of a non-learning disabled child. Therefore, there are no directly comparable studies to inform the design of this study. However, the strengths and weaknesses of similar studies in this field, which have been described above, are taken into account when considering the methodological issues in the design of current study.

The current study will employ a postal questionnaire to analyse within-subjects and between-subjects differences on measures of attributional, emotional and behavioural responses to written vignettes of aggressive challenging behaviour in learning disabled and non-learning disabled children. It can be seen from the research described above that this is the most common methodology used in studies in this field. Such methods have proven sensitive to attributional, emotional and behavioural differences in previous research (e.g. Dix et al, 1989; Johnston et al, 1992; Johnston et al, 1994). Written case vignettes will be used rather than asking participants to think of their own children so that the author can control the information contained in the vignettes. Due to time restraints on the current study, questionnaires will be distributed by post so that a large number of questionnaires can be disseminated in a relatively short space of time. Postal questionnaire methodology will also allow participants to take part in the study anonymously, which was one of the ethical conditions that had to be met in order for the study to be approved.

METHODOLOGY

This section will outline the methodology used in this thesis. The study design will be reported followed by details of a pilot study that was carried out. Finally, information will be provided about the procedures, participants, measures and statistical analyses used in the main study.

DESIGN

A questionnaire method was used to analyse within-subjects and between-subjects differences on measures of attributional, emotional and behavioural responses to aggressive behaviour in learning disabled and non-learning disabled children.

A pilot study was carried out prior to the main study. The central aim of this was to explore the applicability of one of the measures for the main study (i.e. the Expanded Attributional Style Questionnaire; Peterson et. al, 1982). Additionally, the pilot study was used to investigate how long it would take the participants to complete the questionnaire, whether any of the questions were difficult to understand, whether the instructions were clear and whether the questionnaire would yield the appropriate information to answer the research questions.

PILOT STUDY

PILOT STUDY – PROCEDURE

Pilot study participants were recruited through friends and work colleagues of the researcher. Each participant received a questionnaire pack including a letter explaining the pilot study (see Appendix 2), a “Pilot Study Questionnaire” (see Appendix 1) and a pre-paid reply envelope. One hundred questionnaires were distributed, 61 (61%) of which were returned.

PILOT STUDY – PARTICIPANTS

A power analysis calculation was used to determine the number of subjects required to carry out correlation analyses between the two attribution measures. This calculation was based on the original reliability data for the Expanded Attribution Style Questionnaire (Peterson et al, 1982). On the basis of this study, the expected correlation was approximately 0.5 (i.e. what Cohen (1992) calls a large effect size). Hence for Power of 0.8 ($\alpha < 0.05$, two tailed), the estimated number of participants required to carry out the correlation analyses in the pilot study was 28.

The participants in the pilot study were 61 parents of children aged between 5 and 16 years old, 39 (64%) of whom were mothers, 19 (31%) were fathers and 3 (5%) were another type of carer or family member (e.g. step-parents or grandparents). The majority of the participants (82%) were aged between 26 and 45 years old. Only one (2%) participant had a learning disabled child and only one (2%) participant had a child with a psychiatric disorder (Attention Deficit Hyperactivity Disorder). Twenty (33%) participants indicated that at least one of their children displayed either verbally or physically aggressive behaviour. None of the participants in the pilot study took part in the main study.

PILOT STUDY - MEASURES

Questionnaire Structure

In the questionnaire used for the pilot study (see Appendix 1), participants were asked to read two short vignettes, each describing a fictitious child's aggressive behaviour, and imagine that they were the child's parent. After reading each vignette, they were then asked to complete three measures (of attributional, emotional and behavioural response) in relation to each vignette. The vignette and the three measures used in the study are described below.

Vignette Stimuli

The behaviour described in the two vignettes was exactly the same. However, in one vignette the child was described as having a learning disability. In the other vignette the child was described as not having a learning disability. In half of the questionnaires distributed the vignette describing the learning disabled child was presented first, and in the other half the vignette describing the non learning-disabled child was presented first. This was to reduce the possibility of order effects.

The vignette used in the study was based on one developed by Hastings et al (1995) to assess care staff's beliefs about challenging behaviour in learning disabled adults. Hastings' vignette described a fictitious learning-disabled young man who displays aggressive behaviour. According to Hastings (1995), this vignette was based on a topographical definition of aggressive behaviour, derived from the research literature on challenging behaviour (e.g. Hill & Bruininks, 1984). No information was included in the vignette about the function of the described behaviour to avoid biasing the participants' ratings (Hastings et al, 1995). The definition on which Hastings based his vignette and the vignette itself are presented below.

Definition of aggressive behaviour: “ A common form of aggressive behaviour in people with learning disabilities is the physical injury of other people. Hill & Bruininks (1984) found that between 16 and 30% of clients in residential facilities regularly injured other people” (Hastings et al, 1995 pp 447).

Vignette of aggressive behaviour: “James is mentally handicapped. Sometimes James is aggressive towards other people that live and work with him. He kicks and punches them” (Hastings et al, 1995 pp 447).

A number of modifications were made to Hastings' vignette for the present study. First, the term “mentally handicapped” was replaced by “learning disability” as

“mentally handicapped” is now considered to be inappropriate in the United Kingdom (Fraser et al, 1998). However, “mentally handicapped” was given in parenthesis as the term “learning disability” can often be confused with the educational term, “learning difficulty”. Second, Hastings’ vignette was modified to change the fictitious character from an adult to a child. In particular, the character was described as being a “child” rather than a “young man” and the aggressive behaviour was described as “kicks, bites and hits” rather than “kicks and punches” (in order to be consistent with the aggressive behaviour commonly seen in children). Third, the age of the fictitious child was specified because parents have been shown to have different expectations of behaviour depending on the age of a child (Dix et al., 1986). The child’s age, eight years old, was held constant across both vignettes, and was selected because it represents a stage in childhood development when most children’s behaviour is relatively stable. Challenging behaviour in children shows a normal age related bi-modal distribution in terms of frequency (Herbert, 1999). There is a higher prevalence of challenging behaviour just before school starting age (approximately 3 - 4 years old) followed by a decline in the prevalence of challenging behaviour between the ages of 5 and 10 years old. The prevalence then rises again at puberty (approximately 11 years old). Therefore, an increase in challenging behaviour is considered developmentally normal at certain stages in a child’s development. If the child’s age in the vignettes was one associated with a developmentally normal increase in challenging behaviour then the parents in the present study might have attributed the aggressive behaviour to the child’s developmental stage. This may have confounded their responses. Fourth, the sex of the child in both vignettes was not specified to avoid biasing the participants’ responses. Male children have been shown to be more vulnerable to challenging behaviour than females (Douglas, 1989). Further, it is widely documented in the developmental psychology literature that there are gender differences in the way that parents perceive and respond to their children’s behaviour (e.g. Condry & Condry, 1976). Parents tend to consider aggressive behaviour as being more inappropriate in female children than in male children (Block, 1980). Therefore, in the present study, the children in the vignettes were referred to as “Pat” and “Sam”. These are names that can be used for both male and female children.



The vignettes used in the present study are presented below.

Pat is your 8-year-old learning disabled (mentally handicapped) child.
Sometimes, Pat is aggressive towards other children and adults.
Pat kicks, bites and hits them.

Sam is your 8-year-old child who *does not* have a learning disability (mental handicap).
Sometimes, Sam is aggressive towards other children and adults.
Sam kicks, bites and hits them.

Causal Attribution Measure

The Expanded Attributional Style Questionnaire (EASQ) (Peterson et al, 1982) (see Appendix 1, Section B) was used to assess attributions for the behaviour descriptions in the vignettes. Participants were asked to write down what they believed to be the major cause of the behaviour (see Appendix 1, Section B, Question 5). Participants were then asked to rate the cause on each of the attributional dimensions of internality (see Appendix 1, Section B, Question 6), stability (see Appendix 1, Section B, Question 7), globality (see Appendix 1, Section B, Question 8) and controllability (see Appendix 1, section B, Question 9) using seven-point bi-polar Likert scales. Higher scores indicated higher internality, stability, globality and controllability. A single score ranging from 1 to 7 was derived for each of the four causal attribution dimensions according to the ratings on the Likert scales.

Scoring categories developed by Bromley & Emerson (1995) were used to categorise the participants' open-ended responses about the cause of the behaviour described in

the vignettes. The categories and examples given by Bromley & Emerson (1995) are detailed below:

1. Internal psychological state or mood (e.g. stress, anxiety, frustration, needs to be reassured)
2. Past environment (e.g. childhood, home circumstances, institutionalisation, sexual abuse)
3. Current environment (e.g. lack of male involvement, reaction to change, lack of staffing, social isolation)
4. Self-stimulation (e.g. enjoyment, boredom, form of play, sensory stimulation)
5. Communication (e.g. when wants something, manipulative)
6. Attention seeking (e.g. likes to get attention)
7. Medical problem (e.g. constipation, PMT, hernia, pain)
8. Learning disability or specific syndrome (e.g. Autism, Asperger syndrome, Rett syndrome, intellectual impairment)
9. Mental illness (e.g. psychosis, hallucination, personality disorder)
10. Communication difficulty (e.g. frustration at lack of ability to communicate)
11. Escape or avoidance (e.g. occurs when demands are made)

The EASQ is one of the most widely used attribution measures. It was originally standardised on a sample of students, although it has been widely used in the child and learning disability challenging behaviour literature (e.g. Sharrock et al., 1990; Cottle et al., 1995; Dagnan, Trower & Smith, 1998; McGuinness & Dagnan, 2001). The EASQ has been shown to have considerable construct, criterion and content validity and satisfactory reliability (Peterson et al, 1982).

Modifications to the EASQ for the Pilot Study

The researcher's impression was that the wording of the Expanded Attribution Style Questionnaire (EASQ) (Peterson et al, 1982) might have been difficult for participants to understand. In particular, the EASQ asks participants to identify the main cause of the behaviour described in the vignettes and then rate that cause on

four attributional dimensions. These questions can be seen in Appendix 1, Section B. An example of one of the questions is, “Is this cause due to something about Pat or something about other people or circumstances?” (for the internality dimension). Responding to this question accurately appears to involve a two-tier cognitive process of thinking about the cause of the behaviour and then rating the cause on the attributional dimension. It is therefore the cause of the behaviour that is rated and not the behaviour itself.

The aim of the pilot study was to investigate whether the wording of the EASQ could be adapted without changing the psychometric properties of the measure. Thus, a modified measure (“modified EASQ”) was developed where participants were not asked to generate a cause of the behaviour in the vignettes (as is the case in the EASQ). In addition, the word “cause” was substituted by the word “behaviour” in each of the four attribution questions. The modified EASQ questions can be seen in Appendix 1, Section A. An example of one of the modified questions is, “Is this behaviour due to something about Pat or something about other people or circumstances?” (for the internality dimension). Responding to this question accurately involves only a one-tier cognitive process of rating the behaviour on the attributional dimension. Therefore, it is the behaviour itself that is rated rather than the cause of the behaviour.

In order to establish whether the modified EASQ measured the same thing as the original EASQ, both versions of the measure were included in the pilot study. If the two measures were shown to be highly correlated then this would demonstrate that the EASQ and the modified EASQ were measuring the same thing, which would provide sufficient justification for substituting the modified version of the EASQ for the original version of the EASQ in the main study. Previous studies have interchangeably used the one-tier process (i.e. rating the behaviour) and the two-tier process (i.e. rating the cause of the behaviour) and assumed that they have measured the same thing. Some studies have amended the wording of the EASQ (by asking participants to rate the behaviour) and reported the psychometric properties of the EASQ (which asks participants to rate the cause of the behaviour), without

conducting the appropriate analyses to assess the psychometric properties of the amended protocol (e.g. McGuinnes et al, 2001). No published psychometric data could be found in the literature on the modified versions of the EASQ. Therefore, there is currently no evidence to suggest that the two versions of the measure are in fact measuring the same thing. Thus the pilot study aimed to address this gap in the research literature.

The modified EASQ was scored in the same way as the EASQ. A single score ranging from 1 to 7 was derived for each of the four modified causal attribution dimensions according to the ratings on the Likert scales.

Emotional Response Measure

The Emotional Reactions to Challenging Behaviour Scale (Mitchell & Hastings, 1998) (see Appendix 1, Section C) was used to assess emotional responses to the behaviour described in the vignettes. Participants were presented with a list of fifteen negative emotional reactions to challenging behaviour. They were then asked to rate the extent to which they would experience each negative emotion in response to the behaviour described in the vignettes, using a four point Likert scale ranging from 0-3 (0 = not at all; 1 = yes, slightly; 2 = yes, moderately; 3 = yes, very much). Higher scores indicated a higher intensity that the emotion was experienced.

A total negative emotions score was obtained for analysis in the present study. This was achieved by summing the scores of all 15 emotions, with possible total scores ranging from 0 to 45. A higher total score indicated higher overall negative emotion.

The Emotional Reactions to Challenging Behaviour Scale was designed to measure caregivers' emotional responses to challenging behaviours in people with learning disabilities. The emotional reaction items were originally developed using information from transcripts of interviews with care staff who had regular direct contact with learning disabled adults who displayed challenging behaviour (Hastings, 1995), and from literature concerned with responses to assaults in

psychiatric settings (e.g. Lanza, 1983; Ryan & Poster, 1989). These items were then analysed and refined to develop the final scale. The authors have acknowledged that the items in the scale are all “negative” emotions. However, they point out that this reflected the reports of the care staff interviewed and, by developing items related closely to staff experiences, they subsequently achieved a good level of content validity for the scale.

The Emotional Reactions to Challenging Behaviour Scale was the only standardised measure of emotional responses to challenging behaviour that could be found in the learning disability and child literature. It was standardised on a sample of residential care staff working with learning-disabled adults who displayed challenging behaviour. The scale has been shown to have good internal consistency and test-reliability, and excellent face and construct validity (Mitchell & Hastings, 1998).

Behavioural Response Measure

Participants’ behavioural responses to the behaviour described in the vignettes was assessed using a scale developed for the purpose of this study (see Appendix 1, Section D), as no standardised behavioural responses measures could be found in the child or learning disability literature. Participants were asked one open-ended question, “If Pat/Sam behaved aggressively in your company, what would you do?”

Scoring categories developed by Hastings (1996) were used to categorise the participants’ open-ended responses. The categories and examples given by Hastings (1996) are detailed below:

1. Calm/communicate (e.g. calm, talk to, reassure, touch)
2. Find out why (e.g. find reasons for behaviour by observing/asking child, asking others, monitoring)
3. Distract (e.g. divert attention, engage in activities, provide stimulation)
4. Safe environment (e.g. move child or others, move hazards)
5. Restraint (e.g. use restraint, holding techniques)

6. Stop (e.g. Tell child to stop/ stop child doing it)
7. Leave/give space (e.g. leave to carry on, give space, ignore)
8. Explain (e.g. explain to child why they should not behave this way)

Demographic Information

Demographic details were gathered about the participants including age and parental role (i.e. mother, father or other carer/family member) (see Appendix 1, Part 3). The participants also provided demographic information about their children including the age and gender of each of their children. They were asked to indicate whether any of their children had a learning disability or a diagnosis of a psychiatric disorder (e.g. Autistic Spectrum Disorder, Attention Deficit Hyperactivity Disorder or Conduct Disorder). They were also asked to indicate whether any of their children displayed aggressive behaviour and to provide information about the nature, frequency and severity of this, and whether their child was receiving professional input for their behaviour. These data were used to establish whether the participants met the inclusion criteria for the study.

Questions relating to the Questionnaire

Pilot study participants were asked additional questions including how long it took them to complete the questionnaire and whether they found any of the questions difficult to understand. Space was also provided for the participants to make any additional comments about the questionnaire (See Appendix 1, pp 13 & 14).

PILOT STUDY – RESULTS

The participants completed the EASQ (Peterson & Villanova, 1982) and the modified version of the EASQ.

In order to determine whether the data in the pilot study met the criteria for parametric statistics, each question was examined visually and for the degree of

kurtosis and skewness. The degree of kurtosis and skewness were not significant for any of the distributions, which were therefore considered as normally distributed. Parametric statistics were used because all of the variables were found to be normally distributed and were measured on an interval scale (see “Statistical Analyses” section for information about the decision to use parametric tests for Likert scale data). Subsequently, Pearson’s correlations were calculated to investigate the relationship between the attribution dimensions measured by the EASQ and the modified EASQ, for both vignettes. Table 2 shows the results of this calculation where (1) represents the results for the first vignette, describing the learning disabled child and (2) represents the results for the second vignette, describing the non-learning disabled child.

	EASQ internality score	EASQ stability score	EASQ globality score	EASQ controllability score
Modified EASQ internality score	r (1) = 0.411** r(2) = 0.262			
Modified EASQ stability score		r(1) = -0.078 r(2) = 0.017		
Modified EASQ globality score			r(1) = 0.128 r(2) = 0.406**	
Modified EASQ controllability score				r (1)= 0.546** r(2) = 0.602**

*p<0.05, **p<0.01

Table 2: Correlation between the attributional dimensions in the EASQ and the modified EASQ (n=61)

As can be seen from Table 2, there were significant correlations for the internality attribution for vignette 1 ($r = 0.411$, $df = 59$, $p < 0.01$, two tailed), globality for vignette 2 ($r = 0.406$, $df = 59$, $p < 0.01$, two tailed) and controllability for vignette 1 ($r = 0.546$, $df = 59$, $p < 0.01$, two tailed) and vignette 2 ($r = 0.602$, $df = 59$, $p < 0.01$, two tailed). However, other than for the controllability attributional dimension, these correlations were weak and inconsistent across the two vignettes. Therefore, the correlation analyses indicated that the EASQ and the modified EASQ were not sufficiently similar. Based on these results, only the original EASQ was used in the main study. These findings suggest that the EASQ and the modified EASQ measure conceptually different aspects of causal attributions, which will be discussed in the “Discussion” section of this thesis.

The average length of time taken to complete the questionnaire was 17.5 minutes (range 10 – 30 minutes, SD = 5.36). As a result of constructive comments provided by the participants, the following changes were made to the questionnaire: clarification that participants had to think as the child's parents when answering every section of the questionnaire was provided (this was previously unclear), and the wording used in the instructions was simplified (this had been unnecessarily complex in parts of the questionnaire).

MAIN STUDY

PROCEDURE

Recruitment of Parents of Non-Learning Disabled Children

This group of parents were recruited via child clinical psychology service waiting lists. The researcher received permission from the health board ethics committee and hospital senior management to carry out the study in the Lothian child clinical psychology services. These services provide out patient clinical psychology input to children up to the age of 16 years old.

The researcher screened new referrals to psychology services and identified children who had been referred for behaviour problems relating to aggression. A questionnaire pack was sent to the parents of the children identified to take part in the study, including a letter explaining the study and inviting parents to participate (see Appendix 4), a questionnaire (see Appendix 3) and a pre-paid reply envelope. Parents gave consent to take part in the study by returning the questionnaire. In line with hospital procedure, a letter was sent to each child's General Practitioner to inform them that the child's parents had been invited to participate in the study (see Appendix 5).

Recruitment of Parents of Learning Disabled Children

It was not possible to recruit this group of parents from clinical psychology waiting lists, as this would not have provided a sufficient number of suitable participants. Therefore, the researcher received permission from the Education Authority to carry out the study in four schools for children with learning disabilities. In order to avoid introducing bias to the sample, the researcher ensured that the schools provided for children of a range of ages (i.e. between 5 and 16 years old) and a range of levels of learning disability (i.e. from mild to severe). A questionnaire pack was sent to the parents of every child attending the schools, including a letter explaining about the study and inviting parents to participate (see Appendix 6), a questionnaire (see Appendix 3) and a pre-paid reply envelope. The researcher had no access to personal information about any child's family in order to protect their anonymity. Parents gave consent to take part in the study by returning the questionnaire.

Inclusion Criteria

Participants were included in the study if they had a child aged between 5 and 16 years old who displayed aggressive behaviour. In line with Herbert's (1998) categorisation of childhood aggression, aggression was defined as displaying at least one of the following aggressive acts: verbal aggression, physical aggression or destructiveness towards objects. Although parents were asked to rate the frequency and severity of their child's aggressive behaviour, this was not used in the inclusion process. The important factor in this thesis was whether the parent had experienced aggressive behaviour in their child rather than factors relating to the frequency or intensity of the aggressive behaviour.

The inclusion criteria were applied once the completed questionnaires were returned to the researcher. Questions relating to demographic information were included in the questionnaire for this purpose (see Appendix 3, "Part 3").

Exclusion Criteria

Of the questionnaires returned, participants were excluded from the study if their child did not display aggressive behaviour or if their child that displayed aggressive behaviour was not aged between 5 and 16 years old. As the inclusion/exclusion criteria were applied after the completed questionnaires had been returned to the researcher, approximately eighteen excess questionnaires were collected which were excluded from the current study (i.e. those completed by parents of learning disabled children who did not display aggressive behaviour). It is acknowledged that this procedure may have had ethical implications if the excess questionnaires were not to be used for research purposes. However, it should be noted that the researcher intends to include the excess data collected in further analyses (see “Implications for Future Research” (paragraph 3) in the “Discussion” section for more details).

PARTICIPANTS

Power analysis was used to determine the number of participants required for the main study, which was based on the only directly comparable study that could be found in the literature. This study (McGuinness & Dagnan, 2001) included a post hoc comparison of residential care staff working with children with learning disabilities and residential care staff working with children without learning disabilities. Cognitive and emotional reactions towards problem behaviours were compared between the two groups of carers. McGuinness and Dagnan reported only the means and standard deviations of their significant results. On the basis of these results, for power of 0.8 ($\alpha < 0.05$, two tailed), the estimated number of subjects required for each group in the present study was 14.

However, since McGuinness and Dagnan only presented data for their significant results, the effect size used by the researcher may be an overestimate. Accordingly, it was estimated that for power of 0.8 ($\alpha < 0.05$, two tailed), 20 subjects were required in each group; this corresponds to Cohen’s estimate based on what he refers to as a large effect size (Cohen, 1992).

Two groups of parents participated in the main study, 34 parents of learning-disabled children who displayed aggressive behaviour (“LD group”) and 20 parents of non-learning disabled children who displayed aggressive behaviour (“Non-LD group”). Tables 3 and 4 show that the majority of the participants in both groups were mothers and were aged between 26 and 45 years.

Parental Role	LD Group		Non-LD Group	
	Percentage	Number	Percentage	Number
Mother	85%	29	85%	17
Father	6%	2	15%	3
Other (e.g. grandparent)	9%	3	0%	0
Total	100%	34	100%	20

Table 3: Care giver role of participants in the LD group (n=34) and the Non-LD group (n=20).

Age	LD Group		Non-LD Group	
	Percentage	Number	Percentage	Number
<25	0%	0	0%	0
26-35	20%	7	60%	12
36-45	59%	20	30%	6
46-55	15%	5	10%	2
>56	6%	2	0%	0
Total	100%	34	100%	20

Table 4: Age of participants in the LD group (n=34) and the Non-LD group (n=20).

Information was collected about the participants’ “target child” (i.e. the one with aggressive behaviour). This is reported in the “Results” section.

Response Rate

A large number of questionnaires were distributed relative to the number of subjects required to reach statistical power for the study. This was to account for the low response rate expected from postal questionnaires (Oppenheim, 1992). A total of 344 questionnaires (249 via the schools for learning disabled children and 95 via child clinical psychology waiting lists) were distributed. A total of 75 (22%) questionnaires were returned. Of the 75 questionnaires returned, 34 were parents of learning disabled children with aggressive behaviour, 20 were parents of non-

learning disabled children with aggressive behaviour and 21 were excluded from the study because they did not meet the inclusion criteria.

MEASURES

The questionnaire used in the main study can be seen in Appendix 3. The same vignettes and measures that were used in the pilot study were also used in the main study. The only difference was that, for the reasons outlined in the results section of the pilot study, the modified EASQ was excluded from the questionnaire in the main study.

STATISTICAL ANALYSES

Statistical Analyses

All analyses were carried out using version 10 of the Statistical Package for the Social Sciences (SPSS-10) using a two-factor mixed Analysis of Variance, a three factor mixed Analysis of Variance, paired T-tests, Wilcoxon tests, Chi square tests and Fisher's Exact tests.

Both parametric and non-parametric statistical analyses were used. Parametric tests make the assumption that the data samples are from a population with a specified normal distribution and they are only suitable for data measured on an interval scale. Non-parametric tests do not make the assumption that data samples are from a normally distributed sample and are suitable for data that are not measured on an interval scale measurement (i.e. nominal or ordinal).

As described earlier, Likert scales were used to measure attributional and emotional responses. There is debate in the literature as to whether Likert scales are ordinal or interval scales (e.g. Chapman, 1976; Aitken, 1969; McCormack et al., 1988), which affects the decision to use parametric or non-parametric statistics. In this thesis, Likert scale scores were treated as interval data. This is considered to be acceptable

practice and involves treating scales that can be considered essentially ordinal as equal numerical intervals (Greene & D'Oliveira, 1993). Aitken (1969) has recommended using parametric methods with Likert scale data so long as they form a normal distribution or are transformed to achieve a normal distribution. McCormack et al. (1988) report that while it can never be unequivocally demonstrated that Likert scales can be treated as interval data, their use of parametric statistics is based on the same assumptions as other psychological measurements. In support of parametric analysis, Howell (1997) also reports that parametric tests are sufficiently robust to make distribution free tests unnecessary. He also emphasises the robustness of parametric tests to violations of their assumptions.

Details as to whether parametric or non-parametric tests were used for each analysis will be provided, as appropriate, throughout the "Results" section.

Level of significance

Alpha was generally set at 0.05 when examining the hypotheses to determine whether or not they were supported. However, where there are multiple comparisons, the possibility of Type-1 errors increases (i.e. erroneously rejecting the null hypothesis when it is actually true). In these tests, a Bonferroni adjustment was undertaken for multiple testing (dividing alpha level by the number of comparisons) to reduce the probability of making a Type-I error (Tabachnick & Fidell, 2001). Details of Bonferroni adjustments will be provided, as appropriate, throughout the "Results" section.

RESULTS

Demographic information about the participants' aggressive children will be presented. The results will then be presented in the following order: those relating to attributional responses, those relating to emotional responses, and finally those relating to behavioural responses.

RESULTS OF DEMOGRAPHIC INFORMATION

As was described in the "Methodology" section, 34 parents of learning-disabled children who displayed aggressive behaviour ("LD group") and 20 parents of non-learning disabled children who displayed aggressive behaviour ("Non-LD group") participated in this study.

Demographic information was collected about the participants' "target child" (i.e. the one with aggressive behaviour). The average age of the target children was 11 (range 7-16 years, SD = 2.94) in the LD group and 9 (range 5-13 years, SD = 2.56) in the Non-LD group. In the LD group, 23 (68%) of the target children were male and 11 (32%) were female. In the Non-LD group, 15 (75%) of the target children were male and 5 (25%) were female.

The number of target children displaying each type of aggressive behaviour is shown in Table 5. It can be seen that physical aggression, destructiveness and verbal aggression were common in both learning disabled and the non-learning disabled children. The parental ratings of the frequency and severity of the aggressive behaviour displayed by the target child are shown in Tables 6 and 7. These tables indicate that the majority of the target children were reported as displaying aggressive behaviour at least once or twice per week and most participants described their child's behaviour as being severe or quite severe. The majority of the target children in both groups displayed more than one type of aggressive behaviour: 15 (44%) in the LD group and 10 (50%) in the non-LD group displayed all three types of aggressive behaviour (i.e. verbal aggression, physical aggression and

destructiveness); 13 (38%) in the LD group and 9 (45%) in the Non-LD group displayed two out of the three types of aggressive behaviour; and 6 (18%) of the in the LD group and 1 (5%) in the Non-LD group displayed only one of the three aggressive behaviours.

Type of Aggressive Behaviour	LD Group		Non-LD Group	
	Percentage	Number	Percentage	Number
Physical Aggression	76%	26	65%	13
Destructiveness (to objects)	79%	27	90%	18
Verbal Aggression	65%	22	90%	18

Table 5: Percentage of target children in the LD group (n=34) and the Non-LD group (n=20) who displayed each type of aggressive behaviour.

Frequency of Aggressive Behaviour	LD Group		Non-LD Group	
	Percentage	Number	Percentage	Number
Every Day	50%	17	45%	9
Once or Twice per Week	35%	12	35%	7
Once or Twice per Month	15%	5	20%	4
Once or Twice per Year	0%	0	0%	0
Total	100%	34	100%	20

Table 6: Frequency of the aggressive behaviour displayed by the target children in the LD group (n=34) and the Non-LD group (n=20).

Severity of Aggressive Behaviour	LD Group		Non-LD Group	
	Percentage	Number	Percentage	Number
Very Severe	47%	16	10%	2
Quite Severe	32%	11	70%	14
Not Severe	21%	7	20%	4
Total	100%	34	100%	20

Table 7: Severity of the aggressive behaviour displayed by the target children in the LD group (n=34) and the Non-LD group (n=20).

Twelve (35%) of the children in the LD group had a co-morbid psychiatric diagnosis of either autistic spectrum disorder, attention deficit hyperactivity disorder or conduct disorder and 16 (47%) were receiving professional input from a community nurse, clinical psychologist or psychiatrist at the time of the study. No children in the Non-LD group had a psychiatric diagnosis or were receiving professional input, which probably reflects the fact that this group of children were recruited from a clinical psychology waiting list.

RESULTS OF HYPOTHESES

These results will be presented in the following order: hypotheses relating to attributional responses, hypotheses relating to emotional responses, and finally hypotheses relating to behavioural responses. Within each of these areas, between-subjects analyses are presented before within-subjects analyses.

Hypotheses Relating to Causal Attributions

Participants' Perceived Causes of Aggressive Behaviour

The participants described a range of causes for the behaviour displayed by the children in the vignettes. A number of changes were made to the Bromley & Emerson (1995) categories (see "Methodology" section for details) to reflect the participants' responses in the current study. Two new categories were added including "lack of understanding" (e.g. does not understand the situation) and "lack of self control" (e.g. cannot control his/her behaviour). In addition, six categories were removed, as they were not mentioned by any of the participants in the current study. These were: "past environment", "self-stimulation", "form of communication", "medical problem", "mental illness" and "escape or avoidance".

Inter-rater reliability tests were conducted on 25% (n=13) of the questionnaires, which were selected using randomisation techniques (Fisher & Yates, 1953). As each participant completed the same measures twice (i.e. in response to the vignette depicting the learning disabled child and then in response to the vignette depicting the non-learning disabled child), inter-rater reliability tests were carried out for both vignettes. A second rater independently scored the open-ended responses about the cause of the behaviour and the extent of agreement between the two raters was calculated using a simple percentage agreement index formula (number of agreements / (number of agreements + disagreements) x 100). The percentage agreement was 92% for both vignettes. Disagreements were resolved by discussion

and the results presented are based on responses coded after this process. Therefore, the scoring was considered to be reliable.

The data pertaining to perceived causes of aggressive behaviour were not directly associated with any of the hypotheses. Table 8 shows the number of participants suggesting each cause of aggressive behaviour category for the two vignettes. This figure is also expressed (in brackets) as a percentage of the total participants.

Cause of Aggressive Behaviour	LD vignette	Non-LD vignette
	N (% of total)	N (% of total)
Internal psychological state or mood	1 (2%)	11 (20%)
Current environment	6 (11%)	14 (26%)
Attention seeking	4 (7%)	14 (26%)
Learning disability or specific syndrome	2 (4%)	1 (2%)
Communication difficulty	35 (65%)	9 (17%)
Lack of understanding	6 (11%)	1 (2%)
Lack of self control	0 (0%)	4 (7%)
Total	54 (100%)	54 (100%)

Table 8: Perceived causes of aggressive behaviour for the vignette depicting the learning disabled child (LD vignette) and the vignette depicting the non-learning disabled child (Non-LD vignette) (n=54)

Table 8 shows that communication difficulty (e.g. lack of communication) was by far the most commonly cited cause of aggressive behaviour in the learning disabled child, followed by lack of understanding (e.g. does not understand the situation) and current environment (e.g. lack of control in life, change of routine). The most commonly cited causes for aggressive behaviour in the non-learning disabled child were current environment (e.g. abuse or neglect, poor parental control), attention seeking (e.g. attention seeking) and internal psychological state or mood (e.g. anger, insecurity, emotional problems).

Attributional Responses Hypotheses

In order to determine whether the attributions data met the criteria for the use of parametric tests, the distribution of each variable was examined visually and for the degree of kurtosis and skewness. The degree of kurtosis and skewness were not significant for any of the distributions, which were therefore considered as normally

distributed. Parametric statistics were used because all of the variables were found to be normally distributed and were measured on an interval scale.

Between-Subjects Hypothesis

Hypothesis 4a: Parents who actually have a learning disabled child with aggressive behaviour will make different attributions (as indicated by causal attributions scores) for the children described in the vignettes, than parents who have a non-learning disabled child with aggressive behaviour.

Before any specific attribution comparisons were carried out, a three-factor mixed Analysis of Variance (ANOVA) was conducted whereby the four attribution ratings (internality, globality, controllability and stability) and two vignettes (learning disabled child with aggressive behaviour and non-learning disabled child with aggressive behaviour) served as within-subjects factors and the two parent groups (parents of learning disabled children with aggressive behaviour and parents of non-learning disabled children with aggressive behaviour) served as between subjects factors. This analysis was used to investigate whether there were any main or interaction effects. The between-subjects analysis tested hypothesis 4a by investigating whether there were attributional differences between the two parent groups. No significant group effects were found ($p > 0.05$; see Appendix 7A). Therefore, hypothesis 4a was rejected and the parent groups were combined for further analyses.

Within-Subjects Hypotheses

Hypothesis 1a: Parents will rate causal attributions of aggression in a learning disabled child as being less internal (i.e. more external) than a non-learning disabled child.

Hypothesis 1b: Parents will rate the globality causal attribution of aggression in a learning disabled child differently than a non-learning disabled child.

Hypothesis 1c: Parents will rate causal attributions of aggression in a learning disabled child as being less controllable (i.e. more uncontrollable) than a non-learning disabled child.

Hypothesis 1d: Parents will rate the stability causal attribution of aggression in a learning disabled child differently than a non-learning disabled child.

The within-subjects analyses (see Table 9) of the three-factor mixed ANOVA described above revealed that there was a significant interaction effect between attribution and vignette, $F(3, 156) = 17.79$; $p < 0.001$; two-tailed. Subsequently, paired samples t-tests were carried out to examine which attributional dimensions accounted for the interaction effect.

Four paired samples t-tests were conducted for each of the attributional dimensions (internality, globality, controllability and stability) to examine whether there were significant differences in the way that parents attributed aggressive behaviour in the vignette depicting the learning disabled child (“LD vignette”) in comparison to the vignette depicting the non-learning disabled child (“Non-LD vignette”). A Bonferroni adjustment was undertaken to reduce the probability of making a Type-I error when carrying out multiple tests. Subsequently, alpha was set at a more conservative level of $p < 0.01$. Table 10 shows the means and standard deviations for parental attribution ratings for both vignettes.

Factor	Degrees of freedom	F value	Significance (2-tailed)
Attribution	3, 156	17.04	<0.001***
Attribution * Parent Group	3, 156	0.18	0.90
Vignette	1, 52	0.13	0.72
Vignette*Parent Group	1, 52	0.54	0.47
Attribution* Vignette	3, 156	17.79	<0.001***
Attribution * Vignette * Parent Group	3, 156	0.56	0.64

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 9: ANOVA summary table for tests of within-subjects effects for attributions.

Attribution	LD Vignette		Non-LD Vignette	
	Mean	SD	Mean	SD
Internality	3.83	1.37	3.93	1.81
Globality	5.67	1.18	4.78	1.67
Controllability	3.15	1.35	4.50	1.53
Stability	4.74	1.49	3.89	1.53

Table 10: Means and standard deviations for parental attributional ratings for the vignette depicting the learning disabled child (LD vignette) and the vignette depicting the non-learning disabled child (Non-LD vignette) (n=54).

Comparisons	T value	Degrees of freedom	Significance
LD vignette – Non-LD vignette (internality)	-0.35	53	0.36 (1-tailed)
LD vignette – Non-LD vignette (globality)	3.95	53	<0.001*** (2-tailed)
LD vignette – Non-LD vignette (controllability)	-4.67	53	<0.001*** (1-tailed)
LD vignette– Non-LD vignette (stability)	3.89	53	<0.001*** (2-tailed)

** $p < 0.01$, *** $p < 0.001$

Table 11: Paired samples T-tests comparing parental attributional ratings of internality, globality, controllability and stability between the vignette depicting the learning disabled child (LD vignette) and the vignette depicting the non-learning disabled child (Non-LD vignette) (n=54).

As can be seen from Table 11, no significant differences were found between the vignettes on the internality attribution dimension, therefore hypothesis 1a was rejected.

Table 11 shows that significant differences were found between the vignettes on the globality attribution dimension, $t = 3.95$; $df = 53$; $p < 0.001$; two-tailed, thus supporting hypothesis 1b. Further, the means and standard deviations for the globality dimension (see Table 10) indicated that parents rated the cause of aggressive behaviour in learning disabled children as being more global than in the non-learning disabled children.

As can be seen from Table 11, significant differences were found between the vignettes on the controllability dimension, $t = -4.67$; $df = 53$; $p < 0.001$; one-tailed. The means and standard deviations for the controllability dimension indicated that parents rated the cause of aggressive behaviour in learning disabled children as being

less controllable than in non-learning disabled children, thus supporting hypothesis 1c.

Finally, Table 11 shows that significant differences were found between the vignettes on the stability attribution dimension, $t = 3.89$; $p < 0.001$; $df = 53$; two-tailed), thus supporting hypothesis 1d. Further, the means and standard deviations for the stability dimension (see Table 10) indicated that parents rated the cause of aggressive behaviour in learning disabled children as more stable than in non-learning disabled children.

Summary - Hypotheses Relating to Causal Attributions

- There were no between-subjects differences (i.e. between parents of learning disabled and non learning disabled children with aggressive behaviour) in ratings of attributions for the two vignettes. Therefore the two parent groups were combined in the subsequent analyses.
- There were no significant differences in parents' ratings of internality for aggressive behaviour in a learning disabled child and a non-learning disabled child.
- Parents rated the cause of aggressive behaviour in a learning disabled child as being more global than in a non-learning disabled child.
- Parents rated the cause of aggressive behaviour in a learning disabled child as being less controllable than in a non-learning disabled child.
- Parents rated the cause of aggressive behaviour in a learning disabled child as being more stable than in a non-learning disabled child.

Hypotheses Relating to Emotional Responses

Between-Subjects Hypothesis

Hypothesis 4b: Parents who actually have a learning disabled child with aggressive behaviour will have different emotional responses (as indicated by total negative emotions scores) in response to the children described in the vignettes, than parents who have a non-learning disabled child with aggressive behaviour.

In order to determine whether parametric tests were appropriate, the distribution of the total negative emotions scores was examined visually and for the degree of kurtosis and skewness. The degree of kurtosis and skewness were not significant for any of the distributions, which were therefore considered as normally distributed. Parametric statistics were used because the variables were found to be normally distributed and were measured on an interval scale.

To test this hypothesis, a two-factor mixed ANOVA was conducted using the total negative emotions scores. In this analysis, the two vignettes (learning disabled child with aggressive behaviour and non-learning disabled child with aggressive behaviour) served as within-subjects factors and the two parent groups (parents of learning disabled children with aggressive behaviour and parents of non-learning disabled children with aggressive behaviour) served as between-subjects factors. The between-subjects analysis tested hypothesis 4b by investigating whether there were differences in total negative emotions scores between the two parent groups. No significant group effects were found ($p > 0.05$; see Appendix 7B). Therefore, hypothesis 4b was rejected and the groups were combined for further analyses.

Within-Subjects Hypothesis

Hypothesis 2: Parents will rate themselves as experiencing less negative emotion (as indicated by lower total negative emotions scores) in response to aggressive behaviour in a learning disabled child than aggressive behaviour in a non-learning disabled child.

The within-subjects analyses (see Table 12) of the two-factor mixed ANOVA described above revealed a significant main effect for vignette, $F(1, 52) = 9.60$; $p < 0.01$; two tailed. Inspection of the means and standard deviations for the total negative emotions scores (see Table 13) showed that the parents would experience less negative emotion in response to aggressive behaviour in a learning disabled child than they would in response to aggressive behaviour in a non-learning disabled child, thus supporting hypothesis 2.

Factor	Degrees of freedom	F value	Significance (2-tailed)
Vignette	1, 52	9.60	0.003**
Vignette*Parent Group	1, 52	0.28	0.87

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 12: ANOVA summary table for tests of within-subjects effects for total negative emotions scores.

	LD Vignette		Non-LD Vignette	
	Mean	SD	Mean	SD
Total negative emotions score	18.89	9.16	22.35	10.13

Table 13: Means and standard deviations for parental total negative emotions scores for the vignette depicting the learning disabled child (LD vignette) and the vignette depicting the non-learning disabled child (Non-LD vignette) ($n=54$).

Further analyses were carried out to investigate whether there were significant differences in the ratings of the fifteen emotions that made up the total negative emotions scores. However, prior to this, the scores for all fifteen variables were examined visually and for the degree of kurtosis and skewness to determine whether parametric tests were appropriate. Some of the variables did not approximate a normal distribution. Further, it proved impossible to find a transformation that would make all of the emotions for both vignettes normally distributed. This may

have been because the emotions were rated on a Likert scale with only four anchor points. Subsequently, non-parametric statistics were used.

Wilcoxon tests were used to compare parents' scores on each emotion for the two vignettes. A Bonferroni adjustment was undertaken because of the large number of Wilcoxon tests carried out. Subsequently, alpha was set at a more conservative level of $p < 0.003$. Table 14 shows the mean ranks and standard deviations for each emotion for both vignettes.

Emotion	LD Vignette		Non-LD Vignette	
	Mean rank	SD	Mean rank	SD
Shock	1.07	0.95	1.76	1.03
Guilt	1.50	1.08	1.57	1.13
Hopeless	1.48	0.99	1.35	1.01
Afraid	1.15	1.09	1.17	1.06
Angry	1.20	0.92	2.00	0.97
Incompetent	1.43	1.04	1.60	1.17
Frustrated	2.31	0.80	2.22	0.90
Helpless	1.91	0.96	1.72	1.03
Disgusted	0.28	0.63	1.15	1.09
Resigned	0.96	0.97	0.87	0.89
Frightened	1.02	1.05	1.17	0.97
Humiliated	0.89	0.90	1.67	1.06
Betrayed	0.48	0.82	1.04	1.15
Sad	2.06	1.08	1.87	1.12
Nervous	1.24	1.08	1.31	1.10

Table 14: Mean ranks and standard deviations for each emotion making up the total negative emotions score for the vignette depicting the learning disabled child (LD vignette) and the vignette depicting the non-learning disabled child (Non-LD vignette) (n=54).

Comparisons	Z value	Significance (2-tailed)
LD vignette – Non-LD vignette (shock)	-3.87	<0.001***
LD vignette – Non-LD vignette (guilt)	-0.58	0.56
LD vignette – Non-LD vignette (hopeless)	0.98	0.33
LD vignette – Non-LD vignette (afraid)	0.01	0.99
LD vignette – Non-LD vignette (angry)	-4.41	<0.001***
LD vignette – Non-LD vignette (incompetent)	-1.15	0.25
LD vignette – Non-LD vignette (frustrated)	-0.67	0.50
LD vignette – Non-LD vignette (helpless)	-1.22	0.22
LD vignette – Non-LD vignette (disgusted)	-4.71	<0.001***
LD vignette – Non-LD vignette (resigned)	-0.78	0.43
LD vignette – Non-LD vignette (frightened)	-1.20	0.23
LD vignette – Non-LD vignette (humiliated)	-4.06	<0.001***
LD vignette – Non-LD vignette (betrayed)	-3.30	<0.001***
LD vignette – Non-LD vignette (sad)	-0.98	0.31
LD vignette – Non-LD vignette (nervous)	-0.48	0.63

*** $p < 0.001$

Table 15: Wilcoxon tests comparing each emotion making up the total negative emotions score for the vignette depicting the learning disabled child and the vignette depicting the non-learning disabled child (n=54).

As can be seen from Table 15, significant differences were found for the following emotions: shock ($z = -3.87$; $p < 0.001$; two tailed), angry ($z = -4.41$; $p < 0.001$; two tailed), disgusted ($z = -4.71$; $p < 0.001$; two tailed), humiliated ($z = -4.06$; $p < 0.001$; two tailed) and betrayed ($z = -3.30$; $p < 0.001$; two tailed). Inspection of the mean ranks and standard deviations for each emotion (see Table 14) showed that parents would experience less shock, anger, disgust, humiliation and betrayal in response to aggressive behaviour in a learning disabled child than they would in response to aggressive behaviour in a non-learning disabled child.

Summary – Hypotheses Relating to Emotional Responses

- There were no between-subjects differences (i.e. between parents of learning disabled and non learning disabled children with aggressive behaviour) in ratings of negative emotional response for the two vignettes. Therefore the two parent groups were combined in the subsequent analyses.
- Parents indicated that they would experience significantly less negative emotion in response to aggressive behaviour in a learning disabled child than they would a non-learning disabled child.

- In particular, parents indicated that they would experience significantly less shock, anger, disgust, humiliation and betrayal in response to aggressive behaviour in a learning disabled child than they would a non-learning disabled child.

Hypotheses Relating to Behavioural Responses

The parents described that they would use a range of behavioural responses to manage aggressive behaviour in response to the children described in the vignettes. Three new categories were added to the categories by Hastings (1996) (see “Methodology” section for details) to reflect all the behavioural responses reported. These were “non-physical punishment”(e.g. remove a privilege, put child into time out, shout at child), “teach alternative behaviour” (e.g. show other ways of coping, encourage child to talk rather than hit out) and “seek apology” (e.g. make child apologise).

Inter-rater reliability tests were conducted on 25% (n=13) of the questionnaires, which were selected using randomisation techniques (Fisher & Yates, 1953). Each participant completed the same measures twice (i.e. in response to the vignette depicting the learning disabled child and then in response to the vignette depicting the non-learning disabled child), therefore inter-rater reliability tests were carried out for both vignettes. A second rater independently scored the open-ended responses about behavioural responses and the extent of agreement between the two raters was calculated using a simple percentage agreement index formula (number of agreements / (number of agreements + disagreements) x 100). The percentage agreement ranged from 84% to 100%. Disagreements were resolved by discussion and the results presented are based on responses coded after this process. Therefore, the scoring was considered to be reliable.

Once the open-ended responses were categorised, the categories were analysed using Chi-square tests. These non-parametric tests are suitable for nominal data.

However, Chi-square tests are not appropriate when 20% or more of the expected frequencies are less than 5. In such cases, Fisher's Exact tests were used.

Between-Subjects Hypothesis

Hypothesis 4c: Parents who actually have a learning disabled child with aggressive behaviour will have different behavioural responses (as indicated by their written responses) to the children described in the vignettes, than parents who have a non-learning disabled child with aggressive behaviour.

Chi-square and Fisher's Exact tests were used to test this hypothesis. The categorised responses to the vignette depicting a learning disabled child with aggressive behaviour (LD vignette) were analysed to see if there were differences between the two groups of parents. The same analyses were then carried out for the vignette depicting the non-learning disabled child with aggressive behaviour (Non-LD vignette). No significant differences were found between the two parental groups in behavioural responses to aggressive behaviour in the vignette depicting a learning disabled child with aggressive behaviour or in the vignette depicting a non-learning disabled child with aggressive behaviour ($p > 0.05$; see Appendix 7C). Therefore, hypothesis 4c was rejected. Subsequently, the groups were combined for further analyses.

Within-Subjects Hypotheses

Hypothesis 3a: Parents will describe themselves as using less "punishment" (as indicated by the number of written responses assigned to the "non-physical punishment" category) in response to aggressive behaviour in a learning disabled child than aggressive behaviour in a non-learning disabled child.

A Chi square test was carried out to test this hypothesis. The "non-physical punishment" category was analysed to see if there was a significant difference between the vignette depicting a learning disabled child with aggressive behaviour

(LD vignette) and the vignette depicting a non-learning disabled child with aggressive behaviour (Non-LD vignette). As can be seen in Table 17, a significant difference was found in ratings of “non-physical punishment” between the two vignettes ($\chi^2 = 16.09$; $df = 1$; $p < 0.001$; two tailed). Table 16 shows the number of participants in each category and this figure is also expressed (in brackets) as a percentage of the total participants. This shows that, as predicted, parents described themselves as using less “non-physical punishment” in response to aggressive behaviour in a learning disabled child than in a non-learning disabled child, thus hypothesis 3a was supported.

Behavioural Response Category	LD vignette	Non-LD vignette
	N (% of total)	N (% of total)
Calm/reassure/communicate	32 (60%)	19 (35%)
Find out cause of behaviour	7 (13%)	17 (31%)
Distract	5 (9%)	2 (4%)
Safe environment/remove from situation	21 (39%)	18 (33%)
Restraint	4 (7%)	4 (7%)
Stop behaviour	7 (13%)	5 (9%)
Leave/give space	7 (13%)	6 (11%)
Explain that behaviour is inappropriate	12 (22%)	21 (39%)
Non-physical punishment	7 (13%)	18 (33%)
Teach alternative behaviour	2 (4%)	5 (9%)
Seek apology	0 (0%)	6 (11%)

Table 16: Number of parents in each behavioural response category (N) and also expressed as a percentage of the total group (%).

Comparisons	χ^2 Value	df	Significance (2-tailed)
LD vignette – Non-LD vignette (Calm/reassure/communicate)	9.92	1	0.002**
LD vignette – Non-LD vignette (Find out cause of behaviour)	10.97	1	0.001**
LD vignette – Non-LD vignette (Distract)	Fisher’s test		0.18
LD vignette – Non-LD vignette (Safe environment/remove)	8.77	1	0.003**
LD vignette – Non-LD vignette (Restraint)	Fisher’s test		0.12
LD vignette – Non-LD vignette (Stop behaviour)	Fisher’s test		0.34
LD vignette – Non-LD vignette (Leave/give space)	Fisher’s test		0.18
LD vignette – Non-LD vignette Explain that inappropriate)	3.56	1	<0.04*
LD vignette – Non-LD vignette (Non-physical punishment)	16.09		<0.001***
LD vignette – Non-LD vignette (Teach alternative behaviour)	Fisher’s test		0.54

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 17: Chi-square and Fisher’s Exact tests comparing each behavioural response category for the vignette depicting the learning disabled child (LD vignette) and for the vignette depicting the non-learning disabled child (Non-LD vignette) (n=54).

Hypothesis 3b: In general, parents will describe themselves as using different intervention strategies in response to aggressive behaviour (as indicated by their written responses that were assigned to the behavioural responses categories) in a learning disabled child than aggressive behaviour in a non-learning disabled child.

This hypothesis was tested using either Chi square or Fisher's Exact tests for each behavioural responses category to see if there were significant differences between the vignette depicting a learning disabled child (LD vignette) with aggressive behaviour and the vignette depicting a non-learning disabled child with aggressive behaviour (Non-LD vignette).

As can be seen in Table 17, significant differences were found, between the two vignettes, for the following behavioural responses categories: Calm/reassure/communicate ($\chi^2 = 9.92$, $df=1$, $p<0.01$, two-tailed), find out cause of the behaviour ($\chi^2 = 10.79$, $df=1$, $p<0.01$, two tailed), safe environment/remove from situation ($\chi^2 = 8.77$, $df = 1$, $p<0.01$, two tailed), explain that behaviour is inappropriate ($\chi^2 = 3.56$, $df = 1$, $p<0.05$, two tailed).

Table 16 shows the number of participants in each category and this figure is also expressed as a percentage of the total participants. This table indicates the direction of the significant results. Parents indicated that they would use strategies such as calming/reassuring/communicating and removing the child from the situation more for a learning disabled child with aggressive behaviour than they would for a non-learning disabled child with aggressive behaviour. Parents indicated that they would use strategies such as finding out the cause of the behaviour and explaining that the behaviour is inappropriate more for a non-learning disabled child with aggressive behaviour than they would for a learning disabled child with aggressive behaviour. Thus hypothesis 3b was supported.

Summary - Hypotheses Relating to Behavioural Responses

- There were no between-subjects differences (i.e. between parents of learning disabled and non learning disabled children with aggressive behaviour) in behavioural responses to the two vignettes. Therefore the two parent groups were combined in the subsequent analyses.
- Parents indicated that they would use strategies such as calming/reassuring/communicating and removing the child from the situation more for a learning disabled child with aggressive behaviour than they would for a non-learning disabled child with aggressive behaviour.
- Parents indicated that they would use strategies such as non-physical punishment, finding out the cause of the behaviour and explaining that the behaviour is inappropriate more for a non-learning disabled child with aggressive behaviour than they would for a learning disabled child with aggressive behaviour.

SUMMARY OF RESULTS

- A range of causes was reported for the aggressive behaviour described in the two vignettes. Lack of communication was the main cause cited for aggressive behaviour in the learning disabled child and current environmental factors and attention seeking were the main causes cited for aggressive behaviour in the non-learning disabled child.
- Hypothesis 1a, that parents would rate causal attributions of aggression in a learning disabled child as being less internal than for a non-learning disabled child was rejected.
- Hypothesis 1b, that parents would rate the globality causal attribution of aggression in a learning disabled child differently than a non-learning disabled child was supported. Causal attributions for a learning disabled child were found to be more global than for a non-learning disabled child.

- Hypothesis 1c, that parents would rate causal attributions of aggression in a learning disabled child as being less controllable than in a non-learning disabled child was supported.
- Hypothesis 1d, that parents would rate the stability causal attribution of aggression in a learning disabled child differently than a non-learning disabled child was supported. Causal attributions for a learning disabled child were found to be more stable than for a non-learning disabled child.
- Hypothesis 2, that parents would rate themselves as experiencing less negative emotion in response to aggressive behaviour in a learning disabled child than aggressive behaviour in a non-learning disabled child was supported. In particular, parents would experience significantly less shock, anger, disgust, humiliation and betrayal in response to a learning disabled child than they would for a non learning-disabled child.
- Hypothesis 3a, that parents would describe themselves as using less “punishment” in response to aggressive behaviour in a learning disabled child than aggressive behaviour in a non-learning disabled child was supported.
- Hypothesis 3b, that in general, parents would describe themselves as using different intervention strategies in response to aggressive behaviour in a learning disabled child than aggressive behaviour in a non-learning disabled child was supported. In particular, parents would use strategies such as calming/reassuring/communicating and removing the child from the situation more for a learning disabled child and they would use strategies such as finding out the cause of the behaviour and explaining that the behaviour is inappropriate more for a non-learning disabled child.
- Hypotheses 4 a, b and c, that parents who actually have a learning disabled child with aggressive behaviour would have different attributional, emotional and behavioural responses to the children described in the vignettes, than parents who have a non-learning disabled child with aggressive behaviour were rejected. The parental factor of whether their aggressive child has a learning disability or not was not found to influence their responses.

DISCUSSION

The main aim of this study was to compare parents' attributional, emotional and behavioural responses to aggressive behaviour in learning disabled and non-learning disabled children. Parental beliefs about the causes of their child's challenging behaviour have been shown to affect their emotional and behavioural responses to it. The current study was based on Walker et al.'s (1995) finding that in comparison to well children, parents viewed the misbehaviour of children with chronic medical illnesses as being less intentional, less controllable and less internal, and they subsequently responded with less negative emotions and less punitive discipline strategies. Given that learning disabled children have some form of brain damage, it was considered possible that parents would make extra allowances for challenging behaviour in a learning disabled child and subsequently use more lax discipline strategies on account of the child's learning disability.

The current research findings suggest that the presence of a learning disability does influence parental attributional, emotional and behavioural responses to challenging behaviour. In comparison to aggressive behaviour in a non-learning disabled child, parents attributed aggressive behaviour in a learning disabled child as being due to less controllable, more stable and more global causes, and reported that they would experience less negative emotional and behavioural responses to the behaviour. These findings will be discussed with reference to the previous literature. Clinical implications of the results and methodological issues pertaining to the current study will also be discussed. Finally, suggestions will be made for future research.

DISCUSSION OF RESULTS

Parents' Perceived Causes of Aggressive Behaviour

Parents were asked to write down the main cause of the aggressive behaviour described in the vignettes. This descriptive information formed part of the Expanded

Attributional Style Questionnaire (EASQ) (Peterson et al., 1982) and was not directly associated with any of the hypotheses. A range of causes was reported. However, lack of communication (cited by 65% of the parents), lack of understanding of the situation (11%) and current environmental factors (11%) were the main three causes cited for aggressive behaviour in the learning disabled child. Current environmental factors (26%), attention seeking (26%) and internal psychological mood or state (20%) were the three main causes cited for aggressive behaviour in the non-learning disabled child. It can be seen that the causes suggested for the learning disabled child were different from those suggested for the non-learning disabled child. Interestingly, the main causes of aggressive behaviour in the learning disabled child could be considered as being direct consequences of the learning disability (i.e. lack of communication and lack of understanding), which may suggest that parents tended to blame the behaviour of the learning disabled child on the learning disability. This cognitive stance may have implications for parental management of aggressive behaviour, with parents being more likely to use lax parenting strategies. Such strategies have been identified (earlier in this thesis) as maintaining challenging behaviour.

Previous studies in the adult learning disability field have shown that, when asked about the cause of challenging behaviour, care staff generally avoid explanations which reference their own actions (Heyman et al., 1998) or do not note the possible reinforcing function of their own behaviour (Hastings, 1995). These findings were supported in the current study. Only a very small number of parents suggested that parental behaviour may have contributed to the development of the child's aggressive behaviour (two people cited "poor parental management" with reference to the non-learning disabled child). In addition, the only functional cause suggested by parents was "attention seeking" (which was mainly in relation to the non-learning disabled child). No parents cited functional causes such as escape from tasks or situational demands. Yet according to Oliver (1995), challenging behaviour in learning disabled children is often functional in gaining attention or escape from demands. The current study suggests that parents were generally not aware that aggressive challenging behaviour could be functional for learning disabled children.

It seems logical that, through this lack of awareness, these parents may be at increased risk of behaving in a manner that inadvertently reinforces the child's challenging behaviour (e.g. by removing the child from the situation in the face of escalating challenging behaviour).

Results Relating to Causal Attributions

Internality Dimension

It was hypothesised that parents would rate causal attributions of aggressive behaviour in a learning disabled child as being less internal than a non-learning disabled child. This hypothesis was based on Walker et al.'s (1995) finding that parents viewed the misbehaviour of children with a chronic medical illness as being less internal than well children. Interestingly, the current study found no significant differences in parents' ratings of internality for a learning disabled child and a non-learning disabled child. The mean internality ratings were 3.83 for the vignette depicting the learning disabled child and 3.93 for the vignette depicting the non-learning disabled child (see Table 11). The internality ratings were closer to the mid-point of the Likert scale (i.e. 4) than the ratings for any of the other three attribution dimensions.

Several explanations may account for this anomalous finding. First, perhaps parents do not think about challenging behaviour in a learning disabled child in the same way that they do a child with a chronic medical illness. According to Jones & Davis (1965), attributing a child's behaviour to an internal cause implies that their behaviour is a disposition or personality characteristic whereas making an external attribution implies that the cause of the behaviour is related to the situation or environment. A chronic medical illness is clearly external as it is something that happens to the child. However, perhaps the findings in the current study suggest that parents think of a learning disability as being a disposition or personality characteristic, which is internal. It would be interesting to investigate this further by carrying out a study to compare parental attributions towards challenging behaviour

in learning disabled children and children with paediatric illnesses. Second, methodological reasons could account for the non-significant finding. It is possible that parents in the current study found it difficult to understand the internality question and opted for a non-committal response by rating the mid-point of the Likert scale. Future studies could explore this possibility by using two separate unidirectional Likert scales (one for internality and one for externality) rather than the bi-directional scale used in the current study. Third, the non-significant finding may be an artefact of the sample used in this study therefore further research is required to establish whether the internality attribution finding is replicated.

Controllability Dimension

It was hypothesised that parents would rate causal attributions of aggressive behaviour in a learning disabled child as being less controllable than a non-learning disabled child. This hypothesis was based on Walker et al.'s (1995) finding that parents viewed the misbehaviour of children with a chronic medical illness as being less controllable than well children. As predicted, parents in the current study were found to attribute aggressive behaviour as being due to less controllable causes in a learning disabled child than in a non-learning disabled child. Correspondent inference theory (Jones & Davis, 1965) suggests that parental causal analysis is guided by an assessment of intentionality. Specifically, if parents think that sufficient control (i.e. knowledge, ability, motivation) is present, they will infer that their child intended and was in control of their behaviour. The current study suggests that the presence of a learning disability influences parental beliefs about challenging behaviour, with learning disabled children being seen as having less control over their behaviour. This finding is consistent with Chavira et al. (2000) who demonstrated that parents judged their learning disabled child as not being responsible for (i.e. in control of) their challenging behaviour.

Globality and Stability Dimensions

It was hypothesised that parents would rate the globality and stability causal attributions of aggressive behaviour in a learning disabled child differently than in a non-learning disabled child. Globality and stability were not measured in the Walker et al. (1995) study, however the premise of this thesis was that parents would attribute differently for a learning disabled and non-learning disabled child with challenging behaviour. Therefore, a non-directional difference on the globality and stability dimensions was predicted. Significant differences in globality and stability attributions were found in the current study, with parents attributing the cause of aggressive behaviour as being more global and stable in a learning disabled child than in a non-learning disabled child.

As mentioned previously, the majority of parents reported the main cause of aggressive behaviour in the learning disabled child as being “lack of communication”, which is probably regarded as a direct consequence of the child’s learning disability. The findings for the globality and stability attributions may reflect that parents generalise attributions about a child’s learning disability to the child’s behaviour. For example, it seems logical that parents would view a child’s learning disability as being global (i.e. has an impact on a wide range of situations) and stable (i.e. unlikely to change in the future). The parents may generalise these attributions about the child’s learning disability to specific situations (e.g. when the child behaves aggressively) and conclude that because the child’s lack of communication is caused by the learning disability (which is global and stable) then the aggressive behaviour is caused by global and stable factors.

Results Relating to Emotional Responses

It was hypothesised that parents would rate themselves as experiencing less negative emotion in response to aggressive behaviour in a learning disabled child than aggressive behaviour in a non-learning disabled child. This hypothesis was based on Walker et al.’s (1995) finding that parents experienced less negative emotion in

response to misbehaviour in children with a chronic medical illness, compared with well children. This hypothesis was also based on consistent findings in the literature indicating that when parents perceive challenging behaviour as being unintentional and uncontrollable by the child (as was predicted for the learning disabled child), they have less negative emotional responses to it (e.g. Dix & Lochman, 1990). As predicted, parents in the current study were found to experience less negative emotion in response to aggressive behaviour in a learning disabled child in comparison to aggressive behaviour in a non-learning disabled child. These results were consistent with Walker et al.'s (1995) findings.

Examination of individual emotions in the current study revealed that parents would experience significantly less shock, anger, disgust, humiliation and betrayal in response to aggressive behaviour in a learning disabled child than a non-learning disabled child. In addition, further inspection of the mean ranks and standard deviations for each emotion revealed that parents would experience more hopelessness, helplessness, resignation and sadness in response to aggressive behaviour in a learning disabled child compared with a non-learning disabled child. These were the only negative emotions that would be experienced more in response to a learning disabled child than a non-learning child (although the results were not statistically significant). Looking at these results descriptively, it would appear that the parents experienced more anger-type emotions in response to a non-learning disabled child (e.g. shock, anger, disgust, humiliation and betrayal). In contrast, parents experienced more depressive-type emotions in response to a learning disabled child (e.g. hopelessness, helplessness, resignation and sadness). It seems likely that a cognitive-emotional stance of hopelessness, helplessness, resignation and sadness are inconsistent with effective parenting behaviour, and that they would contribute to both ineffectual attempts at discipline and withdrawal in the face of escalating aggressiveness in children. Such parenting approaches have been described (earlier in the thesis) as maintaining challenging behaviour in children. Additionally, studies have consistently demonstrated that parents (especially mothers) of learning disabled children are at increased risk of depression (Breslau, Staruch & Mortimer, 1982; Bristol, Gallagher & Schopler, 1988; Harris & McHale,

1989; Walker, Ortiz-Valdes & Newborough, 1989). Given that challenging behaviour is common in learning disabled children, the finding that parents experience more depressive-type and less anger-type negative emotions in response to aggressive behaviour in a learning disabled child may help to explain some of the increased risk of depression amongst parents of learning disabled children.

Results Relating to Behavioural Responses

It was hypothesised that parents would describe themselves as using less punitive interventions in response to aggressive behaviour in a learning disabled child than in a non-learning disabled child. This hypothesis was based on Walker et al.'s (1995) finding that parents used less punitive interventions in response to misbehaviour in children with a chronic medical illness, compared with well children. This hypothesis was also based on consistent findings in the literature indicating that when parents perceive challenging behaviour as being unintentional and uncontrollable by the child (as was predicted for the learning disabled child), they have less punitive behavioural responses to it (e.g. Dix & Lochman, 1990). As predicted, parents in the current study were found to use less "(non-physical) punishment" in response to aggressive behaviour in a learning disabled child than in a non-learning disabled child. These results were consistent with Walker et al.'s (1995) findings.

Most studies investigating behavioural responses towards challenging behaviour only focus on one behavioural response (i.e. "punishment"). This study extended past research by investigating a broader range of behavioural responses. Therefore, it was also hypothesised that parents would describe themselves as generally using different intervention strategies in response to aggressive behaviour in a learning disabled child than aggressive behaviour in a non-learning disabled child. The premise of this thesis was that parents would attribute differently for learning disabled and non-learning disabled children with challenging behaviour. Therefore, a non-directional difference in general intervention strategies was predicted. Parents in the current study said they would use different strategies to manage aggressive behaviour in a

learning disabled child than they would a non-learning disabled child. Parents indicated that they would use strategies such as calming/reassuring/communicating and removing the child from the situation significantly more for a learning disabled child. They would use strategies such as non-physical punishment, finding out the cause of the behaviour and explaining that the behaviour is inappropriate more for a non-learning disabled child. Two themes appear to underpin these findings. First, parents would use harsher/more punitive interventions more with a non-learning disabled child and more “supportive” interventions with a learning disabled child (e.g. calming/reassuring/communicating and removing from the situation). Oliver (1995) has found that challenging behaviours in learning disabled children are often functional in gaining attention from carers or escaping from the demands of a situation. Therefore, the propensity of parents in the current study to use approaches such as calming/reassuring/communicating and removing may inadvertently maintain challenging behaviour in learning disabled children. A second theme is that parents appeared to use intellectualised approaches more with non-learning disabled children (e.g. finding out the cause, explaining that the behaviour is inappropriate). This has implications for learning disabled children. According to Oliver (1995), interventions to reduce the frequency of challenging behaviours in learning disabled children should be based on a thorough functional analysis of the immediate antecedents and consequences of the behaviour (i.e. finding out the cause). Yet in the current study, parents viewed finding out the cause of the behaviour as a strategy that was less suitable for learning disabled children.

Results of the Current Study in Relation to the Link Between Attributional, Emotional and Behavioural Responses

Various previous studies have demonstrated that causal attributions of internality, controllability, intentionality, stability and globality towards challenging behaviour are associated with negative emotional and behavioural responses to it. This causal relationship has been demonstrated in carers of adults with learning disabilities with challenging behaviour (e.g. Fenwick, 1995; Dagnan et al., 1998; Stanley & Standen, 2000), parents of non-learning disabled children with challenging behaviour (e.g. Dix

& Lochman, 1990; Dix, Ruble & Zabarano, 1989; Geller & Johnston, 1995; McGuinness & Dagnan, 2001) and in parents of learning disabled children with challenging behaviour (e.g. Chavira et al., 2001).

In terms of the link between attributions, emotions and behaviours, the results from the current study suggest that parents attributed aggressive behaviour in a learning disabled child as being due to less controllable, more stable and more global causes, which in turn led to less negative emotional and behavioural responses. It is important to point out that the attribution-emotion-behaviour link was not directly examined in the current study because the questionnaire was not designed to carry out such analyses. However, the findings in the current study have a number of important implications for the causal relationship between parental attributions, emotions and behavioural responses to aggressive behaviour in learning disabled children.

First, according to attribution theory, parental attributions of internality are associated with negative emotional and behavioural responses. The current study found no significant differences in parents' ratings of internality for a learning disabled and a non-learning disabled child with aggressive behaviour. Although parents were found to respond with less negative emotional and behavioural responses to the learning disabled child with aggressive behaviour, it would appear that this was not associated with less internal attributions. Therefore at a theoretical level, this would suggest that it was the other three attributional dimensions (i.e. globality, controllability and stability) that accounted for the attributional effect on emotional and behavioural responses. This is not consistent with previous child and learning disability literature (e.g. Geller & Johnston, 1995; Smith & O'Leary, 1995), which has found internality to be one of the main attributional dimensions that affect parents/carers emotions and behaviour. The inconsistency between the findings in the current study and other child and learning disability studies may reflect the previously discussed issue that perhaps parents do not think about challenging behaviour in a learning disabled child in the same way that they do a non-learning disabled child or an ill child because of the child's learning disability. In particular,

parents may think of a learning disability as being internal, rather than external as in paediatric illness, and therefore the behaviour is also considered to be internal. If this were the case however, one would have expected previous adult learning disability studies to have a similar internality finding to that of the current study.

Second, several studies in the child and learning disability literature have found that increased parent/carer attributions of controllability are associated with negative emotional and behavioural responses (e.g. Dix & Lochman, 1990; Dix, Ruble & Zambarano, 1989; Geller & Johnston, 1995, Johnston, Patenaude & Inman, 1992; Walker, et al., 1995; Chavira et al., 2000; McGuinness & Dagnan, 2001; Fenwick, 1995; Dagnan et al., 1998; Stanley & Standen, 2000). These findings were supported in the current study as parents were shown to attribute aggressive behaviour in a learning disabled child as being due to less controllable causes and they subsequently responded with less negative emotional and behavioural responses. Examination of individual emotional responses in the current study revealed that parents experienced significantly less shock, anger, disgust, humiliation and betrayal in response to aggressive behaviour in a learning disabled child than a non-learning disabled child. These findings are consistent with correspondent inference theory (Jones & Davis, 1965) in that the parents appear to have judged the learning disabled child as not having the capacity to control their behaviour, which has led to less negative emotional reactions.

Third, the parents in the current study attributed aggressive behaviour in a learning disabled child as being due to more stable and global causes and subsequently experienced less negative emotional and behavioural responses. Applying the attributional framework, this would suggest that greater globality and stability ratings of aggressive behaviour in a learning disabled child are associated with less negative emotional and behavioural responses. In contrast, previous studies have found that parents who attribute the challenging behaviour of non-learning disabled children to more stable and global causes, have more negative emotional and behavioural responses (e.g. Badden & Howe, 1992; McGuinness & Dagnan, 2001). Thus it would appear that in non-learning disabled children, more stable and global parental

attributions are associated with more negative emotional and behavioural responses. However, in learning disabled children, more stable and global parental attributions are associated with less negative emotional and behavioural responses.

Results Relating to Between Group Differences

It was hypothesised that parents who actually had a learning disabled child with aggressive behaviour would have different attributional, emotional and behavioural responses to the children described in the vignettes, than parents who had a non-learning disabled child with aggressive behaviour. These hypotheses were based on findings indicating that parental factors such as maternal depression (Gellar & Johnston, 1995) and having a child with conduct disorder (Badden & Howe, 1992) influence parents' attributions and responses to child behaviour. Therefore, it was considered possible that the parental factor of having a learning disabled child might influence parental attributions and responses to child behaviour. This hypothesis was not supported in the current study. Parents who had a learning disabled child with aggressive behaviour were not found to have different attributional, emotional and behavioural responses to the children described in the vignettes, than parents who had a non-learning disabled child with aggressive behaviour. Thus, the parental factor of whether their own aggressive child had a learning disability or not was not found to influence their responses. This is an interesting finding as it suggests that the parental attributions and responses found in this study are an artefact of parenting children with aggressive behaviour in general, irrespective of whether or not the child has a learning disability. In addition, the current finding is not consistent with the literature on attribution formation, which suggests that personal experience influences the development of attitudes (Bernstein et al., 1991). Perhaps the findings in the current study indicate that the nature of the challenging behaviour being investigated (in this case aggression) or the "sick role" attributed to the learning disabled child are more important factors in determining parental attributions than parents' personal experience of having a learning disabled child with aggressive behaviour. It would be interesting to conduct a study to investigate which variables are most influential in determining parental attributions.

IMPLICATIONS FOR CLINICAL PRACTICE

The findings of this study have a number of clinical implications for working with parents of learning disabled children with challenging behaviour. The parents in this study were found to view a learning disabled child as having less control over their aggressive behaviour than a non-learning disabled child. An important implication of this may be that psychologists should work with parents to increase their perceptions that their learning disabled child can control the behaviour. Although there is the risk that such an attributional stance is associated with negative affect and harsh behavioural responses, it may also be associated with a greater effort on the part of the parent to teach the child appropriate behavioural skills.

The findings of this research will inform the treatment of challenging behaviour in learning disabled children. Psychological interventions for children with challenging behaviour usually involve working with parents to help them develop more effective ways of responding to the behaviour. Previous research suggests that carers' beliefs affect how appropriate they perceive different treatment interventions to be (Emerson, Hastings & McGill, 1993; Hastings & Remington, 1994). If there is a mismatch between parents beliefs and the principles underlying the planned intervention, this may be one explanation as to why intervention programmes fail to be implemented effectively. For example, the parents in this study reported that the learning disabled child's behaviour was more stable, more global and less controllable than the non-learning disabled child. Such attributions may cause parents to find it difficult to accept that they can influence the learning disabled child's challenging behaviour. This may, in turn, negatively influence their motivation to engage in psychological intervention. Thus in addition to providing direct practical intervention for the challenging behaviour, psychologists may have to do cognitive behavioural therapy with parents in an effort to modify attributions that are likely to be counter-habilitative to making progress. Otherwise, practical psychological interventions involving the parent and child are unlikely to be effective.

Parents were found to experience fewer anger-type emotions (e.g. shock, anger and betrayal) and more depressive-type emotions (e.g. helplessness, hopelessness and sadness) in response to challenging behaviour in a learning disabled child than they would in response to challenging behaviour in a non-learning disabled child. As was mentioned earlier, it seems intuitively likely that a cognitive-emotional stance of hopelessness, helplessness, resignation and sadness are inconsistent with effective parenting, and that they contribute to both ineffectual attempts at discipline and to withdrawal in the face of escalating aggressiveness in children. This finding may indicate that there is a greater risk of helplessness in parents of learning disabled children, which may lead to problem maintaining parenting strategies. If emotions such as helplessness and hopelessness become established then parents may be at increased risk of developing depression, which would further exacerbate the learning disabled child's challenging behaviour. It may be necessary for psychologists to provide cognitive behavioural intervention for some parents in an effort to modify the cognitions related to depressive-type emotional responses.

If unmanaged, challenging behaviours in learning disabled children often persist into adulthood, where they become increasingly entrenched and difficult to change. Existing psychological approaches involve providing reactive input for challenging behaviour once the behaviour has become established, and usually once the challenging behaviour has reached crisis point. A more effective approach may be to routinely provide proactive interventions for the parents of learning disabled children. Proactive interventions might involve educating parents about challenging behaviour and the role of parental attributions and emotions in the development and maintenance of such behaviour in learning disabled children. Although this may be a costly proposal initially, it would probably be cost efficient in the long term if it leads to the prevention of challenging behaviour.

A final clinical implication of this study is that it may be helpful for psychologists to assess parental attributions about their learning disabled child's challenging behaviour (especially on dimensions of controllability, stability and globality) as part of the routine psychological assessment process. This may help psychologists to

identify parental attributions that require to be modified, using cognitive behavioural therapy, in the early stages of intervention.

METHODOLOGICAL ISSUES

Modification of the Expanded Attributional Style Questionnaire in the Pilot Study

When selecting an appropriate attributions measure for the study, a review of measures used in previous research was conducted. The Expanded Attributional Style Questionnaire (EASQ) (Peterson et al., 1982) was considered as most appropriate for the current study. However, the researcher's impression was that slight modifications to the EASQ might have made it easier for participants to understand. A pilot study was carried out to investigate whether the wording of the EASQ could be adapted without changing the psychometric properties of the measure. This involved modifying the questions in such a way as to ask participants to rate the behaviour rather than the cause of the behaviour, thus producing the "modified EASQ" (see "Methodology" section). The findings of the pilot study revealed that the EASQ and the modified EASQ measured conceptually different aspects of causal attributions. The following example taken from one of the questionnaires in the pilot study illustrates how they measure different concepts. In completing the EASQ, one of the participants indicated that the main cause of the aggressive behaviour in the learning disabled child was "the child's learning disability". The participant was then asked to rate the cause along the four attributional dimensions in the EASQ (e.g. "How much control does the child have over the cause of behaviour?" for the controllability dimension). The participant gave the cause a "1" rating, presumably because they thought the child could not control the fact that they were learning disabled. However the corresponding question in the modified EASQ asked the participant to rate the behaviour itself, (e.g. "How much control does the child have over the behaviour?"). The participant gave the behaviour a "7" rating, explaining that they thought the child was using the behaviour to gain attention and therefore had control over it. This example illustrates

how the EASQ measures attributions about the cause of the behaviour and the modified EASQ measures attributions about the behaviour itself, both of which are mutually exclusive concepts and result in completely different ratings. As a result of these findings, only the original EASQ was used in the main study because it has been shown to be a valid and reliable measure.

However, the findings of the current pilot study may call into question the reliability of results from previous studies that have used modified versions of the EASQ without carrying out the appropriate statistical analyses. This study demonstrated that slightly modifying the questions changed their overall meaning. Further research is required to examine whether the findings of the current pilot study are replicable not only with a different participant sample but also with parents of children who display other topographies of challenging behaviour.

Methodological Strengths

The current study had several methodological strengths. First, a pilot study was carried out, which resulted in methodological improvements to the questionnaire. A significant finding in the pilot study was that the Expanded Attributional Style Questionnaire (Peterson et al., 1982) could not be modified without changing the psychometric properties of the questionnaire. Second, previous studies have asked participants to answer questions about their own child's behaviour, which results in each participant thinking of a different child when responding to the questions. Vignettes were used in the current study because they are standardised and ensure that the participants are responding to the same stimulus material. The information in the vignettes was designed to avoid biasing the participants' responses (e.g. cause of the aggressive behaviour was not implied, and the age and sex of the children in the vignettes was deliberately omitted). Third, standardised measures were used and the categories used to rate the participants' open-ended responses were based on findings from previous studies. Fourth, many studies in this field have asked participants to rate a limited number of emotional and behavioural responses to

challenging behaviour. The current study extended past research to include a broader range of negative emotions and behavioural responses.

Methodological Problems

A number of methodological problems should be considered when interpreting the results in the current study.

Several well-documented disadvantages associated with postal questionnaires (Oppenheim, 1992) may have affected the results in the current study. For example, they generally yield low response rates (22% in the current study) which consequently biases the sample, they are unsuitable for respondents of poor literacy, there is no opportunity for the researcher to correct misunderstandings and the researcher has no control over the order in which the questions are answered. Attempts were made to rectify some of these methodological weaknesses. For example, a high quantity of questionnaires were distributed to account for the expected low response rate, contact details were provided on the information letter so that participants could seek clarification of the questions, and a pilot study was conducted which resulted in simplification of the language used in the questionnaire. Overall, it is acknowledged that the current study may not have yielded a fully representative sample and that different results may be attained with a more representative sample.

There are problems associated with using self-report measures to assess knowledge and attitudes (Powell, 1996). Participants in the current study may have responded in a socially desirable manner, particularly given the sensitive nature of the topic being studied. For example, it was interesting that three parents in the study reported that they would smack the children described in the vignettes. It is possible that in reality more parents would use physically punitive strategies however they may not have felt comfortable about reporting this in a questionnaire. Additional problems when using Likert scale measurement include the halo effect (the score on the previous scales influence scores on subsequent scales), central tendency (over use of the

middle of the scale) and extreme responding (tendency to just use the extreme points in the scale). To overcome some of these potential problems, the questionnaire contained a combination of open-ended questions and rating scales, and the questionnaire was anonymous which should have reduced the effect of social desirability. Additionally, the pilot study did not highlight the above issues as being overtly problematic and most measures showed a normal distribution of scores in both the pilot study and the main study. A methodological weakness of the two standardised measures used in the study (i.e. the Expanded Attributional Style Questionnaire, Peterson et al., 1982; and the Emotional Reactions to Challenging Behaviour Scale, Mitchell & Hastings, 1998) is that they were not balanced, which may have produced halo effects. This weakness should be addressed in future studies.

Another methodological limitation of the current study is that none of the measures used had validity and reliability data specifically for parental attributions and responses towards challenging behaviour in children. Future research should establish validity and reliability for the scales with this particular clinical population. Although not ideal, the Expanded Attribution Style Questionnaire (Peterson et al., 1982) and the Emotional Reactions to Challenging Behaviour Scale (Mitchell & Hastings, 1998) were selected because they were the most appropriate standardised measures available. Some studies in this field have developed rating scales for attributional and emotional responses, apparently without carrying out reliability and validity tests on the scales. It was considered more methodologically rigorous to use standardised measures, even though they were not standardised on the exact population being examined.

In the current study, parents were asked basic questions about their child's aggressive behaviour and this information was used to decide whether they met the inclusion criteria for the study. It would have been more methodologically rigorous to use a standardised screening instrument to assess aggressive behaviour, for example, the Childhood Behaviour Checklist (Achenbach & Edelbrock, 1983), the Behaviour Problem Inventory (Rojahn, 1984) or the Developmental Behaviour Checklist

(Einfield & Tonge, 1994). Future studies should include a standardised screening measure to provide an objective assessment of the child's aggressive behaviour. It would also be interesting to explore whether specific types (e.g. verbal aggression, destructive behaviour, physical aggression) and levels of severity (in terms of frequency and severity) of aggressive child behaviour have an effect on parental attributions and responses.

Another methodological weakness of the current study is that the inclusion/exclusion criteria were applied after the completed questionnaires were returned to the researcher. This resulted in eighteen questionnaires, completed by parents of learning disabled children who did not display aggressive behaviour, being excluded from the study. The practice of collecting data that was not included in the current study may have had ethical implications. One way of avoiding the collection of excess data would have been to include a screening sheet at the front of the questionnaire, asking parents whether or not their child displayed aggressive behaviour. Parents who indicated that their child did not display aggressive behaviour could have been thanked for their time and asked not to progress any further with the questionnaire. However, a screening sheet was not used in the current study as the researcher intends to carry out further analyses that will include the data collected from parents of learning disabled children with no aggressive behaviour.

In the current study, the participants were asked to read two vignettes and then complete three measures (of attributional, emotional and behavioural response) in relation to each vignette. The behaviour described in the two vignettes was exactly the same. The only difference was that in one vignette the child was described as having a learning disability and in the other vignette the child was described as not having a learning disability. A methodological limitation of repeating the same measures twice (in response to each vignette) is that it may have created an expectation in the participants that they should respond to each vignette differently, which may have influenced their responses.

A number of differences between the two parent groups may have affected the results in the current study. In the group of parents who had learning disabled children with aggressive behaviour, 35 % of the children had a co-morbid psychiatric diagnosis and 47% were receiving professional input. In the group of parents who had a non-learning disabled child with aggressive behaviour, none of the children had a psychiatric diagnosis or were receiving professional input. This difference probably reflects the fact that the parents of non-learning disabled children were recruited from a clinical psychology waiting list. Factors such as the child having a psychiatric diagnosis (e.g. autism, which is associated with a high prevalence of aggressive behaviour) and receiving professional input (e.g. from a clinical psychologist) could have influenced parents' attributions about the child's aggressive behaviour, and this may have contaminated the results in the current study. It would have been interesting to use these factors as covariates to examine whether they influenced the results. However, the sample size was too small to carry out such analyses. Nevertheless, no significant differences were found in attributional, emotional and behavioural responses between the two parent groups, which suggests that the factors mentioned above did not significantly influence the results.

An ongoing problem with all existing studies examining the attribution-emotion-behaviour link, and the present research, is the lack of data about the relationship between reports of behavioural responses and actual behavioural responses (i.e. does what participants say they would do in a hypothetical situation accurately reflect what they would actually do in that situation?). Jones & Hastings (in press) note that this methodological problem continues to plague all studies in this field. They suggest that researchers may have to turn to experimental methods using video recordings of behavioural responses to live incidents of challenging behaviour to overcome this problem.

IMPLICATIONS FOR FUTURE RESEARCH

A number of areas require further research in addition to those already mentioned throughout the "Discussion" section. As this is, to the author's knowledge, the first

study to compare parental attributional, emotional and behavioural responses to challenging behaviour in learning disabled and non-learning disabled children, it will be necessary to repeat the study to see if the findings can be replicated. The methodological weaknesses highlighted previously should be addressed in any replication study. For example, a larger and more representative participant sample should be recruited, a standardised screening measure of aggression should be used and the possible influence of child factors such as psychiatric diagnosis and input from professionals on parental attributions and responses should be assessed. It may also be interesting to examine parent factors such as socio-economic status, level of education and parental intergenerational experiences of parenting as these may also influence parental attributions about challenging behaviour.

Further research is required to investigate the anomalous findings in the current study, particularly the non-significant result for the internality attribution and the non-significant result for the between group differences. This would help to establish whether the non-significant results were an artefact of the sample used in the current study or whether they are replicated in future studies.

In order to explore whether the findings in the current study are generalisable to other forms of challenging behaviour, the study should be replicated with parents whose children display other topographies of challenging behaviour (e.g. self-injury or stereotypy). It would also be interesting to examine whether the findings are only true of parents of children with challenging behaviour or whether they are artefacts of parenting in general. This type of study could employ a 2x2 design including parents of children with challenging behaviour and a learning disability, parents of children with challenging behaviour and no learning disability, parents of children with no challenging behaviour and a learning disability and parents of children with no challenging behaviour and no learning disability.

Further research should be carried out on the distinction between the EASQ and the modified EASQ. According to the current study, the EASQ and the modified EASQ tap into separate concepts. It seems intuitively likely that while the EASQ measures

causal attributions at a specific level, the modified EASQ measures causal attributions at a global level. Further research is required to explore these concepts further and establish which aspect of causal attribution the modified EASQ measures. In the meantime, studies that plan to use a modified version of the EASQ would be advised to carry out statistical analyses to examine whether the modifications are methodologically viable.

More generally, this thesis highlighted the lack of research in the child learning disability field. There is a rise in birth rate of learning disabled children (Janicki, 2000), up to 50% of whom display challenging behaviour (Wilkin, 1979). Therefore, understanding and managing challenging behaviour in learning disabled children will have to become a clinical and research priority in the near future.

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APPENDIX 1

Pilot study questionnaire

APPENDIX 1

PILOT STUDY QUESTIONNAIRE

This questionnaire is divided into three main parts. The instructions are described as you work through each part. Please answer all of the questions.

This questionnaire is probably quite different to questionnaires that you have filled out before. Please do not spend too long thinking about your answers. The whole questionnaire should take you about 15 - 20 minutes to complete.

Thank you very much for your help.

PART 1

Below is a description of a child called Pat. Please read it carefully. Imagine that you are one of Pat's parents. Try to form a picture in your mind of what **you** think Pat is like and **especially** think about the described behaviour. Keep the picture you have formed of Pat in your mind while you answer the questions in Sections A, B, C and D. I have deliberately given very little information in the description so that you can create your own image of Pat and use this to answer the questions. You can read the description as often as you want. Please remember that there are no right or wrong answers to the questions. I am simply interested in your views.

(Please note that the description of Pat is made up and is not based on any child known to the researcher)

PAT

Pat is your learning disabled (mentally handicapped*) child.

Sometimes, Pat is aggressive towards other children and adults.

Pat kicks, bites and hits them.

* **Please note:** *Mentally handicapped* is the old term for *learning disability*. It has been included in the description of Pat because some people are not familiar with the term *learning disability*. No offence is intended.

Continued over/

SECTION A

Questions 1-4 are all about the *cause* of Pat's aggressive behaviour. Try to imagine that you are one of Pat's parents and try to form a picture of what you think Pat is like. Think about the reasons why Pat might behave in the way that is described, and answer the following questions. Please circle the point on the line that best reflects your view. A sample question is provided below to show you how to use the scale.

Sample Question:

Is the behaviour caused by something that Pat is responsible for or something that Pat is not responsible for? (Circle one number)

Pat is not at all responsible 1 2 3 **4** 5 6 7 Pat is completely responsible

In questions 1 – 4, please circle the point on the line that best reflects your view.

1. To what extent is the behaviour controllable by Pat? (circle one number)

Completely uncontrollable by Pat 1 2 3 4 5 6 7 Completely controllable by Pat

2. Is this behaviour due to something about Pat or something about other people or circumstances? (circle one number)

Totally due to others or circumstances 1 2 3 4 5 6 7 Totally due to Pat

3. In the future, will this behaviour be present? (circle one number)

Will never again be present 1 2 3 4 5 6 7 Will always be present

4. Is this behaviour something that affects just this type of situation, or does it also influence other areas of Pat's life? (circle one number)

Influences just this particular situation 1 2 3 4 5 6 7 Influences all situations in Pat's life

Continued over/

SECTION B

5. **Please re-read the description of Pat on page 2. In the space below, write down what you think could be the main cause of Pat's aggressive behaviour.**
Note: You may be able to think of several causes, which may depend on the situation but please write about only the main one cause.

Again, try to imagine that you are one of Pat's parents and think about why Pat might be behaving in the way that is described. This time, **think about the main cause of Pat's behaviour that you wrote about in question 5, and answer the following questions about that cause.** Please circle the point on the line that best reflects your view.

6. **Is this cause due to something about Pat or something about other people or circumstances? (circle one number)**

Totally due to others or circumstances 1 2 3 4 5 6 7 Totally due to Pat

7. **In the future, will this cause be present? (circle one number)**

Will never again be present 1 2 3 4 5 6 7 Will always be present

8. **Is this cause something that affects just this type of situation, or does it also influence other areas of Pat's life? (circle one number)**

Influences just this particular situation 1 2 3 4 5 6 7 Influences all situations in Pat's life

9. **To what extent is the cause controllable by Pat? (circle one number)**

Completely uncontrollable by Pat 1 2 3 4 5 6 7 Completely controllable by Pat

Continued over/

SECTION C

10. Again, imagine that you are one of Pat's parents and keep the picture you have formed of Pat in your mind.

Below is a list of emotions that parents and carers have said they experience when they are with children like Pat. Think about each of the emotional reactions below and circle the response next to each item that best describes how Pat's behaviour **would make you feel**. Please circle a number for all 15 emotions.

	Not at all	Yes, slightly	Yes, moderately	Yes, very much
SHOCKED	0	1	2	3
GUILTY	0	1	2	3
HOPELESS	0	1	2	3
AFRAID	0	1	2	3
ANGRY	0	1	2	3
INCOMPETENT	0	1	2	3
FRUSTRATED	0	1	2	3
HELPLESS	0	1	2	3
DISGUSTED	0	1	2	3
RESIGNED	0	1	2	3
FRIGHTENED	0	1	2	3
HUMILIATED	0	1	2	3
BETRAYED	0	1	2	3
SAD	0	1	2	3
NERVOUS	0	1	2	3

SECTION D

11. Continue to imagine that you are one of Pat's parents. If Pat behaved aggressively in your company, what would you do?

Continued over/

PART 2

Below is a description of another child called Sam. Please read it carefully. This time, imagine that you are one of Sam's parents. Try to form a picture in your mind of what **you** think Sam is like and **especially** think about the described behaviour. Keep the image you have formed of Sam in your mind while you answer the questions in Sections E, F, G and H. Again, I have deliberately given very little information in the description so that you can create your own image of Sam and use this to answer the questions. You can read the description as often as you want. You will notice that the questions are similar to the ones you answered before but please **remember that this time you are answering questions about Sam.**

(Please note that the description of Sam is made up and is not based on any child known to the researcher)

SAM

Sam is your child who does not have a learning disability (mental handicap).

Sometimes, Sam is aggressive towards other children and adults.

Sam kicks, bites and hits them.

Continued over/

SECTION E

Questions 12-15 are all about the *cause* of Sam's aggressive behaviour. Try to imagine that you are one of Sam's parents and try to form a picture of what you think Sam is like. Think about the reasons why Sam might behave in the way that is described, and answer the following questions. Please circle the point on the line that best reflects your view. A sample question is provided below to show you how to use the scale.

Sample Question:

Is the behaviour caused by something that Sam is responsible for or something that Sam is not responsible for?? (Circle one number)

Sam is not at all responsible 1 2 3 **(4)** 5 6 7 Sam is completely responsible

In questions 12 – 16, please circle the point on the line that best reflects your view.

12. To what extent is the behaviour controllable by Sam? (circle one number)

Completely uncontrollable by Sam 1 2 3 4 5 6 7 Completely controllable by Sam

13. Is this behaviour due to something about Sam or something about other people or circumstances? (circle one number)

Totally due to others or circumstances 1 2 3 4 5 6 7 Totally due to Sam

14. In the future, will this behaviour be present? (circle one number)

Will never again be present 1 2 3 4 5 6 7 Will always be present

15. Is this behaviour something that affects just this type of situation, or does it also influence other areas of Sam's life? (circle one number)

Influences just this particular situation 1 2 3 4 5 6 7 Influences all situations in Sam's life

Continued over/

SECTION F

16. Please re-read the description of Sam on page 6. In the space below, write down what you think could be the main cause of Sam’s aggressive behaviour.

Note: You may be able to think of several causes, which may depend on the situation but please write about only the main one cause.

Again, try to imagine that you are one of Sam’s parents and think about why Sam might be behaving in the way that is described. This time, **think about the main cause of Sam’s behaviour that you wrote about in question 16, and answer the following questions about that cause**. Please circle the point on the line that best reflects your view.

17. Is this cause due to something about Sam or something about other people or circumstances? (Circle one number)

Totally due to others or circumstances 1 2 3 4 5 6 7 Totally due to Sam

18. In the future, will this cause be present? (Circle one number)

Will never again be present 1 2 3 4 5 6 7 Will always be present

19. Is this cause something that affects just this type of situation, or does it also influence other areas of Sam’s life? (Circle one number)

Influences just this particular situation 1 2 3 4 5 6 7 Influences all situations in Sam’s life

20. To what extent is the cause controllable by Sam? (Circle one number)

Completely uncontrollable by Sam 1 2 3 4 5 6 7 Completely controllable by Sam

Continued over/

SECTION G

21. Again, imagine that you are one of Sam's parents and keep the picture you have formed of Sam in your mind.

Below is a list of emotions that parents and carers have said they experience when they are with children like Sam. Think about each of the emotional reactions below and circle the response next to each item that best describes how Sam's behaviour **would make you feel**. Please circle a number for all 15 emotions.

	Not at all	Yes, slightly	Yes, moderately	Yes, very much
SHOCKED	0	1	2	3
GUILTY	0	1	2	3
HOPELESS	0	1	2	3
AFRAID	0	1	2	3
ANGRY	0	1	2	3
INCOMPETENT	0	1	2	3
FRUSTRATED	0	1	2	3
HELPLESS	0	1	2	3
DISGUSTED	0	1	2	3
RESIGNED	0	1	2	3
FRIGHTENED	0	1	2	3
HUMILIATED	0	1	2	3
BETRAYED	0	1	2	3
SAD	0	1	2	3
NERVOUS	0	1	2	3

SECTION H

22. Continue to imagine that you are one of Sam's parents. If Sam behaved aggressively in your company, what would you do?

Continued over/

PART 3
INFORMATION ABOUT YOU AND YOUR CHILDREN

Below are some questions about **you and your children**. It is important that the same person who completed "Part 1" and "Part 2" of the questionnaire also completes the questions below.

BELOW ARE SOME QUESTIONS ABOUT YOU

23. Are you a mother
 a father
 another type of carer/family member (please specify) _____

24. What is your age category (Please tick)?

25 years or less	<input type="checkbox"/>
26 - 35 years	<input type="checkbox"/>
36 - 45 years	<input type="checkbox"/>
46 - 55 years	<input type="checkbox"/>
56 years or more	<input type="checkbox"/>

BELOW ARE SOME QUESTIONS ABOUT YOUR CHILDREN / THE CHILDREN IN YOUR CARE

25. In the table below please indicate the age and sex of each of your children.
 (Note: please include all children who live in your house for most or all of the time)

CHILD	AGE	SEX (male or female)
Child 1		
Child 2		
Child 3		
Child 4		
Child 5		
Child 6		

(Please continue on a separate sheet if you have more than six children)

26(a) Do any of your children have a learning disability (also known as "developmental delay" / "mental handicap")? (Please tick one option)

Yes No

Continued over/

(b) If yes, which of your children have a learning disability (mental handicap)? (Please circle)

Child 1 Child 2 Child 3 Child 4 Child 5 Child 6

27(a) Have any of your children had a diagnosis from a doctor of Autism, Attention Deficit Hyperactivity Disorder (ADHD) or Conduct Disorder? (Please tick)

Autism

Attention Deficit Hyperactivity Disorder (ADHD)

Conduct Disorder

No, none of my children have been diagnosed with any of the above

(b) If yes, which of your children have had a diagnosis of Autism, ADIID or Conduct Disorder? (Please circle)

Child 1 Child 2 Child 3 Child 4 Child 5 Child 6

28(a) Do any of your children display any of the following behaviours? (Please tick as many as apply)

Aggression towards you or other people (e.g. punching, kicking, scratching, biting others)

Aggression towards objects (e.g. throwing things around, kicking furniture)

Deliberately hurting themselves (e.g. banging their head off things, scratching themselves)

Verbal aggression towards others (e.g. shouting/swearing at others)

Any other similar behaviour not already mentioned (please specify) _____

No, none of my children displays these behaviours

If you have more than one child who displays the behaviours described in question 28(a), please answer the remaining questions [i.e. 28 (b), (c), (d) and (e)] for each child. Please use a different coloured pen/pencil for each child. However, if you only have one child who displays the behaviours then you only need to complete the remaining questions once.

(b) If yes, which one of your children displays these behaviours? (Please circle)

Child 1 Child 2 Child 3 Child 4 Child 5 Child 6

(c) If yes, which statement best describes how often your child behaves in this way? (Please tick one option)

Every day

Once or twice per week

Once or twice per month

Once or twice per year

Continued over/

(d) **If yes, how severe would you say your child's behaviour is? (Please tick one option)**

- Very Severe Quite Severe Not Severe

(e) **Do you or your child see any of the following professionals for help in managing your child's behaviour? (Please tick as many as apply)**

- Community Nurse
- Clinical Psychologist
- Psychiatrist
- Any other professional not already mentioned (please specify) _____
- No, we don't see any of the above professionals

The questionnaire is now complete.
Please answer the questions on the next page.

Continued over/

ABOUT THE QUESTIONNAIRE

Below are some questions about the questionnaire that you have just completed.

1. Approximately how long did it take you to complete the questionnaire?

_____ minutes

2(a) Did you find it difficult to understand any of the questions? (Please tick)

Yes

No

(b) If yes, please provide details in the space below. It would be helpful if you could write the number of the question and then describe how the question was difficult to understand. (If you require more space, please use the back of this sheet.)

3. On the whole, did you find it easier to answer the questions in “Section A” or “Section B”? (Please tick)

I found the questions in “Section A” easier to answer
 I found the questions in “Section B” easier to answer
 I thought they were both the same

Continued over/

4. In the unlikely event that I need to contact you to discuss your comments further, would you mind providing the following information? (n.b. If you do not wish to provide this information, please leave it blank)

What is your name? _____

What is your telephone number? _____

5. Please use the space provided to make any other comments about the questionnaire.

Thank you very much for your time.

APPENDIX 2

Pilot study participant information letter

APPENDIX 2

Child and Family Mental Health Service
at Royal Hospital for Sick Children
3 Rillbank Terrace
EDINBURGH EH9 1LL

TEL: 0131-536 0517

FAX: 0131 536 0545

DIRECT LINE: 0131 536 0535

[Date]

Dear parent,

If you have received this letter then a friend of mine will have asked you if you would be willing to complete a questionnaire for me. This letter provides some information about who I am and what I am asking you to do.

Who am I?

I am a final year Trainee Clinical Psychologist. I work at St John's Hospital (Livingston) and at The Royal Hospital for Sick Children (Edinburgh). My job involves providing psychological input to children with autism and/or learning disabilities, and their families.

What am I asking you to do?

I am currently involved in carrying out a study into parents' views and experiences of difficult child behaviour. I have developed a questionnaire for this study and I need thirty parents to complete the questionnaire to "test it out". The information from the completed questionnaires will help me establish whether I need to make any changes to the questionnaire before I start the study. Therefore, I have asked a number of my friends if they can suggest anyone who may be willing to take part – and someone has suggested you.

All I ask is for you to take 15 - 20 minutes of your time to complete the attached questionnaire and return it to me using the enclosed pre-paid envelope. The questionnaire will be treated confidentially. Your participation is voluntary.

The questionnaire is likely to be different to questionnaires that you have filled out in the past. It is divided into three main parts. "Part one" and "Part two" give descriptions of two children and you are asked to answer questions about these children, based on the descriptions provided. "Part three" asks some questions about

you and your own children. Finally, there are some questions about the questionnaire itself. This provides an opportunity for you to make any comments about the questionnaire – and remember your comments will help me to make the necessary changes to the questionnaire before I start the study, so be honest. If there are two parents in your house, it is okay for both of you to complete a questionnaire each. However, please try not to confer with each other.

If you need any more information about the study, please do not hesitate to contact me. Can I be bold enough to ask if would be good enough to return the questionnaire to me as soon as possible (using the enclosed pre-paid envelope), as I am working to a tight time schedule?

I hope you decide to take part. Many thanks for your help.

Yours sincerely

Nicola Logan, Trainee Clinical Psychologist

APPENDIX 3

Main study questionnaire

APPENDIX 3**QUESTIONNAIRE**

Only one parent/carer in your household should complete this questionnaire. If another parent/carer also wishes to participate in the study, please contact me (at the address or telephone number detailed on the letter) and I would be delighted to send you additional copies of the questionnaire.

This questionnaire is divided into three main parts. The instructions are described as you work through each part. Please answer all of the questions.

This questionnaire is probably quite different to questionnaires that you have filled out before. Please do not spend too long thinking about your answers. The whole questionnaire should take you about 15 - 20 minutes to complete.

Remember that the questionnaire is anonymous and that you cannot be identified from any information that you give. Your answers will be treated confidentially.

Thank you very much for your help.

PART 1

Below is a description of a child called Pat. Please read it carefully. Imagine that you are one of Pat's parents. Try to form a picture in your mind of what **you** think Pat is like and **especially** think about the described behaviour. Keep the picture you have formed of Pat in your mind while you answer the questions in Sections A, B and C. I have deliberately given very little information in the description so that you can create your own image of Pat and use this to answer the questions. You can read the description as often as you want. Please remember that there are no right or wrong answers to the questions. I am simply interested in your views.

(Please note that the description of Pat is made up and is not based on any child known to the researcher)

PAT

Pat is your 8-year-old learning disabled (mentally handicapped*) child.

Sometimes, Pat is aggressive towards other children and adults.

Pat kicks, bites and hits them.

* **Please note:** *Mentally handicapped* is the old term for *learning disability*. It has been included in the description of Pat because some people are not familiar with the term *learning disability*. No offence is intended.

SECTION A

1. **Please write down what you think could be the main cause of Pat's aggressive behaviour.**

Note: You may be able to think of several causes, which may depend on the situation but please write about only the main one cause.

Continued over/

SECTION A: QUESTIONS 2 - 5

Questions 2-5 are all about the *cause* of Pat's aggressive behaviour. Think about the main cause of Pat's behaviour **that you wrote about on page 2**. Try to imagine that you are one of Pat's parents and try to form a picture of what you think Pat is like. Think about the reasons why Pat might behave in the way that is described, and answer the following questions. Please circle the point on the line that best reflects your view. A sample question is provided below to show you how to use the scale.

Sample Question:

Is the behaviour caused by something that Pat is responsible for or something that Pat is not responsible for? (Circle one number)

Pat is not at all responsible 1 2 3 **4** 5 6 7 Pat is completely responsible

In questions 2 – 5, please circle the point on the line that best reflects your view.

2. Is this cause due to something about Pat or something about other people or circumstances? (circle one number)

Totally due to others or circumstances 1 2 3 4 5 6 7 Totally due to Pat

3. In the future, will this cause be present? (circle one number)

Will never again be present 1 2 3 4 5 6 7 Will always be present

4. Is this cause something that affects just this type of situation, or does it also influence other areas of Pat's life? (circle one number)

Influences just this particular situation 1 2 3 4 5 6 7 Influences all situations in Pat's life

5. To what extent is the cause controllable by Pat? (circle one number)

Completely uncontrollable by Pat 1 2 3 4 5 6 7 Completely controllable by Pat

Continued over/

SECTION B

6. Again, imagine that you are one of Pat's parents and keep the picture you have formed of Pat in your mind.

Below is a list of emotions that parents and carers have said they experience when they are with children like Pat. Think about each of the emotional reactions below and circle the response next to each item that best describes how Pat's behaviour **would make you feel**. Please circle a number for all 15 emotions.

	Not at all	Yes, slightly	Yes, moderately	Yes, very much
SHOCKED	0	1	2	3
GUILTY	0	1	2	3
HOPELESS	0	1	2	3
AFRAID	0	1	2	3
ANGRY	0	1	2	3
INCOMPETENT	0	1	2	3
FRUSTRATED	0	1	2	3
HELPLESS	0	1	2	3
DISGUSTED	0	1	2	3
RESIGNED	0	1	2	3
FRIGHTENED	0	1	2	3
HUMILIATED	0	1	2	3
BETRAYED	0	1	2	3
SAD	0	1	2	3
NERVOUS	0	1	2	3

SECTION C

7. Continue to imagine that you are one of Pat's parents. If Pat behaved aggressively in your company, what would you do?

Continued over/

PART 2

Below is a description of another child called Sam. Please read it carefully. This time, imagine that you are one of Sam's parents. Try to form a picture in your mind of what **you** think Sam is like and **especially** think about the described behaviour. Keep the image you have formed of Sam in your mind while you answer the questions in Sections D, E and F. Again, I have deliberately given very little information in the description so that you can create your own image of Sam and use this to answer the questions. You can read the description as often as you want. You will notice that the questions are similar to the ones you answered before but please **remember that this time you are answering questions about Sam.**

(Please note that the description of Sam is made up and is not based on any child known to the researcher)

SAM

Sam is your 8-year-old child who does not have a learning disability (mental handicap).

Sometimes, Sam is aggressive towards other children and adults.

Sam kicks, bites and hits them.

SECTION D

- 8. Please write down what you think could be the main cause of Sam's aggressive behaviour.**

Note: You may be able to think of several causes, which may depend on the situation but please write about only the main one cause.

Continued over/

SECTION D: QUESTIONS 9 - 12

Questions 9 – 12 are all about the *cause* of Sam’s aggressive behaviour. Think about the main cause of Sam’s behaviour **that you wrote about on page 5**. Try to imagine that you are one of Sam’s parents and try to form a picture of what you think Sam is like. Think about the reasons why Sam might behave in the way that is described, and answer the following questions. Please circle the point on the line that best reflects your view. A sample question is provided below to show you how to use the scale.

Sample Question:

Is the behaviour caused by something that Sam is responsible for or something that Sam is not responsible for? (Circle one number)

Sam is not at all responsible 1 2 3 **4** 5 6 7 Sam is completely responsible

In questions 9 - 12, please circle the point on the line that best reflects your view.

9. Is this cause due to something about Sam or something about other people or circumstances? (circle one number)

Totally due to others or circumstances 1 2 3 4 5 6 7 Totally due to Sam

10. In the future, will this cause be present? (circle one number)

Will never again be present 1 2 3 4 5 6 7 Will always be present

11. Is this cause something that affects just this type of situation, or does it also influence other areas of Sam’s life? (circle one number)

Influences just this particular situation 1 2 3 4 5 6 7 Influences all situations in Sam’s life

12. To what extent is the cause controllable by Sam? (circle one number)

Completely uncontrollable by Sam 1 2 3 4 5 6 7 Completely controllable by Sam

Continued over/

SECTION G

13. Again, imagine that you are one of Sam's parents and keep the picture you have formed of Sam in your mind.

Below is a list of emotions that parents and carers have said they experience when they are with children like Sam. Think about each of the emotional reactions below and circle the response next to each item that best describes how Sam's behaviour **would make you feel**. Please circle a number for all 15 emotions.

	Not at all	Yes, slightly	Yes, moderately	Yes, very much
SHOCKED	0	1	2	3
GUILTY	0	1	2	3
HOPELESS	0	1	2	3
AFRAID	0	1	2	3
ANGRY	0	1	2	3
INCOMPETENT	0	1	2	3
FRUSTRATED	0	1	2	3
HELPLESS	0	1	2	3
DISGUSTED	0	1	2	3
RESIGNED	0	1	2	3
FRIGHTENED	0	1	2	3
HUMILIATED	0	1	2	3
BETRAYED	0	1	2	3
SAD	0	1	2	3
NERVOUS	0	1	2	3

SECTION F

14. Continue to imagine that you are one of Sam's parents. If Sam behaved aggressively in your company, what would you do?

Continued over/

PART 3
INFORMATION ABOUT YOU AND YOUR CHILDREN

Below are some questions about **you and your children**. It is important that the same person who completed "Part 1" and "Part 2" of the questionnaire also completes the questions below.

BELOW ARE SOME QUESTIONS ABOUT YOU

15. Are you a mother
 a father
 another type of carer/family member (please specify) _____

16. What is your age category (Please tick)?
- 25 years or less
 26 - 35 years
 36 - 45 years
 46 - 55 years
 56 years or more

BELOW ARE SOME QUESTIONS ABOUT YOUR CHILDREN / THE CHILDREN IN YOUR CARE

17. In the table below please indicate the age and sex of each of your children.
 (Note: please include all children who live in your house for most or all of the time)

CHILD	AGE	SEX (male or female)
Child 1		
Child 2		
Child 3		
Child 4		
Child 5		
Child 6		

(Please continue on a separate sheet if you have more than six children)

- 18(a) Do any of your children have a learning disability (also known as "developmental delay" / "mental handicap")? (Please tick one option)

Yes No

Continued over/

(b) If yes, which of your children have a learning disability (mental handicap)? (Please circle)

Child 1 Child 2 Child 3 Child 4 Child 5 Child 6

19(a) Have any of your children had a diagnosis from a doctor of Autism, Attention Deficit Hyperactivity Disorder (ADHD) or Conduct Disorder? (Please tick)

Autism

Attention Deficit Hyperactivity Disorder (ADHD)

Conduct Disorder

No, none of my children have been diagnosed with any of the above

(b) If yes, which of your children have had a diagnosis of Autism, ADHD or Conduct Disorder? (Please circle)

Child 1 Child 2 Child 3 Child 4 Child 5 Child 6

20(a) Do any of your children display any of the following behaviours? (Please tick as many as apply)

Aggression towards you or other people (e.g. punching, kicking, scratching, biting others)

Aggression towards objects (e.g. throwing things around, kicking furniture)

Deliberately hurting themselves (e.g. banging their head off things, scratching themselves)

Verbal aggression towards others (e.g. shouting/swearing at others)

Any other similar behaviour not already mentioned (please specify) _____

No, none of my children displays these behaviours

If you have more than one child who displays the behaviours described in question 20(a), please answer the remaining questions [i.e. 20 (b), (c), (d) and (e)] for each child. Please use a different coloured pen/pencil for each child. However, if you only have one child who displays the behaviours then you only need to complete the remaining questions once.

(b) If yes, which one of your children displays these behaviours? (Please circle)

Child 1 Child 2 Child 3 Child 4 Child 5 Child 6

(c) If yes, which statement best describes how often your child behaves in this way? (Please tick one option)

Every day Once or twice per week Once or twice per month Once or twice per year

Continued over/

(d) If yes, how severe would you say your child's behaviour is? (Please tick one option)

- Very Severe Quite Severe Not Severe

(e) Do you or your child see any of the following professionals for help in managing your child's behaviour? (Please tick as many as apply)

- | | |
|---|--------------------------|
| Community Nurse | <input type="checkbox"/> |
| Clinical Psychologist | <input type="checkbox"/> |
| Psychiatrist | <input type="checkbox"/> |
| Any other professional not already mentioned (please specify) _____ | <input type="checkbox"/> |
| No, we don't see any of the above professionals | <input type="checkbox"/> |

If you would like to make any comments about this questionnaire or any of your answers, please use the space below.

Thank you very much for taking the time to complete the questionnaire.

Please return it in the pre-paid envelope provided.

Please Note: If you think that either you or your child need professional help for your child's behaviour, please contact your family doctor who will be able to talk to you about the best course of action.

APPENDIX 4

Main study participant information letter
(for parents recruited via clinical psychology waiting lists)

APPENDIX 4

**Child and Family Mental Health Service
at Royal Hospital for Sick Children
3 Rillbank Terrace
EDINBURGH EH9 1LL**

**TEL: 0131-536 0517
FAX: 0131 536 0545
DIRECT LINE: 0131 536 0535**

[Date]

Dear Mr and/or Mrs [child's parents name]

Your child has been referred to [name of department and hospital] and is on the waiting list to be seen by a clinical psychologist.

I am a Trainee Clinical Psychologist and I work at the Child and Family Mental Health Services in the Royal Hospital for Sick Children, Edinburgh. I am carrying out a study into parents' views of aggressive behaviour in children and I am writing to invite you to take part in this study. Parents of children on all psychology waiting lists in hospitals throughout Lothian are being invited to take part.

Your participation in this study is voluntary. Although I really hope that you will take part, you do not have to. If you agree to take part, all I ask is for you to take 15-20 minutes of your time to **fill out the attached questionnaire and return it to me using the pre-paid envelope provided by [deadline date]**. The questionnaire is anonymous and will be treated confidentially.

If you do not want to take part in the study then you do not have to do anything and I will not contact you again. If you decide not to take part, this would not influence your child's current or future access to psychology services and it would not change your child's position on the psychology waiting list in any way. If you take part in the study but later want to withdraw your questionnaire, you can do so at any time and this will not influence your child's access to psychology services.

As a matter of courtesy, I will send a letter to your family doctor to tell them that I have asked you to take part in this study. However, I will not contact your doctor again once I send the letter and they will not know whether or not you took part in the study. Also, the psychology department will not know whether or not you took part in the study.

I hope that the information from this study will help to improve psychological treatments for children with behaviour that is difficult to manage, and their families. If you need more information about the study, please contact me at the address or telephone number above.

I hope you decide to take part. Thank you for your time and help.

Yours sincerely

Nicola Logan
Trainee Clinical Psychologist

APPENDIX 5

Main study GP information letter

APPENDIX 5

**Child and Family Mental Health Service
at Royal Hospital for Sick Children
3 Rillbank Terrace
EDINBURGH EH9 1LL**

TEL: 0131-536 0517

FAX: 0131 536 0545

DIRECT LINE: 0131 536 0535

[Date]

Dear Dr [name of general practitioner]

Re: Study to investigate parents' attributional, emotional and behavioural reactions towards aggressive behaviour in learning disabled and non learning-disabled children

Your patient, [name of child], has been referred to [name of department and hospital], and is on the waiting list to be seen by a clinical psychologist.

I am writing to inform you that I recently wrote to the parents of this child to invite them to participate in a study into parents' views and experiences of aggressive child behaviour.

The study involves a postal questionnaire and participation in the study is entirely voluntary. The questionnaire itself includes two vignettes describing fictitious children with aggressive behaviour. Parents are asked to read the vignettes and then complete three short questionnaires, which assess their attributional, emotional and behavioural reactions to the vignettes. The questionnaire also includes some basic demographic information.

In terms of recruitment, a sample of parents whose children are on psychology waiting lists in hospitals throughout Lothian are being invited to participate in the study. The questionnaires are being posted to the parents with a letter that provides information about the study. The letter explicitly states that participation in the study is entirely voluntary and that if the parents decide not to participate, this will not influence their child's access to psychological intervention in any way. Similarly, the letter states that if the parent participates in the study but then wishes to withdraw their questionnaire, they can do so at any time and this will not influence their child's

access to psychology services. The questionnaires are anonymous and those returned will be treated confidentially.

This study will form my thesis for my doctorate in Clinical Psychology. Data collection will take place between January and June 2002. Academic supervision is provided by Dr Alison Clark (Honorary Fellow of Edinburgh University, East of Scotland Clinical Psychology Training course) and clinical supervision is provided by Dr Sally Cheseldine (Consultant Clinical Psychologist, Child and Family Mental Health Services, Lothian Primary Care Trust).

I am the primary researcher and work at The Royal Hospital for Sick Children, Edinburgh. If you wish to discuss the study further, please do not hesitate to contact me at the above address.

Yours sincerely

Nicola Logan
Trainee Clinical Psychologist

APPENDIX 6

Main study participant information letter
(for parents recruited via schools)

APPENDIX 6

**Child and Family Mental Health Service
at Royal Hospital for Sick Children
3 Rillbank Terrace
EDINBURGH EH9 1LL**

TEL: 0131-536 0517

FAX: 0131 536 0545

DIRECT LINE: 0131 536 0535

[Date]

Dear parent/guardian

Your child will have brought this letter home from school. I hope you do not mind me writing like this and that you can spare a few moments to read this letter.

Who am I?

I am a Trainee Clinical Psychologist. I work at the Child and Family Mental Health Services in the Royal Hospital for Sick Children, Edinburgh. My job is to provide psychological input to children with learning disabilities, and their families. I work alongside Dr Sally Cheseldine (Consultant Clinical Psychologist) and Dr Duncan Manders (Consultant Psychiatrist).

Why am I writing to you?

I am carrying out a study into parents' views of aggressive behaviour in children and I am writing to invite you to take part in this study.

Your participation in this study is voluntary. Although I really hope that you will take part, you do not have to. If you agree to take part, all I ask is for you to take 15-20 minutes of your time to **fill out the attached questionnaire and return it to me using the pre-paid envelope provided by [Deadline Date]**. You do not have to write your name on the questionnaire and I will be the only person who sees it. Your child's school will not know whether or not you took part in the study.

If you do not want to take part in the study then you do not have to do anything and I will not contact you again. If you decide not to take part, this will not influence your child's access to psychology services if this is needed in the future. If you take part in the study but later want to withdraw your questionnaire, you can do so at any time and this will not influence your child's access to psychology services in the future.

Who else has been asked to take part in the study?

I am asking the parents of children in four schools to take part in the study. I decided to send the questionnaire through your child's school to protect your privacy. I do not have any information about you or your family.

What are the benefits of taking part?

I hope that the information from this study will help us to improve psychological treatments for children with behaviour that is difficult to manage, and their families.

Who can you get in touch with if you need more information about the study?

If you need more information about the study, please contact me at the address or telephone number above. Also, the head teacher at your child's school knows about this study and you might want to talk to them about it.

I hope you decide to take part. Thank you for your time and help.

Yours sincerely

Nicola Logan
Trainee Clinical Psychologist

APPENDIX 7

Tables of non-significant results

APPENDIX 7A

NON-SIGNIFICANT BETWEEN-GROUPS RESULTS FOR ATTRIBUTIONS MEASURES

Vignette – Attribution dimension	LD Group		Non-LD Group	
	Mean	SD	Mean	SD
LD vignette (internality)	3.82	1.42	3.85	1.31
Non-LD vignette (internality)	3.82	1.70	4.10	2.02
LD vignette (globality)	5.68	1.22	5.65	1.14
Non-LD vignette (globality)	4.71	1.71	4.90	1.62
LD vignette (controllability)	3.29	1.38	2.90	1.29
Non-LD vignette (controllability)	4.41	1.60	4.65	1.50
LD vignette (stability)	4.73	1.48	4.75	1.55
Non-LD vignette (stability)	4.00	1.35	3.70	1.81

Means and standard deviations for parental attribution ratings for the two parent groups, i.e. those whose aggressive child is learning disabled (LD Group) (n=34) and those whose aggressive child is non-learning disabled (Non-LD Group) (n=20), for the two vignettes, i.e. depicting a learning disabled (LD Vignette) and a non-learning child (Non-LD Vignette) with aggressive behaviour

Factor	Degrees of freedom	F value	Significance (2-tailed)
Group	1, 52	0.000	0.99

ANOVA summary table for tests of between-subjects effects for attributions.

APPENDIX 7B

NON-SIGNIFICANT BETWEEN-GROUPS RESULTS FOR TOTAL EMOTIONS SCORES

Vignette	LD Group		Non-LD Group	
	Mean	SD	Mean	SD
LD vignette – total negative emotions score	19.29	9.36	18.20	9.02
Non-LD vignette – total negative emotions score	22.61	10.34	21.90	10.00

Means and standard deviations for parental total emotions scores for the two parent groups, i.e. those whose aggressive child is learning disabled (n=34) and those whose aggressive child is non-learning disabled (n=20), for the two vignettes, i.e. depicting a learning disabled (LD Vignette) and a non-learning child (Non-LD Vignette) with aggressive behaviour

Factor	Degrees of freedom	F value	Significance (2-tailed)
Group	1, 52	0.131	0.72

ANOVA summary table for tests of between-subjects effects for total negative emotions scores.

APPENDIX 7C

NON-SIGNIFICANT BETWEEN-GROUPS RESULTS FOR BEHAVIOURAL RESPONSES CATEGORIES

LD Group - Non-LD Group Comparisons	LD Vignette			Non LD Vignette		
	χ^2 Value	df	Significance (2-tailed)	χ^2 Value	df	Significance (2-tailed)
Calm/reassure/communicate	0.20	1	0.65	0.37	1	0.54
Find out cause	Fisher's test		1.00	1.07	1	0.30
Distract	Fisher's test		0.64	Fisher's test		0.53
Safe environment/remove	0.02	1	0.90	2.97	1	0.12
Restraint	Fisher's test		0.14	Fisher's test		0.62
Stop behaviour	Fisher's test		0.45	Fisher's test		0.65
Leave/give space	Fisher's test		0.14	Fisher's test		0.40
Explain that inappropriate	2.11	1	0.15	1.20	1	0.65
Non-physical punishment	Fisher's test		1.00	1.65	1	0.20
Teach alternative behaviour	Fisher's test		1.00	Fisher's test		1.00
Seek apology	Fisher's test		0.15	Fisher's test		0.66

Chi-square and Fisher's Exact tests comparing each behavioural response category between the two parental groups (LD group, n=34 and Non=LD group, n=20) for the vignette depicting the learning disabled child (LD vignette) and for the vignette depicting the non-learning disabled child (Non LD vignette)