

# **Parental Cognitions and Adaptation to the Demands of Caring for a Child with an Intellectual Disability: A Review of the Literature and Implications for Clinical Interventions**

Richard Hassall

*Oxfordshire Learning Disability NHS Trust, Oxford, UK*

John Rose

*University of Birmingham, UK*

**Abstract.** The manner in which parents adapt to the experience of caring for a child with an intellectual disability is generally thought to depend upon a range of variables typically conceptualized within multi-dimensional models. This review briefly describes three such models that share significant common features, incorporating child variables, environmental characteristics, and parental cognitive processes as contributors to parental coping styles or parenting stress. The effects of child and environmental characteristics on parenting stress and coping in parents of children with disabilities have been well documented. It is argued, however, that some aspects of cognitive processes in parents of these children have received less attention from researchers. In particular, there has been a large amount of research into parenting self-esteem, parental attributions, and parental locus of control with parents of other groups of children. This research is reviewed, and it is argued that further research into similar cognitions in parents of children with intellectual disabilities is warranted. Finally, the potential clinical implications of such research are examined in relation to behavioural interventions for children's behavioural difficulties. It is suggested that parental cognitions may influence the acceptability of such interventions and also be associated with their effectiveness.

*Keywords:* Children with intellectual disabilities, parenting stress, parental cognitions, parenting self-esteem, parental locus of control, attributions.

## **Introduction**

In recent years, there has been a significant change in the research and professional literature regarding the effects that children with intellectual disabilities have on their parents (Hodapp, 1995; McConachie, 1994). Whereas earlier studies tended to conclude that the presence of a

---

Reprint requests to Richard Hassall, Oxfordshire Learning Disability NHS Trust, Slade House, Horspath Driftway, Headington, Oxford OX3 7JH, UK. E-mail: richard.hassall@oldt.nhs.uk

© 2005 British Association for Behavioural and Cognitive Psychotherapies

child with a disability would lead to family pathology, research since the 1980s has placed increasing emphasis on individual mediating factors in the stress experienced by parents and their consequent coping styles. Hence, several reviews in this area (e.g. Byrne and Cunningham, 1985; Hodapp, 1995; Minnes, 1998; Stoneman, 1996) have broadly concurred in various conclusions, particularly noting that successful adaptation rather than crisis is the norm for many families.

There is now general agreement that parental stress and adaptation are influenced by many factors, which are best understood within the framework of a multi-dimensional model (e.g. Frey, Greenberg and Fewell, 1989). Within such a model, the principle dimensions thought to be associated with parental and family adaptation typically include child characteristics, family or environmental features, and the parents' cognitive styles.

This paper is a conceptual review, which will begin with a brief overview of research findings on parenting stress in parents of children with an intellectual disability. This will be followed by a discussion of models of parenting stress and coping, with particular reference to the principal dimensions identified in these models, leading to a more extended discussion of the effects of parental cognitions. This will include a review of the literature on parenting self-esteem, parents' attributions for their children's behaviour, and parental locus of control. Studies on parental cognitions for children with various difficulties will be reviewed including, wherever possible, findings relating to children with intellectual disabilities. Finally, the potential clinical implications of further research on parents' cognitions for children with disabilities will be explored.

### **Parenting stress and coping with a child with an intellectual disability**

The experience of parenting a child with an intellectual disability is often associated with significantly higher levels of parenting stress than that of caring for children without disabilities (e.g. Cameron, Dobson and Day, 1991; Dyson, 1993, 1997; Roach, Orsmond and Barratt, 1999; Rousey, Best and Blacher, 1992; Walker, Van Slyke and Newbrough, 1992). There is nevertheless considerable variability amongst parents in the stress experienced (Stoneman, 1996), with positive experiences being increasingly acknowledged (Hastings and Taunt, 2002).

There are differing findings in the research literature regarding associations between the level of the child's disability and parental stress. Some studies have found a significant association between these variables, with caretaking demands featuring as a significant aspect of the child's disability (e.g. Beckman, 1983; Sloper, Knussen, Turner and Cunningham, 1991), but others have found no such association (e.g. Baker, Blacher, Crnic and Edelbrock; 2002; Walker et al., 1992). To some extent, these differences may be due to sampling differences amongst the studies (Knussen and Sloper, 1992). However, there is consistent evidence that other individual characteristics of the children may be significantly associated with different parent and family outcomes (Beckman, 1983). For example, Quine and Pahl (1985) found that the stress experienced by parents of children with multiple disabilities seems to be influenced, firstly by child characteristics and secondly by the family's social and economic circumstances. Of the child characteristics, the most stressful factors seem to be behavioural problems and night-time disturbance (Baker et al., 2002; Friedrich, Wiltturner and Cohen, 1985; Konstantareas and Homatidis, 1989; Pahl and Quine, 1987). For children with Prader-Willi syndrome, which is normally associated with an intellectual disability, increased levels of behaviour problems are associated with higher levels of stress in the family (Hodapp, Dykens and Masino, 1997).

There is therefore ample evidence that the presence of behavioural problems in a child with an intellectual disability represents a significant stressor to the parents beyond any stress arising from the child's disability. This is likely to be a factor generating frequent referrals to clinical services, and it will be argued below that parental cognitive reactions to these problems are likely to affect the impact of clinical interventions.

Research on parenting stress with intellectually disabled children has typically been conducted more frequently with mothers than with fathers. However, the trend from research conducted with both parents seems to suggest similar levels of parenting stress between mothers and fathers (e.g. Cameron et al., 1991; Dyson, 1997; Roach et al., 1999), although different aspects of the family environment may be associated with stress for fathers compared with mothers (e.g. Dyson, 1997).

In addition, family support and other social and environmental resources have been shown to be important mediators of parental stress and coping (e.g. Dunst, Trivette and Cross, 1986; Frey et al., 1989; Quine and Pahl, 1991). Findings in this area have been thoroughly reviewed elsewhere (e.g. Minnes, 1998; Stoneman, 1996) and will therefore not be further reviewed here.

### **Models of parenting stress and coping**

Various models of parental stress and coping have been proposed to incorporate the range of variables known to be associated with this. These models reflect recent developments in this area, shifting the perspective away from a focus on the child as a cause of family pathology towards a concept of family adaptation to the demands presented by the child with a disability (Hodapp, 1995). They also broadly agree in the importance attached to parental cognitions, including appraisals, meanings given to salient events, and parents' beliefs about themselves and their children.

One such model is the "Double ABCX" model developed by McCubbin and Patterson (1983), in which the stress involved in caring for a child with a disability is influenced by child characteristics, the resources available for dealing with crises, and the family's perception of the child. To these elements are added the effects of other family stressors, other social resources available, the coping strategies employed by the family, and the broader meanings that the family gives to events. This model has been useful in guiding research into the range of variables that predict the family's successful adaptation to the presence of a child with a disability (Hodapp, 1995). For example, Bristol (1987) found that the positive adaptation of mothers of autistic or language-impaired children was predicted by adequacy of social support and active coping strategies. By contrast, poorer adaptation was associated with additional family stresses, maternal self-blame for the child's disability, and the mother's construal of the disability as a catastrophe. Saloviita, Itälänna and Leinonen (2003) used this model to show that the most important predictor of stress in parents was a negative perception of the child's disability. For mothers, this perception was associated with the child's challenging behaviour, and for fathers, with perceived social acceptance of the child (Saloviita et al., 2003).

A general model of the circumstances contributing to parent-child interactive stress has been outlined by Mash and Johnston (1990). According to this model, parenting stress is influenced by three sets of characteristics relating respectively to the child, the parents, and the family and social environment. The relationships between these sets of variables are considered to

be recursive, in that parenting stress levels also exert a reciprocal influence on aspects of the child, the parents, and the environment. Support for this view of reciprocal influences comes from Patterson (1983) who describes how parental reactions to difficult child behaviour may become less effective, adding further to the stress experienced by parents. Patterson argues that the increased irritability of the parent in response to stressors may contribute to increased aggressive behaviour by the child leading to further disruption of the parent's problem-solving skills.

According to Mash and Johnston (1990), the relative influence of each of these sets of variables may be different for different groups of children. Mash and Johnston apply their model in particular to families of hyperactive children and to those of physically abused children. They suggest that in families of hyperactive children, parent-child interactive stress is strongly influenced by difficult child characteristics. Using this model with mothers of children with ADHD, Harrison and Sofronoff (2002) found that severity of child behaviour problems and lower perceived parental control over these behaviours were significantly associated with higher levels of maternal stress. In families of abused children, by contrast, a major influence on parent-child stress is presumed to arise from a combination of parent and environmental characteristics. Mash and Johnston highlight the importance of parental cognitions as a mediating influence on stress in both kinds of family, and they emphasize the need to study further the effects of different forms of these cognitions. This model might therefore provide a useful basis for further research with families with a disabled child.

The cognitive theory of stress and coping developed by Lazarus and Folkman (1984) has been used extensively by researchers studying the adaptation of families of children with disabilities (e.g. Frey et al., 1989; Grant and Whittell, 2000; Miller, Gordon, Daniele and Diller, 1992; Quine and Pahl, 1991; Sloper et al., 1991; Sloper and Turner, 1993). As well as highlighting the role of social networks and other resources, this theory emphasizes the important role played by the individual's *appraisal* of the stressful situation in determining that person's emotional response to the stressor. In addition, the theory describes how one's appraisal of the situation affects one's coping responses to it, and how different coping strategies lead to different emotional outcomes. According to this view, "coping" is seen as an "effort to manage" something and is distinct from any particular outcome of managing, whether successful or unsuccessful. Two forms of appraisal are described by Lazarus and Folkman: "primary appraisal" refers to the individual's evaluation of a situation as either irrelevant, benign, or threatening, and "secondary appraisal" refers to judgements about what coping options might influence the situation and be available to the individual concerned. For parents managing potentially stressful situations with their children, these appraisals might encompass a range of cognitive variables that could influence outcomes with their children.

The importance of coping strategies on parental adjustment is emphasized in a review of several multivariable studies by Knussen and Sloper (1992). These tended to show that parents who experience greater distress make less use of problem-focused coping strategies and more use of "wishful thinking" in their response to stressors.

Despite the various differences between these models in terms of their focus and complexity, they are all based to some extent on a multi-dimensional approach to the study of stress and coping in families, which is generally supported by empirical investigations (e.g. Frey et al., 1989). Parental cognitions and appraisals are important elements in all the models, and are being increasingly studied in developmental and clinical research (Morrissey-Kane and Prinz, 1999).

### **Parental cognitions and coping strategies**

There is now accumulating empirical evidence of links between parental cognitions and various patterns of parent and child behaviour (Bugental and Johnston, 2000). One effect of this increasing evidence base will hopefully be to inform future developments in interventions and services for families of children with intellectual disabilities and behavioural difficulties. Understanding the various cognitions and appraisals made by parents of these children ought to be of value in understanding their strategies for coping with the demands upon them, as well as for clarifying some of the issues that might impede their successful implementation of behaviour management interventions.

There is also now some recognition that parents' positive perceptions of caring for a disabled child need further study and that these experiences may have a significant effect in influencing parents' coping strategies (Hastings and Taunt, 2002). In their review of research, Hastings and Taunt argue that while there have been descriptive studies of families' positive perceptions, there has seldom been a clear theoretical basis for these. A further potential benefit in studying parental cognitions might be to allow for positive perceptions to be integrated into a broader theoretical framework, along with more negative experiences, leading to a better understanding of family adaptation.

The subject of parental cognitions is very large and this review will focus mainly on studies that involve key variables likely to be of relevance in the study of stress and coping in parents of children with intellectual disabilities. A particular difficulty in this respect is that the majority of published studies of parental cognitive variables focus on groups of children other than those with an intellectual disability. Studies that look particularly at the appraisals, perceptions, or attributions of parents of disabled children are small in number, and some areas of cognition (e.g. attributions) are scarcely covered at all. For example, the review of parental cognitions by Bugental and Johnston (2000) did not refer to any such studies. Reflecting in part the analysis of parental cognitions provided by Mash and Johnston (1990), this review will cover studies into parenting self-esteem and parental attributions, whilst recognizing that there is some degree of overlap between the two. In addition, the subject of parents' locus of control has received attention in recent studies and will also be reviewed. These areas have received the most attention from recent researchers studying parental cognitions (Bugental and Johnston, 2000; Grusec and Mammone, 1995).

### **Parenting self-esteem**

A range of studies has examined the extent to which the sense of competence felt by parents in their parenting role is related to various outcomes, including the affective reactions of parents, their levels of stress, and their child-rearing practices (Coleman and Karraker, 1997; Mash and Johnston, 1990). This is frequently referred to as "parenting self-esteem" (e.g. Mash and Johnston, 1983), and also sometimes as "efficacy cognitions" (e.g. Bugental and Johnston, 2000).

Most studies of parenting self-esteem employ the Parenting Sense of Competence Scale (PSOC), originally described in an unpublished paper by Gibaud-Wallston and Wandersman (1978). Using this measure, Mash and Johnston (1983) found that parenting self-esteem in parents of hyperactive children was lower than in those of normal children. The two subscales

of the PSOC were labelled “skill/knowledge” and “valuing/comfort”, though more recent studies have relabelled these “efficacy” and “satisfaction” respectively (e.g. Johnston and Mash, 1989). Mash and Johnston (1983) also found consistent inverse relationships between parenting self-esteem and perceptions by parents of children’s behaviour problems, and that parents’ ratings of self-esteem in the area of “skill/knowledge” were related to the age of the child, with parents of older hyperactive children reporting the lowest self-esteem ratings. More normative data and a factor analysis on the scale were provided by Johnston and Mash (1989), who also found that parents reporting more behaviour problems with their children had lower levels of parenting self-esteem, particularly on the “satisfaction” dimension of parenting.

There is therefore some evidence that parenting self-esteem may be adversely affected by increased behaviour problems displayed by the child, especially where these might be associated with a formal clinical diagnosis. Commenting on this, Mash and Johnston (1990) speculate that low parenting self-esteem in parents of hyperactive children may be associated with a history of frustration in coping with the behaviour of a difficult child, which becomes more chronic as the child gets older, though longitudinal research would be needed to clarify the direction of causality in this relationship.

Other studies have looked specifically at parenting efficacy. Using a domain-specific measure of this variable, Teti and Gelfand (1991) found that low self-efficacy in mothers of young infants was associated with lower observed maternal competence, after controlling for maternal depression and infant temperament. Bondy and Mash (1999) found a significant inverse relationship between the efficacy subscale of the PSOC and reported likelihood of using coercive discipline in a sample of mothers of young children. They suggest that low parenting efficacy may be a variable in a three-way relationship involving mothers’ likely use of coercive discipline and frequency of child misbehaviour.

There are few published studies using the PSOC with parents of children with intellectual disabilities. However, Hudson et al. (2003), using the efficacy subscale of the PSOC, showed that parents felt more effective in their ability to manage their children’s behaviour after working through an intervention package for children with intellectual disabilities and challenging behaviour. There is also evidence that higher scores on the satisfaction subscale of the PSOC may be associated with lower parenting stress for mothers of children with disabilities (Hassall, Rose and McDonald, *in press*). Studies using more general measures of efficacy have demonstrated that lower levels of parental efficacy are associated with higher levels of parental stress and distress for these parents (e.g. Frey et al., 1989). Hastings and Brown (2002) used a domain-specific measure of parenting efficacy relating to children’s behaviour problems with parents of children with autism. They found that this measure mediated the effect of the child’s challenging behaviour on mothers’ levels of distress and moderated the effect of the child’s behaviour on fathers’ anxiety. Additionally, Trute (1995) used the Rosenberg Self-Esteem Scale as a measure of self-esteem in parents of children with developmental disabilities and found that this was a significant predictor of depression in both mothers and fathers.

Generally, there seems to be some interchangeability within the literature between the terms “parenting competence” and “parenting self-esteem”, and there is probably a need for greater clarity in the use of these terms. Nevertheless, the conceptualization of parenting self-esteem as a combination of parenting efficacy and satisfaction (e.g. Johnston and Mash, 1989) appears to offer a fruitful basis for further research in this field.

### **Parental attributions**

The literature on parental attributions and their relationships with children's behaviour and other outcomes is now quite large. There is considerable variation in the aims, methodology, and conceptualization of attributions employed in the various studies (Bugental, Johnston, New and Silvester 1998). In particular, the measures of attributions reported have various conceptual bases, in which attributions may be viewed either as conscious appraisal processes triggered by immediate stimuli or as memory-dependent styles of appraisal reflecting the individual's previous experiences (Bugental et al., 1998). Additionally, some studies are based explicitly on Weiner's theory specifying three attributional dimensions of locus, stability, and controllability (e.g. Weiner, 1985), whilst others have no explicit theoretical base. Due to the differing models for conceptualizing attributions, it can be difficult to draw clear generalizations about all forms of parental attributions and their relationships to various outcomes. A detailed synthesis of these theoretical issues is beyond the scope of this paper (for a full theoretical review, see Bugental et al., 1998), and a more descriptive examination of relevant research will be offered here with the aim of indicating its potential relevance to clinical issues. Nevertheless, some consistent findings are emerging from the literature, which will be reviewed here in three sections. Firstly, parental attributions for the behaviour of children in general will be briefly examined. Secondly, research studies on parental attributions for children with a range of difficulties or clinical conditions will be reviewed. Thirdly, the likely implications of these findings for parents' attributions for the behaviour of children with an intellectual disability will be considered.

#### *Parental attributions for children from non-clinical populations*

There is good evidence from a large range of studies that parents form attributions for their children's behaviour and that significant associations can be established between these attributions and both parent and child characteristics (Miller, 1995). Two key themes emerging from the literature will be identified here, with illustrative examples of relevant studies for each.

Firstly, there have been several studies describing the typical attributions formed by parents of children displaying positive and negative behaviours respectively. For example, Gretarsson and Gelfand (1988) found that mothers had a tendency to perceive their children as dispositionally good, in that positive child characteristics were attributed to causes that were innate and stable. By contrast, undesirable child characteristics were seen as transitory and attributed to external causes. The authors suggest that having positive perceptions of their children may help mothers to feel in control of caregiving events and to see themselves as effective caregivers. Gretarsson and Gelfand also report that mothers made fewer positive attributions for children judged to be difficult to manage as compared with easier children. They suggest that this could affect the behaviour of parents, who may perceive a difficult child as having a dispositional impairment and thus feel relieved of some responsibility for the child's condition.

The tendency of parents to attribute positive characteristics to internal child causes and negative characteristics to external causes is sometimes referred to as the "hedonic bias" (e.g. Himmelstein, Graham and Weiner, 1991). Examining attributions made by mothers of gifted, normal, and special education children, Himmelstein et al. (1991) found that the hedonic bias



was most apparent in the mothers of children receiving special education, these mothers being most likely to deny responsibility for their children's negative behaviour.

The second emerging theme is that parents' attributions may be associated with their parenting practices and their reactions to their children. In one study (Dix, Ruble and Zambarano, 1989), mothers read descriptions of negative behaviours displayed by their own and other parents' children and made attributions about the children's competence and responsibility for each action. They also rated the extent to which they would respond with "induction" (reasoning and instruction) or with power-assertive discipline. The authors found that mothers were likely to favour power-assertive parenting as a response to the children when they made attributions of competence and responsibility to the children for the negative acts. Therefore mothers' appraisals of their children's competence and responsibility appeared to influence their parenting practices.

Bugental and co-workers have studied the effects of mothers' attributions for success and failure in care-giving situations, with particular reference to their perceptions of the balance of control between themselves and their children. For example, Bugental, Blue and Cruzcosa (1989) found that mothers with low perceived control in difficult child-rearing situations were more likely to adopt abusive or coercive parenting styles with children who were difficult to manage.

Most of the studies relating parental attributions to parents' emotional reactions or parenting behaviour are correlational in nature and do not indicate clear causal relationships. However, Smith Slep and O'Leary (1998) examined the direction of causality with mothers of pre-school children described as "hard to manage". Mothers' attributions for their children's behaviour were experimentally manipulated prior to challenging interactions with their children by means of scripted advice from the experimenter. The scripts implied that the child either would or would not be responsible for expected misbehaviour during the interaction session. Mothers who were told their children would misbehave voluntarily and with negative intent were significantly more likely to use over-reactive disciplinary styles and to report angry feelings, compared with mothers who were told their children were not to blame for their expected misbehaviour. Smith Slep and O'Leary therefore concluded that mothers' attributions can in such circumstances influence their parenting styles.

#### *Parental attributions for children's behaviour in clinical samples*

The attributions formed by parents (usually mothers) for children's behaviour has been studied for various clinical groups. Despite the wide range of studies and methodologies, there is accumulating evidence attesting to the existence of distinctive patterns of parental attributions associated with different child conditions (e.g. Joiner and Wagner, 1996).

One group frequently studied includes parents of children with anti-social behaviour or conduct disorders. Dix and Lochman (1990) asked mothers to view videotapes of children misbehaving. They reported that mothers of aggressive boys attributed more negative intentions and greater responsibility to the children who were seen misbehaving than did mothers of other boys. Alexander, Waldron, Barton and Mas (1989) found that parents of delinquent adolescents tended to make dispositional attributions about their children's negative behaviours indicating causes of behaviour that were more stable and internal to the adolescent, compared with positive behaviours. Baden and Howe (1992) found that mothers of conduct-disordered children were



more likely to view their child's misbehaviour as intentional and to attribute it to causes that were stable, global, and outside parental control, when compared with control mothers. Despite the differences in attributional dimensions examined in these studies, they all suggest that parents of children with behavioural disorders are more likely to attribute their children's misbehaviour to causes that are internal to the child and which may therefore be beyond parental control.

The association between maternal mood state and attributions has also been studied by some researchers. For example, Geller and Johnston (1995) found that mothers reporting higher levels of depressed mood were more likely to attribute negative child behaviours to causes within the child and within the child's control. The authors suggest that maternal attributions may mediate the relationship between maternal depressed mood and child behaviour problems, through the possible association between blaming attributions and subsequent coercive parenting behaviours. White and Barrowclough (1998) found that depressed mothers attributed the problem behaviours of their children to causes that were more stable, more personal to the child, and more controllable by the child, compared with non-depressed mothers. Bolton et al. (2003) reported a similar pattern of attributions in depressed mothers and found additionally that this attributional pattern was associated with higher levels of expressed emotion regarding the children's behaviour.

Parental attributions for children with attention deficit-hyperactivity disorder (ADHD) have been extensively researched, particularly by Johnston and co-workers. Johnston and Freeman (1997) compared a group of mothers and fathers of children suffering from ADHD with a comparison group of parents of children without behaviour disorders. The results showed that parents of ADHD children viewed behaviours characteristic of this disorder as more internally caused, more stable, and less controllable by the child than did the comparison parents. Parents of children with ADHD also attributed less responsibility to themselves for these behaviours. Johnston and Freeman concluded that these parents seemed to be making attributions for the ADHD behaviours that were consistent with a view of ADHD as a chronic disease condition and were not blaming the children for these behaviours. More recently, Harrison and Sofronoff (2002) have replicated the finding of maternal attributions of internal causality for ADHD related behaviours.

There is also evidence that parents of ADHD children are more likely to attribute responsibility for their child's behaviour to medication than to themselves, for children receiving stimulant medication (Johnston, Reynolds, Freeman and Geller, 1998). Another study (Johnston et al., 2000) suggested that mothers see the child's positive behaviour as more dispositional and stable and the child's negative behaviours as more transitory for children receiving medication for ADHD. To this extent their attributions appear to reflect the hedonic bias found in other studies (e.g. Gretarsson and Gelfand, 1988; Himelstein et al., 1991). Mothers also attributed more control to their children for their negative behaviours when they were medicated than when not medicated, and it is suggested that this might lead to harsher parental reactions to the child's misbehaviours when the children are medicated (Johnston et al., 2000). It is not fully clear, however, how far these results are consistent with the previous findings of parental attributions of responsibility to medication for their children's behaviour (Johnston et al., 1998). Perhaps the main implication of these results is one of a complex pattern of parental attributions arising from the perception of children's negative behaviour influenced by a chronic disorder with underlying biological causes, with consequent mediating effects on these attributions resulting from medication. One might therefore expect

a similarly complex picture for parents' attributions for children with other chronic conditions such as an intellectual disability.

The attributions of parents concerning children with physical complaints or chronic illnesses have also been examined. Walker, Garber and Van Slyke (1995) assessed the attributions of unrelated mothers and fathers to descriptions of misbehaviour of children with symptoms of physical or emotional disorders. They found that participants were more willing to excuse child misbehaviour when the children displayed symptoms of physical illness, and that this effect was greatest when the symptoms were explained by a medical diagnosis. In a study of mothers' attributions for the causes of their children's abdominal pain, Claar and Walker (1999) found that mothers tended to indicate psychosocial factors, more than physical factors, as causes of their children's pain and to show a preference for psychosocial treatments as potential remedies.

#### *Parental attributions for children with intellectual disabilities*

There are few published empirical studies looking at the attributions made by parents for children with an intellectual disability. However, a recent study in the USA of Latino mothers of children with developmental disabilities found that most such mothers did not view their children as being responsible for their problem behaviours (Chavira, Lopez, Blacher and Shapiro, 2000). This study also found that responsibility attributions predicted maternal emotions and responses to the children, with mothers who judged their children as responsible for their problem behaviours being more likely to experience negative emotional reactions and to respond with harsh or aggressive disciplinary methods. This result reflects a similar finding by Dix et al. (1989) for mothers of children without any identified disabilities. This effect was particularly marked for the children's externalizing behaviours in contrast to behavioural deficits (Chavira et al., 2000).

An earlier study by Stratton and Swaffer (1988) focused primarily on mothers of abused children, but used mothers of children with intellectual disabilities as a comparison group, with a control group of mothers of children with no reported difficulties. It was found that mothers of children with disabilities perceived their children's behaviour as more internal and personal to the child, while seeing the child as having less control over outcomes compared with the control group. This is similar to the pattern of attributions for child misbehaviour reported for parents of hyperactive children (Johnston and Freeman, 1997; Johnston et al., 1998).

The evidence from studies with parents of other groups of children who may be assumed to have difficulties of a biological origin suggests that these parents show distinctive patterns of attributions, and further studies could prove fruitful with parents of children with disabilities. In particular, such research might clarify whether the tendency for parents to excuse child misbehaviour if they attribute it to a specific physical illness (Walker et al., 1995) is replicated with parents of children with intellectual disabilities.

### **Parental locus of control**

Some researchers have investigated the predictive value of parents' beliefs about their ability to maintain control in situations relating to parenting. Campis, Lyman and Prentice-Dunn (1986) developed the Parenting Locus of Control Scale (PLOC) as a measure of parents' control beliefs, based on Rotter's (1966) concept of generalized locus of control. Using the PLOC

in a study with two groups of parents, they found that parents of children with behavioural difficulties were more likely to display an external locus of control than were parents of children with no reported difficulties. Subsequent studies using the PLOC have obtained similar findings for mothers of children of various ages with behaviour problems (Mouton and Tuma, 1988; Roberts, Joe and Rowe-Hallbert, 1992). Other research by Janssens (1994) has shown that parental locus of control may be associated with specific child-rearing practices. In a large study of parents of school-age children, Janssens found that parents with a more external locus of control tended to be more authoritarian when they saw their child either as having insufficient impulse control and consequently displaying externalizing behavioural problems or as having too much emotional control and having internalizing emotional difficulties. However, all these studies were cross-sectional in design and no causal direction could be inferred from these associations.

In a longitudinal study of parental perceived control, Hagekull, Bohlin and Hammarberg (2001) used two sub-scales (“Parental Responsibility” and “Parental Control”) from the PLOC to investigate possible influences of parental experiences on children’s development. Hagekull et al. (2001) found that the Parental Responsibility sub-scale had little predictive value. In contrast, the Parental Control sub-scale was found to be predictive of various outcomes, and in particular less perceived control in both mothers and fathers was associated with greater aggressiveness and internalizing problems in the children. Looking at longitudinal predictions, they also found similar associations between Parental Control assessments for mothers and fathers taken when the children were aged 33 months and externalizing behaviour problems when the children were 9 years old (and a similar relationship for mothers only between Parental Control at 33 months and children’s internalizing problems at 9 years).

Using a shortened form of the PLOC, Hassall et al. (in press) report evidence that low perceived parenting control is associated with higher parenting stress in mothers of children with intellectual disabilities. Some studies (e.g. Frey et al., 1989; Sloper et al., 1991; Wiggs and Stores, 2001) have used more general locus of control measures with parents of children with intellectual disabilities, and these tend to show that low personal control is associated with higher parenting stress and psychological distress. Hence, there may be value in further research to investigate whether similar findings are obtained when a specific measure of parental locus of control is used with this group of parents.

### **Clinical implications of research into parental cognitions**

With steadily increasing evidence that parents’ attempts at help-seeking, their engagement in treatment, and subsequent outcomes are affected by their expectations and attributions (Morrisey-Kane and Prinz, 1999), further research in this area is likely to be fruitful. Management strategies for children’s problem behaviour may be affected by parents’ explanations of that behaviour and their associated emotional reactions. Consequently, interventions might aim to help parents generate alternative explanations for their child’s behaviour, particularly to include consideration of environmental factors, and to enhance the emotional quality of parent-child relationships (Bolton et al., 2003).

There is now increasing recognition of the importance of including some assessment of parental attributions and other parental cognitive processes (e.g. Bugental and Johnston, 2000; Johnston, 1996; Turk, 1998) when implementing interventions for families of children with behavioural difficulties. For example, Johnston (1996) presents a cognitive-behavioural model

of parenting in which parental cognitive processes play a mediating role between situational stressors, including child behaviour, and parent behaviour. However, there are no measures of parental cognitions with adequate predictive validity that can reliably discriminate between clinical and non-clinical samples to aid the clinician in conducting assessments with families (Bugental et al., 1998; Johnston, 1996).

Despite this difficulty, there are nevertheless some indicators about the important role of parental attributions and other cognitions in clinical interventions. For example, Munton and Antaki (1988) found that families that were judged to have changed following family therapy demonstrated significant differences in attributions about negative family occurrences when compared with families that were judged not to have changed. However, it was not clear whether these attributional changes contributed to positive outcomes or whether they were merely a correlate of change following therapy. Nixon and Singer (1993) studied the feelings of self-blame, guilt, and negative internal attributions of mothers of children with intellectual disabilities. Following a group cognitive-behavioural intervention, Nixon and Singer found a significant reduction in all three areas of negative cognitions in the mothers compared with a no-treatment control group.

In a different but related area, there has been some research into the attributions of care staff working with adults with an intellectual disability. For example, Dagnan, Trower and Smith (1998) found that helping behaviour of staff towards residents was predicted by attributions of controllability. Similarly, Stanley and Standen (2000) found that carer's attributions towards adults with challenging behaviour were associated with positive and negative affect, feelings of optimism, and caring efforts.

Parents' locus of control may also have some predictive value. Roberts et al. (1992) found that mothers of children with behavioural difficulties were likely to display a more internal locus of control, compared with pre-treatment measures, after they had successfully completed a behavioural parenting treatment programme. They speculated that those mothers who successfully completed this programme, but did not display a more internal locus, might have more difficulties in the future maintaining newly learnt parenting skills in the face of any renewed coercive behaviour from their children. Similarly, Wiggs and Stores (2001) showed that mothers expressed a greater sense of internal control following successful behavioural treatment for sleep disorders in children with intellectual disabilities, although this was not observed for the fathers in the study.

There is a potential "dilemma of personal responsibility" (Himmelstein et al., 1991) if parents make less effort to ameliorate their children's negative behaviour as a result of attributions that effectively diminish responsibility for the problem. It is possible that parents' attributions and beliefs influence the extent to which they may be willing to accept behavioural interventions for their child's behavioural problems (Reimers, Wacker, Derby and Cooper, 1995). Specifically, Reimers et al. reported that parents who attribute their child's behavioural problems to physical causes were less likely to rate environmentally based behavioural treatments as acceptable for the management of their child's problems, in comparison with parents who attributed their child's problems to other causes. If confirmed by further research, this finding is likely to have important implications for the planning of interventions for families of intellectually disabled children, where parents may be likely to attribute their child's problems to biological causes.

There is evidence that mothers of children with autism experience lower feelings of parental competence compared with mothers of non-disabled children and that feelings of anxiety,

frustration, and tension are often reported by these mothers (Rodrigue, Morgan and Geffken, 1990). It is possible that anxiety about one's competence in the parenting role might influence the ability of parents to effectively implement a behavioural intervention with their children (Rodrigue et al., 1990). Hastings and Johnson (2001) showed that parents of children with autism reported lower levels of stress and pessimism when they had positive beliefs in the efficacy of an intensive behavioural intervention they were conducting. They also found that parents' use of adaptive coping strategies reduced stress. Hastings and Johnson therefore suggest that attention to parents' efficacy beliefs about the interventions in which they are engaged is important if these interventions are to achieve their intended results. Weiss (2002) has also suggested that cognitive interventions could have a significant role in ameliorating the effects of stress in raising a child with autism or other disability, particularly in contributing to effective coping strategies and challenging pessimistic assumptions. These studies have therefore produced interesting findings about the possible role of attributions and efficacy beliefs in therapeutic change and in the acceptability of environment based interventions, although further research is needed to clarify causal relationships in this area.

### Conclusions

This review has emphasized the importance of cognitive processes in models of stress and coping in parents of children with a disability. The three particular forms of cognition considered are parenting self-esteem, parental attributions, and parenting locus of control, reflecting the widespread literature in these areas (Bugental et al., 1998; Grusec and Mammone, 1995; Morrissey-Kane and Prinz, 1999). Parenting self-esteem and locus of control can be seen as more general conceptual schemas that parents hold concerning their ability to manage situations in general, whereas parental attributions may relate to specific problems or situations with which they are confronted in their role as parents (Bugental and Johnston, 2000). Taken together therefore they may provide a mediating link between parents' overall levels of adaptation and the day-to-day stressors with which they are faced.

Despite the extensive research on parental cognitions in general, there is little overlap between the literature on parents' adaptations to the stresses of caring for children with disabilities and the more specific research on these different aspects of parental cognitions. There is nevertheless some evidence, albeit limited, on child outcomes of parental attributions, and some indication of clinical implications associated with specific aspects of parents' cognitions.

Hence it would seem that the extension of research on parental cognitive processes to parents of children with an intellectual disability should have much to offer to the understanding of parenting stress and adaptation in this group. It should also hold out the prospect of informing the delivery of treatment interventions for such children who may be displaying behavioural problems and their families, and thereby contributing to the successful adaptation of these families.

### References

- Alexander, J. F., Waldron, H. B., Barton, C. and Mas, C. H. (1989). The minimizing of blaming attributions and behaviors in delinquent families. *Journal of Consulting and Clinical Psychology*, 57, 19–24.

- Baden, A. D. and Howe, G. W.** (1992). Mothers' attributions and expectancies regarding their conduct-disordered children. *Journal of Abnormal Child Psychology*, 20, 467–485.
- Baker, B. L., Blacher, J., Crnic, K. A. and Edelbrock, C.** (2002). Behavior problems and parenting stress in families of three-year old children with and without developmental delays. *American Journal on Mental Retardation*, 107, 433–444.
- Beckman, P. J.** (1983). Influence of selected child characteristics on stress in families of handicapped infants. *American Journal of Mental Deficiency*, 88, 150–156.
- Bolton, C., Calam, R., Barrowclough, C., Peters, S., Roberts, S., Wearden, A. and Morris, J.** (2003). Expressed emotion, attributions and depression in mothers of children with problem behaviour. *Journal of Child Psychology and Psychiatry*, 44, 242–254.
- Bondy, E. M. and Mash, E. J.** (1999). Parenting efficacy, perceived control over caregiving failure and mothers' reactions to preschool children's misbehavior. *Child Study Journal*, 29, 157–173.
- Bristol, M. M.** (1987). Mothers of children with autism or communication disorders: Successful adaptation and the Double ABCX model. *Journal of Autism and Developmental Disorders*, 17, 469–486.
- Bugental, D. B., Blue, J. and Cruzcosa, M.** (1989). Perceived control over caregiving outcomes: Implications for child abuse. *Developmental Psychology*, 25, 532–539.
- Bugental, D. B. and Johnston, C.** (2000). Parental and child cognitions in the context of the family. *Annual Review of Psychology*, 51, 315–344.
- Bugental, D. B., Johnston, C., New, M. and Silvester, J.** (1998). Measuring parental attributions: Conceptual and methodological issues. *Journal of Family Psychology*, 12, 459–480.
- Byrne, E. A. and Cunningham, C. C.** (1985). The effects of mentally handicapped children on families: A conceptual review. *Journal of Child Psychology and Psychiatry*, 26, 847–864.
- Cameron, S. J., Dobson, L. A. and Day, D. M.** (1991). Stress in parents of developmentally delayed and non-delayed preschool children. *Canada's Mental Health, March*, 13–17.
- Campis, L. K., Lyman, R. D. and Prentice-Dunn, S.** (1986). The Parental Locus of Control Scale: Development and validation. *Journal of Clinical Child Psychology*, 15, 260–267.
- Chavira, V., Lopez, S. R., Blacher, J. and Shapiro, J.** (2000). Latina mothers' attributions, emotions and reactions to the problem behaviors of their children with developmental disabilities. *Journal of Child Psychology and Psychiatry*, 41, 245–252.
- Claar, R. L. and Walker, L. S.** (1999). Maternal attributions for the causes and remedies of their children's abdominal pain. *Journal of Pediatric Psychology*, 24, 345–354.
- Coleman, P. K. and Karraker, K. H.** (1997). Self-efficacy and parenting quality: Findings and future applications. *Developmental Review*, 18, 47–85.
- Dagnan, D., Trower, P. and Smith, R.** (1998). Care staff responses to people with learning disabilities and challenging behaviour: A cognitive-emotional analysis. *British Journal of Clinical Psychology*, 37, 59–68.
- Dix, T. and Lochman, J. E.** (1990). Social cognition and negative reactions to children: A comparison of mothers of aggressive and nonaggressive boys. *Journal of Social and Clinical Psychology*, 9, 418–438.
- Dix, T., Ruble, D. N. and Zambarano, R. J.** (1989). Mothers' implicit theories of discipline: Child effects, parent effects, and the attribution process. *Child Development*, 60, 1373–1391.
- Dunst, C. J., Trivette, C. M. and Cross, A. H.** (1986). Mediating influences of social support: Personal, family, and child outcomes. *American Journal of Mental Deficiency*, 90, 403–417.
- Dyson, L. L.** (1993). Response to the presence of a child with disabilities: Parental stress and family functioning over time. *American Journal on Mental Retardation*, 98, 207–218.
- Dyson, L. L.** (1997). Fathers and mothers of school-age children with developmental disabilities: Parental stress, family functioning, and social support. *American Journal on Mental Retardation*, 102, 267–279.
- Frey, K. S., Greenberg, M. T. and Fewell, R. R.** (1989). Stress and coping among parents of handicapped children: A multi-dimensional approach. *American Journal on Mental Retardation*, 94, 240–249.



- Friedrich, W. N., Wiltturner, L. T. and Cohen, D. S.** (1985). Coping resources and parenting mentally retarded children. *American Journal on Mental Retardation*, 90, 130–139.
- Geller, J. and Johnston, C.** (1995). Depressed mood and child conduct problems: Relationships to mothers' attributions for their own and their children's experiences. *Child and Family Behavior Therapy*, 17, 19–34.
- Gibaud-Wallston, J. and Wandersman, L. P.** (1978). *Development and utility of the Parenting Sense of Competence Scale*. Paper presented at the meeting of the American Psychological Association, Toronto.
- Grant, G. and Whittell, B.** (2000). Differentiated coping strategies in families with children or adults with intellectual disabilities: The relevance of gender, family composition, and the life span. *Journal of Applied Research in Intellectual Disabilities*, 13, 256–275.
- Gretarsson, S. J. and Gelfand, D. M.** (1988). Mothers' attributions regarding their children's social behavior and personality characteristics. *Developmental Psychology*, 24, 264–269.
- Grusec, J. E. and Mammone, N.** (1995). Features and sources of parents' attributions about themselves and their children. In N. Eisenberg (Ed.), *Review of personality and social psychology*, Vol. 15 (pp. 49–73). Thousand Oaks, CA: Sage.
- Hagekull, B., Bohlin, G. and Hammarberg, A.** (2001). The role of parental perceived control in child development: A longitudinal study. *International Journal of Behavioral Development*, 25, 429–437.
- Harrison, C. and Sofronoff, K.** (2002). ADHD and parental psychological distress: Role of demographics, child behavioral characteristics, and parental cognitions. *Journal of the American Academy of Child and Adolescent Psychiatry*, 41, 703–711.
- Hassall, R., Rose, J. and McDonald, J.** (in press). Parenting stress in mothers of children with an intellectual disability: The effects of parental cognitions in relation to child characteristics and family support. *Journal of Intellectual Disability Research*.
- Hastings, R. P. and Brown, T.** (2002). Behavior problems of children with autism, parental self-efficacy, and mental health. *American Journal on Mental Retardation*, 107, 222–232.
- Hastings, R. P. and Johnson, E.** (2001). Stress in UK families conducting intensive home-based behavioral intervention for their young child with autism. *Journal of Autism and Developmental Disorders*, 31, 327–336.
- Hastings, R. P. and Taunt, H. M.** (2002). Positive perceptions in families of children with developmental disabilities. *American Journal on Mental Retardation*, 107, 116–127.
- Himmelstein, S., Graham, S. and Weiner, B.** (1991). An attributional analysis of maternal beliefs about the importance of child-rearing practices. *Child Development*, 62, 301–310.
- Hodapp, R. M.** (1995). Parenting children with Down syndrome and other types of mental retardation. In M. H. Bornstein (Ed.), *Handbook of parenting*, Vol. 1 (pp. 233–253). Mahwah, NJ: Lawrence Erlbaum Associates.
- Hodapp, R. M., Dykens, E. M. and Masino, L. L.** (1997). Families of children with Prader-Willi Syndrome: Stress-support and relations to child characteristics. *Journal of Autism and Developmental Disorders*, 27, 11–24.
- Hudson, A. M., Matthews, J. M., Gavidia-Payne, S. T., Cameron, C. A., Mildon, R. L., Radler, G. A. and Nankervis, K. L.** (2003). Evaluation of an intervention system for parents of children with intellectual disability and challenging behaviour. *Journal of Intellectual Disability Research*, 47, 238–249.
- Janssens, J. M. A. M.** (1994). Authoritarian child rearing, parental locus of control, and the child's behaviour style. *International Journal of Behavioral Development*, 17, 485–501.
- Johnston, C.** (1996). Addressing parent cognitions in interventions with families of disruptive children. In K. S. Dobson and K. D. Craig (Eds), *Advances in cognitive-behavioral therapy* (pp. 193–209). Thousand Oaks, CA: Sage.
- Johnston, C., Fine, S., Weiss, M., Weiss, J., Weiss, G. and Freeman, W. S.** (2000). Effects of stimulant medication treatment on mothers' and children's attributions for the behavior of children



- with attention deficit hyperactivity disorder. *Journal of Abnormal Child Psychology*, 28, 371–382.
- Johnston, C. and Freeman, W.** (1997). Attributions for child behavior in parents of children without behavior disorders and children with attention deficit-hyperactivity disorder. *Journal of Consulting and Clinical Psychology*, 65, 636–645.
- Johnston, C. and Mash, E. J.** (1989). A measure of parenting satisfaction and efficacy. *Journal of Clinical Child Psychology*, 18, 167–175.
- Johnston, C., Reynolds, S., Freeman, W. S. and Geller, J.** (1998). Assessing parent attributions for child behavior using open-ended questions. *Journal of Clinical Child Psychology*, 27, 87–97.
- Joiner, T. E. and Wagner, K. D.** (1996). Parental, child-centred attributions and outcome: A meta-analytic review with conceptual and methodological implications. *Journal of Abnormal Child Psychology*, 24, 37–52.
- Knussen, C. and Sloper, P.** (1992). Stress in families of children with disability: A review of risk and resilience factors. *Journal of Mental Health*, 1, 241–256.
- Konstantareas, M. M. and Homatidis, S.** (1989). Parental perception of learning-disabled children's adjustment problems and related stress. *Journal of Abnormal Child Psychology*, 17, 177–186.
- Lazarus, R. S. and Folkman, S.** (1984). *Stress, appraisal and coping*. New York: Springer.
- Mash, E. J. and Johnston, C.** (1983). Parental perceptions of child behavior problems, parenting self-esteem, and mothers' reported stress in younger and older hyperactive and normal children. *Journal of Consulting and Clinical Psychology*, 51, 86–99.
- Mash, E. J. and Johnston, C.** (1990). Determinants of parenting stress: Illustrations from families of hyperactive children and physically abused children. *Journal of Clinical Child Psychology*, 19, 313–328.
- McConachie, H.** (1994). Implications of a model of stress and coping for services to families of young disabled children. *Child: Care, Health, & Development*, 20, 37–46.
- McCubbin, H. I. and Patterson, J.** (1983). The family stress process: The double ABCX model of adjustment and adaptation. In H. I. McCubbin, M. B. Sussman and J. M. Patterson (Eds), *Social stress and the family: Advances and developments in family's stress theory and research* (pp. 7–37). New York: Haworth.
- Miller, A. C., Gordon, R. M., Daniele, R. J. and Diller, L.** (1992). Stress, appraisal, and coping in mothers of disabled and non-disabled children. *Journal of Pediatric Psychology*, 17, 587–605.
- Miller, S. A.** (1995). Parents' attributions for their children's behavior. *Child Development*, 66, 1557–1584.
- Minnes, P.** (1998). Mental retardation: The impact upon the family. In J. A. Burack, R. M. Hodapp and E. Zigler (Eds), *Handbook of mental retardation and development* (pp. 693–712). New York: Cambridge University Press.
- Morrissey-Kane, E. and Prinz, R. J.** (1999). Engagement in child and adolescent treatment: The role of parental cognitions and attributions. *Clinical Child and Family Psychology Review*, 2, 183–198.
- Mouton, P. and Tuma, J.** (1988). Stress, locus of control, and satisfaction in clinic and control mothers. *Journal of Clinical Psychology*, 17, 217–224.
- Munton, A. G. and Antaki, C.** (1988). Causal beliefs amongst families in therapy: Attributions at the group level. *British Journal of Clinical Psychology*, 27, 91–97.
- Nixon, C. D. and Singer, G. H. S.** (1993). Group cognitive-behavioral treatment for excessive parental self-blame and guilt. *American Journal on Mental Retardation*, 97, 665–672.
- Pahl, J. and Quine, L.** (1987). Families with mentally handicapped children. In J. Orford (Ed.), *Coping with disorder in the family* (pp. 39–61). London: Croom Helm.
- Patterson, G. R.** (1983). Stress: A change agent for family process. In N. Garnezy and M. Rutter (Eds), *Stress, coping, and development in children* (pp. 235–262). New York: McGraw-Hill.

- Quine, L. and Pahl, J.** (1985). Examining the causes of stress in families with severely mentally handicapped children. *British Journal of Social Work*, 15, 501–517.
- Quine, L. and Pahl, J.** (1991). Stress and coping in mothers caring for a child with severe learning difficulties: A test of Lazarus' transactional model of coping. *Journal of Community & Applied Social Psychology*, 1, 57–70.
- Reimers, T. M., Wacker, D. P., Derby, K. M. and Cooper, L. J.** (1995). Relation between parental attributions and the acceptability of behavioral treatments for their child's behavior problems. *Behavioral Disorders*, 20, 171–178.
- Roach, M. A., Orsmond, G. I. and Barratt, M. S.** (1999). Mothers and fathers of children with Down syndrome: Parental stress and involvement in childcare. *American Journal on Mental Retardation*, 104, 422–436.
- Roberts, M. W., Joe, V. C. and Rowe-Hallbert, A.** (1992). Oppositional child behavior and parental locus of control. *Journal of Clinical Child Psychology*, 21, 170–177.
- Rodrigue, J. R., Morgan, S. B. and Geffken, G.** (1990). Families of autistic children: Psychological functioning of mothers. *Journal of Clinical Child Psychology*, 19, 371–379.
- Rotter, J. B.** (1966). Generalized expectancies for internal vs. external control of reinforcement. *Psychological Monographs*, 80, 1 Whole No 609.
- Rousey, A., Best, S. and Blacher, J.** (1992). Mothers' and fathers' perceptions of stress and coping with children who have severe disabilities. *American Journal on Mental Retardation*, 97, 99–109.
- Saloviita, T., Itälina, M. and Leinonen, E.** (2003). Explaining the parental stress of fathers and mothers caring for a child with intellectual disability: A Double ABCX model. *Journal of Intellectual Disability Research*, 47, 300–312.
- Sloper, P., Knussen, C., Turner, S. and Cunningham, C.** (1991). Factors related to stress and satisfaction with life in families of children with Down's Syndrome. *Journal of Child Psychology and Psychiatry*, 32, 655–676.
- Sloper, P. and Turner, S.** (1993). Risk and resistance factors in the adaptation of parents of children with severe physical disability. *Journal of Child Psychology and Psychiatry*, 34, 167–188.
- Smith Slep, A. M. and O'Leary, S. G.** (1998). The effects of maternal attributions on parenting: An experimental analysis. *Journal of Family Psychology*, 12, 234–243.
- Stanley, B. and Standen, P. J.** (2000). Carers' attributions for challenging behaviour. *British Journal of Clinical Psychology*, 39, 157–168.
- Stoneman, Z.** (1996). Mental retardation and family adaptation. In W. E. MacLean (Ed.), *Ellis' handbook of mental deficiency: Psychological theory and research* (pp. 405–437). Mahwah, NJ: Lawrence Erlbaum Associates.
- Stratton, P. and Swaffer, R.** (1988). Maternal causal beliefs for abused and handicapped children. *Journal of Reproductive and Infant Psychology*, 6, 201–216.
- Teti, D. M. and Gelfand, D. M.** (1991). Behavioral competence among mothers of infants in the first year: The mediational role of maternal self-efficacy. *Child Development*, 62, 918–929.
- Trute, B.** (1995). Gender differences in the psychological adjustment of parents of young, developmentally delayed children. *Journal of Child Psychology and Psychiatry*, 36, 1225–1242.
- Turk, J.** (1998). Children with learning difficulties and their parents. In P. Graham (Ed.), *Cognitive-behaviour therapy for children and families* (pp.110–126). Cambridge: Cambridge University Press.
- Walker, L. S., Garber, J. and Van Slyke, D. A.** (1995). Do parents excuse the misbehavior of children with physical or emotional symptoms? An investigation of the pediatric sick role. *Journal of Pediatric Psychology*, 20, 329–345.
- Walker, L. S., Van Slyke, D. A. and Newbrough, J. R.** (1992). Family resources and stress: A comparison of families of children with cystic fibrosis, diabetes, and mental retardation. *Journal of Pediatric Psychology*, 17, 327–343.
- Weiner, B.** (1985). An attributional theory of achievement motivation and emotion. *Psychological Review*, 92, 548–573.

- Weiss, M. J.** (2002). Hardiness and social support as predictors of stress in mothers of typical children, children with autism, and children with mental retardation. *Autism*, 6, 115–130.
- White, C. and Barrowclough, C.** (1998). Depressed and non-depressed mothers with problematic preschoolers: Attributions for child behaviours. *British Journal of Clinical Psychology*, 37, 385–398.
- Wiggs, L. and Stores, G.** (2001). Behavioural treatment for sleep problems in children with severe intellectual disabilities and daytime challenging behaviour: Effect on mothers and fathers. *British Journal of Health Psychology*, 6, 257–269.