Parenting children with a learning disability: The relationship between parental causal attributions, parenting strategies and child behaviour problems.

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Author's Declaration

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Acknowledgements

My sincere thanks go to Professor Lisa Woolfson in her role as first supervisor. I am extremely grateful for her guidance, support and expert supervision throughout the course of this research. My second supervisor Dr. Simon Hunter and panel member Dr. Diane Dixon were invaluable sources of information and I thank you both for your comments.

My gratitude goes to my family and friends for their love, support and patience. I would like to thank fellow PhD students for shared advice, motivation and laughs. Special thanks must go to Iain for his encouragement and care during the final stages of writing up.

I would like to thank the University of Strathclyde for funding this research. Finally, special gratitude goes to the local authorities, schools and school staff, charities and the parents who participated for their time and contribution to this research.

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Abstract

This thesis used an attributional framework to examine parental cognitions of behaviour of children with a learning disability (LD), in particular how they predict parent and child behaviour and how these views compare to prevailing societal views of disability. Four studies were carried out. The first study assessed views prevailing among parents of typically developing (TD) children of children with an LD and compared these to views held by parents of children with an LD. Parents of children with an LD overall complied to these prevailing views of LD. A small group of parents holding more affirmative views was identified and these parents made corresponding affirmative choices for their child. The second study was qualitative and investigated the views of parents of children with an LD more in-depth by evaluating views on causes of misbehaviour. Both causes relating to the LD and more typical causes were identified and seemed to affect parenting strategies in different ways. The third study then examined these relationships quantitatively in parents of children with an LD in comparison to parents of TD children. Result showed that parents' attributions predicted strategies differently for each group. An attribution of high child control and low parent responsibility was unsupportive of effective parenting in parents of children with an LD while this was not the case for parents of TD children. The final study subsequently aimed to examine in more detail the underlying structure of parent and child responsibility and control over behaviour in parents of children with an LD and uncovered two different interpretations of responsibility in parents. Implications for theory and measurement of attributions are discussed and suggestions for child behaviour interventions are given.

Chapter 1 – Executive Summary

Children with a learning disability (LD) carry a range of characteristics that can affect the parenting experience. For example, children with an LD are more likely to be boys than girls (Leonard & Wen, 2002). More importantly though, children with an LD demonstrate a high prevalence of behaviour problems (e.g. Hoare, Harris, Jackson, & Kerley, 1998). These problems interfere with the child being able to benefit from learning opportunities and cause stress for parents (e.g. Baker et al., 2003; Roberts, Mazzucchelli, Taylor, & Reid, 2003). In addition, many children with an LD hold additional medical diagnoses or experience illness, which can increase the burden on their parents (Tadema & Vlaskamp, 2010). Mothers often disrupt their careers and remain unemployed (Baker, Blacher, Kopp, & Kraemer, 1997) and families of children with an LD experience decreased financial resources (Curran, Sharples, White, & Knapp, 2001). The parenting experience is influenced by all these factors and can therefore be different for parents of children with an LD compared to parents of typically developing (TD) children.

In addition to this, children with an LD can attend a range of education settings and parents are involved in the decision on what school the child attends. The Standards in Scotland's Schools etc Act 2000 specified that education authorities must provide education to all children in mainstream schools. Exceptions apply when a mainstream school is not suitable for the ability of the child, when education is incompatible with the provision of education for other children in the setting or when unreasonable public expenditures would be incurred when placing the child in a mainstream school (Enquire, 2012). If children's needs are complex, they can attend special schools, special units or learning bases attached to mainstream school, residential schools, hospital-based education or home education. This again affects how parents think about a child with an LD.

The recent UK government publication 'Fulfilling Potential: Building a deeper understanding of disability in the UK today' (DWP, 2013) stated that disabled children are more likely to experience barriers than other children. In addition, attitudes towards people with disabilities have somewhat improved, although negative attitudes still remain especially in terms of views on need of care, awareness of disability rights and there being less support for spending on people with disabilities. The media was reported as portraying people with disabilities increasingly as a burden on the economy and in less sympathetic and deserving terms. As parenting occurs within the context of society, such views are likely to affect parents and their children with an LD.

This thesis then aimed to examine how parents of children with an LD think about their child's behaviour and how this compares to prevailing societal views on LD. Furthermore, the thesis aimed to examine how cognitions on child behaviour held by parents of children with an LD affect parenting in order to identify those cognitions that are either helpful or unhelpful for successful parenting and managing child behaviour problems. The following will describe the structure of the thesis to demonstrate how these aims were undertaken. However, first the definition for LD will be given.

Some confusion exists around the term 'learning disability' as several terms, such as mental retardation and intellectual disability, have been used to refer to the same condition. In past years, there has been a shift in terminology from mental retardation to intellectual or learning disability. The former is a reference to the mind

while the latter refers to intelligence. This shift is in line with a change in research themes over the past years from looking at general cognitive delays to the study of sub-profiles of delay and underlying cognitive mechanisms (Cornoldi, 2012). The DSM-IV-TR (APA, 2000) uses the term 'mental retardation' while charities and organisations that work for people and children with an LD in the UK mainly use the term 'learning disability' and sometimes 'intellectual disability' because the term 'mental retardation' is perceived as offensive by some people (Mencap, 2009). In the current thesis then, the term used throughout is 'learning disability' (LD) and this refers to the same condition as 'mental retardation' and 'intellectual disability'.

The definition of LD used in the thesis was the definition the DSM-IV-TR (APA, 2000) has specified for 'mental retardation' and is as follows. Firstly, the person's intellectual functioning is below average, that is an IQ of 70 or less. Secondly, the person experiences trouble functioning in two or more of the following areas: communication, self-care, home living, social and interpersonal skills, using community resources, self-direction, academic ability, work, free time, health and safety. Finally, the onset must occur before the age of 18.

The thesis starts with a review of the literature. Chapter 2 shows the high prevalence and wide range of behaviour problems in children with an LD and describes the consequences of behaviour problems for parents and children. It highlights that while biological processes are one set of causes of these problems, causes related to sociocultural processes and parenting, which are more amenable to change, also play a role in the expression of behaviour problems. Chapter 3 examines societal and parental causes more in depth by introducing the psychosocial model of disability-related child behaviour problems (Woolfson, 2004). This model suggests

that prevailing societal views affect parental views on their child's behaviour. Parental views or beliefs affect how parents respond to their child's behaviour which in turn affects the behaviour displayed by children. Chapter 3 underlines the importance of how parents think about their child's behaviour in the context of prevailing societal views, and in relation to child behaviour problems. In addition, it demonstrates that views of parents of children with an LD on their child have not been compared to prevailing societal views on LD. Chapter 4 examines parental beliefs on child behaviour more in depth by using an attributional framework. Causal attributions of locus, stability and control are important factors in relation to parenting strategies and child behaviour problems, but there is a lack of research on this among parents of children with an LD. The chapter also highlights the need to separate the child's control from constructs of child intent, responsibility and blame, and parent control and responsibility.

Chapter 5 describes the first study which assessed prevailing views of behaviour of children with an LD and compared views held by parents of TD children and parents of children with an LD. Study 1 showed that parents of TD children view the behaviour of children with an LD different from TD children, which could be unsupportive for the child's inclusion and the parenting experience. Parents of children with an LD hold views that are similar to these prevailing views on LD. However, a number of parents holding more affirmative views were identified. These could be parents of children who were less severely delayed but at the same time such views could be motivating to hold further affirmative views and make corresponding choices for the child. Chapter 6 describes Study 2. This was a qualitative study which investigated the views of parents of children with an LD on

causes of child behaviour problems. The study showed that parents ascribe their child's behaviour to both causes that are related to LD and to more typical causes. Parents acknowledge the impact that the LD can have on behaviour but also highlight typical causes, enabling them to adapt their strategies effectively to particular behaviours.

Chapter 7 describes Study 3. The third study examined relationships between causal attributions and strategies quantitatively in parents of children with an LD in comparison to parents of typically developing (TD) children. Regression analyses showed that parents' attributions predicted strategies differently for each group. Specifically, an attribution of high child control and low parent responsibility was unsupportive of effective parenting in parents of children with an LD while this was not the case for parents of TD children. In addition, parenting strategies were related to behaviour of TD children, but not to that of children with an LD. Chapter 8 describes Study 4. This final study then aimed to examine in more detail the underlying structure of child causes and parent responsibility in parents of children with an LD. Attributions for child misbehaviour that are high on intent place parents at risk for using ineffective strategies. Parents assigning responsibility for child behaviour problems to themselves do so through either helplessness or through taking control. In addition, when using a measure for behaviour problems specifically designed for parents of children with an LD, Study 4 did find a relationship between parenting strategies and child behaviour problems. Chapter 9 presents the discussion of the studies in relation to each other and discusses the implications for theory and interventions. Parents of children with an LD view their child's behaviour from a different perspective than parents of TD children, but the

same strategies relate to child behaviour. Consequently, child behaviour interventions for parents of children with an LD can focus on the same parenting strategies as for parents of TD children, but prior to this need to tackle those cognitions that are specifically unsupportive of effective parenting for this group.

Chapter 2 – Behaviour Problems in Children with an LD

This chapter shows that children with an LD have a higher prevalence of behaviour problems than TD children. The types of problems include behaviours that are also considered problematic in TD children as well as behaviours that are uncommon in TD children. Issues with assessing behaviour problems in children with an LD related to recognising symptoms are discussed. It is argued that although children with certain aetiologies and severities of LD have higher rates of behaviour problems than others, it is an issue for all groups of children with an LD. As behaviour problems are stable and persistent, and affect the child's development and parents' experience of stress, it is emphasised that it is important to consider and address the causes. Four types of causes are discussed in relation to behaviour problems; biological, psychological, sociocultural and familial. It is suggested that due to these behaviour problems, their consequences and their causes, parents of children with an LD have a different parenting experience from parents of TD children.

2.1 Prevalence of Behaviour Problems in Children with an LD

2.1.1 Prevalence within the UK. Behaviour problems are highly prevalent among children with an LD. A literature search was conducted to specify the prevalence as found by past research. To identify studies on prevalence of behaviour problems among children with an LD, the following search terms were used in PsychInfo, Web of Science, Ebsco Host, Embase, Medline, Education Literature Databases and Pubmed for all years: (cognitive impairment OR developmental disability OR learning disability OR mental retardation OR intellectual disability OR learning difficulty OR special educational needs) AND (prevalence) AND

(behaviour OR behavior) AND (children). Cited reference searches were carried out in Web of Science on selected papers and their reference lists were examined to identify additional studies. This resulted in nine studies conducted in the UK and nine studies in other countries that addressed population-prevalence of behaviour problems and/or psychiatric diagnosis among children with an LD. They are displayed in Table 2.1 and Table 2.2 and are discussed in the following sections.

Table 2.1 contains information on nine studies that assessed the prevalence of behaviour problems in children with an LD within the UK. The rate ranged from 25.6% to 63.3% (Chadwick, Kusel, Cuddy, & Taylor, 2005; Totsika, Hastings, Emerson, Lancaster, & Berridge, 2011). Differences between these rates can be explained by the sampling method and the measures used (Dykens, 2000; Wallander, Dekker, & Koot, 2003). The sampling method specifies how the inclusion criterion for the child having an LD is verified. The nine studies used four different sampling methods. Chadwick et al. (2005), Cormack, Brown and Hastings (2000) and Hastings and Mount (2001) targeted all special education schools for children with a severe LD within certain areas. Quine (1986) used a similar strategy including all children who were assessed as suitable for or receiving 'educational subnormal (severe)' education. Children with an LD may attend both special and mainstream education. It is possible that those children with an LD and more severe behaviour cannot be managed in mainstream settings and attend special education. Therefore, a sample consisting just of children in special education will likely overestimate the prevalence of behaviour problems in children with an LD. Hoare et al. (1998) recruited children who were on the Lothian Special Needs Register (SNR). Children are placed on the SNR when a diagnosis of severe intellectual disability is made. The

Table 2.1

UK Studies on Prevalence of Behaviour H	Problems in Children with an LD.
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Study	Sample	Measures	Prevalence	Problems/disorders
Chadwick	114 parents of 4-11 year olds	LD: Attending school for children	Time 1: 32.9%;	Time 1 DAS: physical aggression (32.9%); destructive
et al.	at time 1 (mean age 8:2) and	with an LD, and Vineland score less	Time 2: 25.6%	behaviour (28.0%); overactivity (25.6%); self-injury
(2005)	82 parents of 11-17 year olds	than 50.	(parent report of	(15.9%); screaming (25.6%); sleeping difficulties
	at time 2 (mean age 13:6). All	Behaviour problems: behaviour	psychiatric	(28.0%); inappropriate sexual behaviour (3.7%); other
	children schools for children with severe learning	problems section of the Disability Assessment Schedule (DAS) (parent	diagnosis).	difficult or objectionable personal habits (37.0%); stereotypies (39.0%). Time 2 DAS: physical aggression
	disabilities. England	report) and the Aberrant Behaviour		(30.5%); destructive behaviour (26.8%); overactivity
	disustinues, England	Checklist (ABC) (parent and teacher		(15.9%); self-injury (19.5%); screaming (22.0%); sleeping
		report). Parent report of psychiatric		difficulties (15.9%); inappropriate sexual behaviour
		diagnosis		(11.1%); other difficult or objectionable personal habits
~ .			TO 1-1	(34.6%); stereotypies (32.9%).
Cormack	- 123 children 4-18 years old	LD: attending school for severe	50.4%	
et al. (2000)	(mean 10.9 years) attending schools for severe learning	learning disabilities Behaviour problems: Developmental		
(2000)	disabilities	Behaviour Checklist (DBC), parent-		
	- England	report		
Emerson	- 10438 children 5-15 years	LD: Parent report of learning	LD: 39%	ICD-10: emotional disorder 9.5%; anxiety disorder 8.7%;
(2003)	old of which 264 with an LD	difficulty and concern about language	TD: 8.1%	depression 1.5%; conduct disorder 25%; hyperkinesis
	(1999 ONS survey Mental	development during first three years		8.7%; PDD 7.6%; tic disorder 0.8%; eating disorder 0.4%;
	Health in Children and	of life or child attended school for		psychotic disorder 0.0%.
	Adolescents in Great Britain)	learning difficulties. Child excluded		
	- England, Scotland and Wales	when teacher reported no delay or in		
		mainstream education.		
		Psychiatric Diagnosis: Development and Well-Being Assessment		
		(DAWBA) (parent and teacher report)		
		providing ICD-10 diagnoses		
		providing ICD-10 diagnoses		

(continued)

Study	Sample	Measures	Prevalence	Problems/disorders
Emerson and	18415 aged 5 to 16 years, of which	LD: Based on information from	LD: 36%	ICD-10: emotional disorder 12%; anxiety disorder
Hatton (2007)	641 children with an LD (1999 and	teacher or the parent on learning	TD: 8%	11.4%; depressive disorder 1.4%; hyperkinesis
	2004 ONS surveys Mental Health	difficulties, scholastic attainment,		(ADHD) 8.3%; conduct disorder 20.5%; autistic
	in Children and Adolescents in	DQ and concern about child's speech		spectrum disorder 8.0%; tic disorder 0.8%; eating
	Great Britain)	development.		disorder 0.2%
	- England, Scotland and Wales	Psychiatric diagnosis: DAWBA		
		(parent and teacher report) providing		
		ICD-10 diagnoses.		
Hastings and	- 188 children 4-18 years old (mean	LD: attending school for severe	49.5%	
Mount (2001)	10.7 years) attending schools for	learning disabilities		
	severe learning disabilities	Behaviour problems: DBC (parent-		
TT	- England	report)	200/	D
Hoare et al.	- 143 children from the Lothian	LD: Lothian Special Needs Register	38%	Parent interviews: major sleep problems 53%;
(1998)	Special Needs Register with a	(no further information given)		aggression 29%; screaming 29%; self-injurious
	severe or profound LD older than 3 years (mean age 9.8 years)	Behaviour problems: Interview with parents and DBC (parent-report)		behaviours 27%.
	- Scotland	parents and DBC (parent-report)		
	- Scotland			
Quine (1986)	- 399 children with an LD aged 0-	LD: assessed as suitable for special	45%	Attention seeking 29%; overactive 21%; temper
Quinte (1900)	16 years	education using the Griffiths Mental		tantrums 25%; aggressive 21%; screams 22%;
	- total population of children with a	Development Scales or the Wechsler		wanders 18%; destructive 14%; self-injuring 12%
	severe LD in two health districts	Scales		j e
		Behaviour problems: DAS completed		
		by teacher or care assistant		
Totsika, Hastings,	- 14810 aged 5 of which 522 with	LD: Score of at least two standard	LD: 26.1-	SDQ: hyperactivity 44.70%; emotional symptoms
Emerson,	an LD (Millenium Cohort Study)	deviation lower than the mean on the	44.7%	26.13%; conduct problems 39.95%
Berridge and	- England, Wales, Scotland and	British Ability Scales.	TD: 9.6-	-
Lancaster (2011)	Northern Ireland	Behaviour problems: Strengths and	21.44%	
		Difficulties Questionnaire (SDQ)		
		(parent report)		
				(continue

Study	Sample	Measures	Prevalence	Problems/disorders
Totsika, Hastings,	- 18415 aged 5 to 16 years, of which 641	LD: Based on information from teacher or	LD: 41.6-	SDQ: hyperactivity 63.2%;
Emerson,	children with an LD (1999 and 2004 ONS	the parent on learning difficulties, scholastic	63.2%	emotional symptoms 41.6%;
Lancaster, et al.	surveys Mental Health in Children and	attainment, DQ and concern about child's	TD: 17.8-	conduct problems 46.3%
(2011)	Adolescents in Great Britain)	speech development.	21.8%	
	- England, Scotland and Wales	Behaviour problems: SDQ (parent report)		

Note: LD = learning disability; TD = typically developing

sample can include children in a range of education settings, but is only focussed on those with a severe LD. Finally, Emerson (2003), Emerson and Hatton (2007), Totsika, Hastings, Emerson, Berridge, et al. (2011) and Totsika, Hastings, Emerson, Lancaster, et al. (2011) performed secondary data analyses on UK wide national surveys and were limited to the information provided in the survey to decide on the presence of an LD. This was usually a combination of information provided by the parent and the teacher. This sampling method was more likely to include a wider range of severity of LD than the other two, but some children could still be missed and it is not certain that all selected children had an LD.

The measurement method of behaviour problems also varied between the studies. Emerson (2003) and Emerson and Hatton (2007) gave prevalence rates of psychiatric diagnosis based on the ICD-10, while Chadwick et al. (2005) gave prevalence rates based on parent report of present diagnoses and the other studies used behaviour checklists. The cut-off for a behaviour problem on a behaviour checklist might be different from the cut-off for a psychiatric diagnosis on the ICD-10. Finally, Quine (1986) used teacher report, while Emerson (2003) and Emerson and Hatton (2007) used both teacher and parent report of child behaviour and the other studies used parent report only. The sampling method and method of measurement, together with the slight differences in age of the samples can explain the differences in prevalence rates between the studies.

The four studies using national surveys compared the rate of behaviour problems in children with an LD to TD children and, as can be seen in Table 2.1, children with an LD had a higher rate of behaviour problems than TD children. Children with an LD were 6.5 to 7.3 times more likely to have a psychiatric

diagnosis on the ICD-10 (Emerson, 2003; Emerson & Hatton, 2007) and had significantly higher rates of behaviour problems on the Strengths and Difficulties Questionnaire (SDQ) (Totsika, Hastings, Emerson, Berridge, et al., 2011; Totsika, Hastings, Emerson, Lancaster, et al., 2011).

2.1.2 Prevalence in other countries. Despite limitations in sampling and measurement of some UK studies, prevalence rates of behaviour problems were comparable to those found in other countries, ranging from 22% to 64% (Gillberg, Persson, Grufman, & Themner, 1986; Merrell & Holland, 1997). Details of prevalence studies conducted outside the UK are given in Table 2.2. The studies included population wide and representative samples of cities or provinces. As for the UK studies, behaviour problems were measured using a range of methods. Dekker and Koot (2003a) and Stromme and Diseth (2000) reported prevalence of ICD-10 and DSM-IV diagnoses just below 40%; similar to the UK studies reporting prevalence of ICD-10 diagnoses just under 40% (Emerson, 2003; Emerson & Hatton, 2007). The non-UK studies using the Developmental Behaviour Checklist (DBC) reported slightly lower rates (Einfeld et al., 2006; Einfeld & Tonge, 1996b; Molteno, Molteno, Finchilescu, & Dawes, 2001; Tonge & Einfeld, 2003) than the UK studies using the DBC (Cormack et al., 2000; Hastings & Mount, 2001; Hoare et al., 1998), approximately 30% to 40% compared with 40% to 50%. Children participating in these UK studies were either classified as having a severe LD or attended schools for children with a severe LD, while children in non-UK studies had an IQ of 70 or less or attended special education. The non-UK studies were therefore more likely to have a wider range of severity of LD, rather than severe LD only. Children with a more severe LD were likely to have more behaviour problems, as can be seen from

Table 2.2

Non-UK Studies on Prevalence of Behaviour Problems in Children with an LD.

Study	Sample	Measures	Prevalence	Problems/disorders
Dekker and Koot	- 968 children with an	LD: attending schools for the educable (IQ	LD:Phase 1,	Phase 1 most prevalent disorders for educable group:
(2003a); Dekker	LD aged 6-18 years at	between 80 and 60) or for the trainable (IQ	educable-group:	social problems 35.5%; attention problems 0.7%;
et al. (2002)	phase 1	lower than 60)	48.1% (CBCL);	aggressive behaviour 21.0%; delinquent behaviour
	- random sample of 474	Behaviour problems: Child Behavior	44.9% (TRF)	18.0%. For trainable group: social problems 51.7%;
	one year later at phase 2	Checklist (CBCL) (phase 1), Teacher	Phase 1,	attention problems 38.0%; withdrawn 22.3%;
	- 1855 TD children aged	Report Form (TRF) (phase 1), Diagnostics	trainable-group:	aggressive behaviour 19.7%.
	6-18 years (phase 1 only)	Interview Schedule for Children-Parent	51.3% (CBCL);	Phase 2 most prevalent disorders were specific
	- random sample of 20%	Version (DISC-IV-P) to obtain DSM-IV	48.3% (TRF)	phobia 17.5%; ADHD 14.8%; ODD 13.9%. Multiple
	of students from	diagnoses (phase 2).	Phase 2: 38.6%	disorders observed in 14.2%.
	participating schools		(DSM-IV)	
	(87.1%) in a province of		TD: Phase 1:	
	the Netherlands		18.0% (CBCL);	
			19.0% (TRF)	
Einfeld et al.	- 454 children aged 4-18	LD: Stanford-Binet LM, Wechsler	Time 1: 41%	
(2006); Einfeld	years with an LD	Intelligence Scale for Children (Revised),	Time 4: 31%	
and Tonge	- mean age at T1: 12.1	Griffiths Mental Development Scales, the		
(1996b); Tonge	years, at T2: 16.5 years,	Bailey Scales, the Wechsler Primary and		
and Einfeld	at T3: 19.4 years, at T4:	Preschool Scale of Intelligence and the		
(2003)	23.5 years	Peabody Picture Vocabulary Test (IQ <		
	- representative of	70)		
	general Australian	Behaviour problems: DBC (parents)		
0.111	community			
Gillberg et al.	- 149 children aged 13-	LD: IQ less than 70	Mild LD: 57%	Mild LD: psychotic behaviour 14%; conduct
(1986)	17 years with an LD - representative of children born in 1966- 1970 with an LD in Göteborg, Sweden	Behaviour problems: child observation and parent interview	Severe LD: 64%	disorder 12%; hyperactive disorder 11%; emotional disorder 10%; depressive syndrome 4%; psychosomatic disorder 4%; other 2%.

(continued)

Study	Sample	Measures	Prevalence	Problems/disorders
Jacobson (1982)	 - 3056 children aged 0-12 years with an LD - Population-based survey of individuals with an LD in New York State 	LD: based on current classification of intellectual functioning Behaviour problems: New York Developmental Disabilities Information Survey	38-54%	Of those with behaviour problems and mild mental retardation: cognitive 11%, affective 14%, major 14%, minor 61%; and moderate mental retardation 8%, 19%, 14%, 59%; and severe mental retardation: 5%, 15%, 17%, 63%; and profound mental retardation 4%, 19%, 22%, 55%.
Linna et al. (1999)	 - 5840 children aged 8 years of which 90 with an LD - representative of children born in 1981 in Finland 	LD: attending educationally subnormal or training schools. Behaviour problems: Rutter Parent Questionnaire (RA2); Rutter Teacher Questionnaire (RB2); Children's Depression Inventory (CDI).	LD: 50% (all measures combined) 32.2% (RA2) 34.9% (RB2) 11.0% (CDI) TD: 24% (all measures combined) 10.8% (RA2) 13.5% (RB2) 6.6% (CDI)	
Merrell and Holland (1997)	 199 children with an LD and 199 TD children aged 3-5 years Part of the Preschool and Kindergarten Behavior Scales national normative sample in the USA 	LD: formally identified as having an LD Behaviour problems: Preschool and Kindergarten Behavior Scale (PKBS)	LD: 26.6% social skills deficits; 22% behaviour excesses TD: 6% social skills deficits; 6% behaviour excesses	
Molteno et al. (2001)	 - 355 children aged 6-18 years attending special education schools and a training centre - representative of a large section of Cape Town, South Africa 	LD: attending special education schools Behaviour problems: DBC (teacher version)	31%	

(continued)

Study	Sample	Measures	Prevalence	Problems/disorders
Stromme and	- 178 children with an LD aged 8-	LD: IQ less than 70	37%	Hyperkinesia 16%; PDD 8%;
Diseth (2000)	13 years - population included all children (30037) born 1980-1985 who lived in Akershus, Norway on 01/01/1993	Behaviour problems: interviews with parent and child, providing ICD-10 diagnoses		behavioural/emotional 6%; conduct 3%; anxiety/phobic/obsessive-compulsive 3%; tics 1%.
Taanila, Ebeling, Heikura and Jarvelin (2003)	 106 children with an LD and 9251 TD children aged 7 years total population based cohort from two provinces of Finland. 	LD: register data, hospital, family counselling and institutional records, psychometric tests results and parental questionnaires. Behaviour problems: RB2.	LD: 44.4% TD: 14.1%	Behavioural problems 20.8%, emotional problems 18.1%, mixed problems 5.6%, hyperactive problems 36.1%.

Note: LD = learning disability; TD = typically developing

studies by Dekker, Koot, van der Ende and Verhulst (2002) and Gillberg et al. (1986).

As in the UK studies, when comparing the prevalence of behaviour problems among children with an LD to TD children, a higher rate was also observed in children with an LD in the non-UK studies. Children with an LD were five times more likely to have behaviour problems based on teacher ratings on the DBC (Taanila et al., 2003), and had significantly more behaviour problems on several behaviour scales or checklists (Dekker et al., 2002; Linna et al., 1999; Merrell & Holland, 1997).

Overall, prevalence rates of behaviour problems in children with an LD range widely between studies. This wide ranging rate is similar across countries and is dependent on the method of recruiting children into studies and on the method of measurement of behaviour problems. Most importantly, the prevalence rate is high and is consistently higher than in TD children.

2.2 Types of Behaviour Problems in Children with an LD

A wide range of problematic behaviours can be found in children with an LD. Difficult behaviours commonly found in most TD children are also displayed by children with an LD, such as temper tantrums (Quine, 1986), screaming (Chadwick et al., 2005; Hoare et al., 1998; Quine, 1986) and being noisy (Saxby & Morgan, 1993). Many children with an LD display aggressive behaviours (Dekker et al., 2002; Lowe et al., 2007; Quine, 1986) including physical aggression towards others (Chadwick et al., 2005; Hoare et al., 1998), hurting others (Saxby & Morgan, 1993) and fighting (Taanila et al., 2003). Destructive behaviour is also very common among children with an LD (Chadwick et al., 2005; Lowe et al., 2007; Quine, 1986)
and includes throwing things (Saxby & Morgan, 1993) and destroying and damaging property (Saxby & Morgan, 1993; Taanila et al., 2003).

Children with an LD have less developed social skills than TD children (Merrell & Holland, 1997), leading to social problems such as not getting along with peers and being teased (Dekker et al., 2002). Emotional problems occur in 26.1% to 41.6% of children with an LD (Totsika, Hastings, Emerson, Berridge, et al., 2011; Totsika, Hastings, Emerson, Lancaster, et al., 2011). Being worried (Taanila et al., 2003) or afraid of new situations or things (Mitchell & Hauser-Cram, 2009; Taanila et al., 2003) and appearing unhappy or distressed (Taanila et al., 2003) are typical emotional problems in children with an LD.

Hyperactivity and attention problems are frequently found in children with an LD (Chadwick et al., 2005; Dekker et al., 2002; Quine, 1986; Saxby & Morgan, 1993; Totsika, Hastings, Emerson, Berridge, et al., 2011; Totsika, Hastings, Emerson, Lancaster, et al., 2011). Attention problems are characterised by poor concentration and occur in more than half of children with an LD (Mitchell & Hauser-Cram, 2009; Saxby & Morgan, 1993; Taanila et al., 2003). Hyperactivity problems include being restless (Taanila et al., 2003), fidgety (Taanila et al., 2003), not being able to wait (Mitchell & Hauser-Cram, 2009) and quickly shifting between activities (Mitchell & Hauser-Cram, 2009).

Sleep problems have been identified as extremely common in children with an LD (Chadwick et al., 2005; Hoare et al., 1998; Saxby & Morgan, 1993). Problems associated with this are difficulties in settling at night, night waking and early waking (Didden, Korzilius, Aperlo, Overloop, & Vries, 2002). Daytime behaviour problems in the child are often associated with night waking problems and parents

have indicated that they themselves do not get enough sleep, due to their child's sleep problems (Didden et al., 2002).

While problems discussed so far can be found in both children with an LD and TD children, self-injurious behaviours and stereotyped or repetitive behaviours are less frequently found in TD children (Wallander et al., 2003). A considerable number of children with an LD display stereotyped behaviour, for example by bodyrocking, flapping hands or tapping or shaking objects (Chadwick et al., 2005; Lovaas, Newsom, & Hickman, 1987; Saxby & Morgan, 1993). Self-injurious behaviour includes hitting the head, self-biting and pica (Chadwick et al., 2005; Hoare et al., 1998; Lowe et al., 2007; Quine, 1986; Saxby & Morgan, 1993).

2.2.1 Noncompliance. Children's initial response to their parents' requests is often noncompliance (Kuczynski & Kochanska, 1990). This is a normal and necessary part in a child's development (Kuczynski & Kochanska, 1990). However, studies have found noncompliance to be among the most prevalent behaviour problems in children with an LD (Mitchell & Hauser-Cram, 2009; Taanila et al., 2003; G. R. Walker, 1993) and parents of children with an LD have emphasized their presence (Saxby & Morgan, 1993). Among children whose behaviour problems were under control or were severe, 94% also displayed noncompliance (Lowe et al., 2007). Parents of children with an LD who participated in a treatment programme at a paediatric psychology clinic, indicated that the behaviour of greatest concern was their child's noncompliance (Charlop, Parrish, Fenton, & Cataldo, 1987). Children with an LD have also been found to display significantly more noncompliance than TD children (Breiner & Forehand, 1982).

A high rate of noncompliance is of concern, because it is a risk factor for delinquent behaviour during adolescence (Olmi, Sevier, & Nastasi, 1997). Noncompliant behaviour is generally considered the basis for more severe problem behaviours and subsequent coercive parent-child interactions can help develop further problems over time (Forehand & Wierson, 1993). Children might be unable to profit from instructional and social interactional opportunities when they comply with less than forty per cent of adult requests (Rhode, Jenson, & Reavis, 1993, cited in: Olmi et al., 1997). So although noncompliance is a normal part of child development, the high level observed in children with an LD and the likely consequences mean it is a considerable problem for parents.

2.2.2 Comorbidity. Between 36% and 39% of children with an LD are diagnosed with a comorbid disorder on the ICD-10 or DSM-IV in comparison to 8% of TD children. (Dekker & Koot, 2003a; Emerson, 2003; Emerson & Hatton, 2007; Stromme & Diseth, 2000). Approximately 8% of children with an LD has an additional diagnosis of an Autism Spectrum Disorder (ASD) or Pervasive Developmental Disorder (PDD) while for TD children this is 0.1% to 0.3% (Emerson, 2003; Emerson & Hatton, 2007; Stromme & Diseth, 2000). Between 8% and 16% of children with an LD has Attention Deficit Hyperactivity Disorder (ADHD) or hyperkinesis and for TD children this is 0.9% (Dekker & Koot, 2003a; Emerson, 2003; Emerson & Hatton, 2007; Stromme & Diseth, 2000). Of children with an LD, between 3% and 22% have an anxiety disorder (3.2% to 3.6% for TD children), 6% to 12% have an emotional disorder (3.7% to 4.1% for TD children), approximately 1.5% has a depressive disorder (0.9% for TD children) and between

3% and 25% a conduct disorder (4.2% to 4.3% for TD children) (Dekker & Koot, 2003a; Emerson, 2003; Emerson & Hatton, 2007; Stromme & Diseth, 2000).

It is important that children are diagnosed correctly due to the prognoses and methods of treatment that follow from a diagnosis (Reid, 1980). However, psychopathology is difficult to assess among children with an LD. Firstly, age inappropriate behaviours are regarded as symptoms, but it is complex to assess what is age appropriate for children who are delayed in their development (Wallander et al., 2003). Behaviour shown by children with an LD may be different from TD children and they may show symptoms in different ways, therefore not overlapping with patterns of symptoms found in TD children (Dykens, 2000; Wallander et al., 2003). In addition, due to limited communication skills, many children with an LD are unable to report their own symptoms and parents and teachers are the judges of symptoms (Chadwick et al., 2005; Wallander et al., 2003). Finally, it is not always clear whether certain behaviours are due to the LD or to psychopathology, leading to diagnostic overshadowing (Stromme & Diseth, 2000; Wallander et al., 2003).

An additional difficulty is that children who have different aetiologies of LD display different patterns of symptoms, but can still be diagnosed with the same comorbid disorder (C. Oliver, Berg, Moss, Arron, & Burbidge, 2011). Both children with Cornelia de Lange syndrome and fragile X syndrome show a higher prevalence of autism than other genetic syndromes, but while repetitive behaviour is a much higher feature for children with fragile X syndrome than for children with other syndromes, this is not the case for children with Cornelia de Lange syndrome (C. Oliver et al., 2011). Similarly, children with Smith Magenis syndrome, fragile X syndrome, Angelman syndrome and cri du chat syndrome show a higher prevalence

for hyperactivity than children with other syndromes. Children with Angelman syndrome have a relatively high rate of both over-activity and impulsivity (C. Oliver et al., 2011). However, hyperactivity in children with Smith Magenis syndrome is characterised by relatively high levels of impulsivity, while in children with fragile X syndrome and cri du chat syndrome it is characterised by relatively high levels of over-activity (C. Oliver et al., 2011). This adds to the complexity of diagnosing children with an LD with comorbid disorders, as they are characterised by different behaviour in TD children and in children with different aetiologies of LD.

Although comorbidity can be difficult to assess, children with an LD have been found to experience a wide range of behaviour problems. Some behaviour is similar to behaviour problems of TD children, but can still present a challenge to parents, such as noncompliance. Other behaviour, such as self-injury, is found in TD children less frequently but can be quite serious in children with an LD.

2.3 Child Characteristics Related to Behaviour Problems

The relationship of behaviour problems to the child's age will be discussed in Section 2.4.2 on the stability and persistence of behaviour problems.

2.3.1 Severity of the LD. Mixed results have been found when looking at the relationship between the severity of the LD and behaviour problems. Einfeld and Tonge (1996b) found no significant relationship with overall psychiatric disorder on the DBC parent version, but did report slightly fewer psychiatric disorders in children with a profound LD. In contrast, Molteno et al. (2001) found that those with a more severe LD experienced more behaviour problems on the DBC teacher version. Finally, Chadwick, Kusel and Cuddy (2008) also found that the more severe

the LD, the higher the level of overall behaviour problems was on the Disability Assessment Schedule (DAS).

When looking at specific problems, a more severe LD was associated with less disruptive behaviour, less anxiety, more 'autistic-relating' and more selfabsorbed behaviour according to the study by Einfeld and Tonge (1996b). However, Molteno et al. (2001) found a more severe LD to be associated with more communication disturbance, more anxiety and less antisocial behaviour. Finally, Chadwick, Piroth, Walker, Bernard and Taylor (2000) again found different results with more destructive behaviour, more overactivity, more self-injury, more sleeping difficulties, more lethargy/social withdrawal and less inappropriate speech in those with more severe levels of an LD.

The differences between these results can be explained by the method of measurement used for behaviour problems and for assessing the severity of the LD. Parents rated the level of behaviour problems in the study by Einfeld and Tonge (1996a) and by Chadwick et al. (2008), but teacher ratings were used in the study by Molteno et al. (2001). In addition, severity of the LD was specified by IQ tests in the study by Einfeld and Tonge (1996a) and by the Vineland screener in the study by Chadwick et al. (2008), while no information was given on how the child's level of LD was assessed by Molteno et al. (2001). Similar to Section 2.2.2, measurement difficulties in children with a severe LD may play a role in the discrepant results. Psychiatric disorder and behaviour problems are especially difficult to measure in children with more severe levels of LD as the behaviour is less observable and they are less able to communicate emotional problems (Einfeld & Tonge, 1996b). Due to these mixed results, different methods of measurement and measurement issues, the

relationship between severity of the LD and the rate and type of behaviour problems remains unclear. However, these results still showed that behaviour problems are an issue for children with all levels of LD.

2.3.2 Actiology. There are differences in the rates and types of behaviour problems between children who have different aetiologies of LD. A diagnosis of autism positively predicted overall behaviour problems on the DBC, while diagnoses of Down syndrome or cerebral palsy did not (Hastings & Mount, 2001). Children with autism, Prader-Willi syndrome and fragile X showed higher levels of overall psychopathology in comparison to a sample of children with a range of aetiologies of LD, while children with Down syndrome showed lower levels of overall psychopathology (Tonge & Einfeld, 2003). Similarly, no difference was found between children with Down syndrome and TD children on the total problems score of the Child Behavior Checklist (CBCL), while children with autism and cerebral palsy scored significantly higher than both groups (Eisenhower, Baker, & Blacher, 2005). A group of children with undifferentiated developmental delay scored between these extremes (Eisenhower et al., 2005). Finally, children's scores on the Autism Screening Questionnaire positively predicted overall behaviour problems (Chadwick et al., 2008). In general, children with Down syndrome have been found to display less, and children with autism more, behaviour problems.

Children with different aetiologies also display different patterns of behaviour problems. Children with Prader-Willi syndrome have been found to display high levels of externalising, internalising and somatoform behaviours (Tonge & Einfeld, 2003). Behaviour of children with William's syndrome is characterised by anxiety, hyperactivity, preoccupations, inappropriate personal relating (Tonge & Einfeld,

2003). Children with fragile X syndrome show shyness, social anxiety, gaze avoidance and speech peculiarities (Tonge & Einfeld, 2003). Children with autism show a range of problematic behaviours including disruptive behaviour, selfabsorbed behaviour, anxiety, communication disturbance, social relating problems, stereotypies and symptoms of ADHD and depression (Chadwick et al., 2008; Hastings & Mount, 2001; Tonge & Einfeld, 2003). Children with Down syndrome on the other hand are less irritable than other aetiology groups (Chadwick et al., 2008). Although differences in the rate and types of behaviour problems have been found across aetiologies, behaviour problems are an issue for children with an LD of all aetiologies. Possible reasons for the link between aetiology and behaviour problems will be explored in Section 2.5.1.

2.3.3 Gender. When looking at the overall rate of behaviour problems or psychiatric disorders, most studies have found no differences between boys and girls (Chadwick et al., 2008; Chadwick et al., 2000; Einfeld & Tonge, 1996a; Molteno et al., 2001; Taanila et al., 2003; Tonge & Einfeld, 2003). Mitchell and Hauser-Cram (2009) also found no differences between boys and girls on overall internalising or externalising behaviour. Only Hastings and Mount (2001) found that boys scored significantly higher on overall problems on the DBC than girls.

On the other hand, the pattern of specific behaviour problems displayed by boys and girls differs. Boys displayed significantly more disruptive, self-absorbed, antisocial and 'autistic-relating' behaviour than girls (Hastings & Mount, 2001; Molteno et al., 2001). Although not statistically significant, Taanila et al. (2003) also found that boys displayed more emotional and hyperactive problems than girls. So although boys display more specific problems than girls, overall, their rate of problematic behaviour is the same.

In TD children, boys are generally found to display more externalising problems than girls, whereas girls are often found to display more internalising behaviour than boys (Einfeld & Tonge, 1996b; Mitchell & Hauser-Cram, 2009; Taanila et al., 2003). The effects of gender on behaviour as seen in TD children may not be as strong in children with an LD because the effect of skills deficits or underlying neurological factors related to aetiology on behaviour are stronger (Chadwick et al., 2008; Einfeld & Tonge, 1996b).

2.4 Consequences of Behaviour Problems

2.4.1 The impact of behaviour problems on child development. Besides being distressing for the child (Roberts et al., 2003), behaviour problems affect the child's participation and development in a range of settings. Aggressive and disruptive behaviour can lead to both damage of property and injury of persons (Mace, Page, Ivancic, & O'Brien, 1986). Self-injury and destructive behaviour can be of such a severe level that it threatens the child's own physical health (Roberts et al., 2003). Due to the risk of injury to the child and others, children are removed from social settings and social activities need to be curtailed (Mace et al., 1986; Marcus, Vollmer, Swanson, Roane, & Ringdahl, 2001; Roberts et al., 2003). This results in a loss of social opportunity and chances for the child to learn new social skills (Parmenter, Einfeld, & Tonge, 1998; Roberts et al., 2003).

Behavioural and emotional disturbances in children, such as stereotypy, aggression and self-injury, prevent the child from interacting with the environment (Matson, Benavidez, Compton, Paclawskyj, & Baglio, 1996) and therefore interfere

with the child being able to benefit from learning opportunities (Parmenter et al., 1998; Roberts et al., 2003). Accordingly, such behaviours negatively affect the development of adaptive behaviour (Marcus et al., 2001; Matson et al., 1996). In addition, repetitive and passive behaviours can be of such an intensity and frequency that they restrict the child's educational learning (Goodman & Linn, 2003). Especially aggression can interfere with the child's educational programming (Mace et al., 1986), because it leads to the child being removed from educational settings and makes it more likely that a child is placed in special education (Marcus et al., 2001; Roberts et al., 2003).

2.4.2 The stability and persistence of behaviour problems. Studies examining the behaviour of children with an LD overall show that psychiatric disorder and behaviour problems are stable over time. When assessing the prevalence of behaviour problems over time, three different methods have been used. First, studies have compared the rate of behaviour problems at one time to the rate of behaviour problems in the same group a number of years later. Wallander, Dekker and Koot (2006) followed up a random group of 58% of an original sample of 668 children with an LD aged six to 18 years after one year. Overall, behaviour problems decreased significantly. However, the absolute changes in raw scores were so small that the results highlighted the persistence of behaviour problems over time. Einfeld et al. (2006) followed up a larger group of children over a larger period of time. At Time 1, 578 children participated who were aged five to 19.5 years. Four waves of data collection occurred over 14 years with 507 participants remaining at Time 4. Overall, both behaviour problems and psychiatric disorders decreased significantly and the decrease was slower for those with a more severe LD. However, the decrease

was again so small that the results indicated that problems persisted from childhood to adulthood. Finally, McCarthy and Boyd (2001) and McCarthy (2008) followed up a group of 193 children with Down syndrome who were aged six to 17 years at Time 1 and aged 22 to 33 years at Time 2. They found that the overall prevalence of psychiatric disorder and behaviour problems was similar, around 30% at both times.

A second method to assess the developmental course of behaviour problems is to identify those cases that have high rates of behaviour problems and to look at the percentage that still has high rates a number of years later. Chadwick et al. (2005) measured behaviour problems of 82 children with a severe LD when they were four to 11 years old and again when they were 11 to 17 years old. Of the children who had high scores at Time 1, 89.7% were also found to have high scores five years later. This persistence varied across types of behaviour with stereotypies having a higher persistence (62.5%) than screaming (19%). V. A. Green, O'Reilly, Itchon and Sigafoos (2005) measured behaviour problems in 13 pre-schoolers with an LD when they were three to five years old and every six months for the next three years. Behaviour was stable in children with low levels of behaviour problems continuing to score low and children with high levels of behaviour problems continuing to score high.

Finally, the predictive value of childhood psychiatric disorder for problematic behaviour in adulthood can be assessed. In individuals with Down syndrome, childhood independent functioning, self-direction and childhood psychiatric disorder at age six to 17 were predictive of severe behaviour disorders in adult life (age 22 to 33) (McCarthy, 2008). Taken together, using different methods these studies have shown the stability and persistence of problematic behaviour from pre-school years through to young adulthood.

2.4.3 Consequences of behaviour problems for parents of children with an LD. Families of children with an LD experience "*excessive caregiving demands, financial burden, and restrictions on leisure activities and social lives, as well as disruptions of short- and long-term personal and family plans*" (Baker et al., 1997, p. 7). Parents reported not being able to cope with most problematic behaviours and this affected their well-being (Saxby & Morgan, 1993). Mothers found self-injurious behaviour, noisiness, throwing of objects and sleep problems especially difficult to cope with. Parents felt that behaviour problems in their child with an LD prevented them from going out, restricted their activities, disadvantaged the child's siblings and also had an adverse effect on the family as a whole (Quine, 1986). Child behaviour problems can interfere with the family's engagement in routines such as dinnertime, watching TV and bedtime as well as with the social interaction between family members (Buschbacher, Fox, & Clarke, 2004; Mace et al., 1986).

With the addition of behaviour problems, parents of children with an LD are at heightened risk for experiencing elevated levels of stress. This applies to families of children with an LD of all ages. Saxby and Morgan (1993) found that the level of behaviour problems in children aged one to eight years was positively related to parents' feelings of not being able to cope and to feelings of stress. McIntyre, Blacher and Baker (2002) found that behaviour problems among young adults aged 16 to 25 with a severe LD predicted parents' perception of their child's negative impact on the family. Quine (1986) and Quine and Pahl (1985) also found that behaviour problems significantly predicted maternal stress scores among families of

children aged 0 to 16 with an LD. Night time disturbance, self-injury and hurting others were problems that were particularly related to higher stress scores in mothers (Quine, 1986; Quine & Pahl, 1985). The relationship between child behaviour problems and stress also held when behaviour was measured through teacher report and stress through a parents interview (Quine, 1986).

In addition to this, studies have found that behaviour problems predicted stress above and beyond the child's delay or cognitive status. Parents of children with an LD experienced higher levels of stress than parents of TD children, but when predicting parental stress, cognitive status did not add to the prediction after behaviour problems were accounted for (Baker, Blacher, Crnic, & Edelbrock, 2002; Baker et al., 2003). Moreover, child behaviour problems predicted parental stress one year later after accounting for prior levels of stress, and parental stress predicted behaviour problems one year later after accounting for prior behaviour problems (Baker et al., 2003). The effect of behaviour problems rather than child delay on parent stress was also highlighted in a study among families of children with fragile X (Hall, Burns, & Reiss, 2007). The IQ of children with fragile X and of their unaffected sibling had no impact, but the behaviour problems of both children had equally large effects on maternal distress (Hall et al., 2007). This suggests that it is not the child's LD that is causing parents of children with an LD to experience more stress than parents of TD children, but the behaviour problems that are commonly associated with having an LD. In addition, the mutually escalating effect of child behaviour problems and parental stress (Baker et al., 2003) highlights the importance of behaviour problems being addressed from a young age.

2.5 Causes of Behaviour Problems

As demonstrated so far, behaviour problems in children with an LD are highly prevalent and persistent and have negative consequences for both the children and their parents. In order to be able to address and reduce these problems, it is important to understand where they stem from and which processes can be addressed to reduce them. The following sections discuss four broad areas of causes, namely biological, psychological, sociocultural and familial.

2.5.1 Biological causes. Biological processes play a role in the expression of behaviour problems (Dykens, 2000; Szymanski, 1994). The same brain dysfunction that causes an LD may place the child at risk for certain behaviour problems (Szymanski, 1994). In fact, as discussed in Section 2.3.2, differences in the expression of behaviour problems have been found between children with an LD of different aetiologies, indicating a relationship between the cause of the LD and behaviour problems (Eisenhower et al., 2005; Tonge & Einfeld, 2003). This is in line with the concept of direct effects and total and partial specificity (Hodapp, 1997, 1999, 2004). Direct effects are the effects of a genetic syndrome, which predispose the child to exhibit certain behaviours to a greater extent than children with other genetic disorders. Some behaviour seems unique to only one genetic syndrome. This is referred to as total specificity and can for example be seen in the cat-like cry of infants with cri-du-chat syndrome (Udwin & Dennis, 1995). Partial specificity, on the other hand, occurs when behaviour is more often present in a particular syndrome, but also occurs in others. For example, self-injury is highly prevalent in children with Cornelia de Lange syndrome, but can also occur in children with autism or other neuro-developmental disorders (Bodfish, 2007; Bodfish, Symons,

Parker, & Lewis, 2000; Moss et al., 2005). It is likely that behaviours encompassed by total or partial specificity are caused by pathways from genes to proteins, to brain structures to behaviour (Hodapp, 1999).

However, the existence of differences within syndrome groups implies that there are other pathways than biological pathways that lead to behaviour problems. As not all children with a particular syndrome display the same behaviour problems, multiple factors play a role in their expression (Hodapp, 1999). For example, selfinjurious behaviour has been suggested to be the product of several biological processes such as inadequate neurological development of the central nervous system, neurological insensitivity to pain, the production of opiate-like substances in response to pain or other aberrant physiological processes (Carr, 1977; Cataldo & Harris, 1982). In addition, environmental events have been found to be of influence and social reinforcement is related to increases in the frequency of self-injurious behaviour (Carr, 1977; Moss et al., 2005; C. Oliver, Hall, & Murphy, 2005). The presence of medical problems, physical discomfort or pain in children with an LD has been found to be positively related to psychopathology and behaviour problems (Dekker & Koot, 2003b; Oeseburg, Jansen, Groothoff, Dijkstra, & Reijneveld, 2010; Wallander et al., 2006). As children with an LD often have communication difficulties, inappropriate behaviour can be the only method available to indicate physical discomfort to others (Gunsett, Mulick, Fernald, & Martin, 1989). As a whole, biological factors seem to play an important part in behaviour problems through direct effects, but these two examples show that they are unlikely to solely determine behaviour problems as environmental events and communication difficulties also play a role.

2.5.2 Psychological causes. Psychological factors play a part in the link between behaviour problems and LD. Firstly, the persistent experience of failure of children with an LD in various life areas and learning situations can lead to uncertainty, learned helplessness, depression and other problems and can affect a child's self-image and result in negative or unrealistic views of the self (Dykens, 2000; Szymanski, 1994). Consistent with this, relationships have been found between children's skills and behaviour problems. Children with less developed cognitive, adaptive and daily living skills and less social competence, were found to have more behaviour problems (Dekker & Koot, 2003b; Mitchell & Hauser-Cram, 2009).

Secondly, communication problems as well as delay in emotional development, may prevent some children from expressing their feelings effectively. Children who are unable to speak have been found to have more self-absorbed and autism-related behaviour, anxiety, communication disturbance and antisocial behaviour and a higher level of psychopathology overall (Molteno et al., 2001). Behaviours such as arguing, disobedience and whining may indicate avoidance or worry when children are unable to communicate their anxiety for a task or situation effectively (Sullivan, Hooper, & Hatton, 2007).

Problematic behaviours can be related to the inability to exert control over daily situations (Brotherson, Cook, Erwin, & Weigel, 2008; Clark, Olympia, Jensen, Heathfield, & Jenson, 2004). Children with an LD are often not given choices or the opportunity to make decisions based on their preferences as they are viewed as unable to achieve self-determination and autonomy (Clark et al., 2004). In school situations, problem behaviours have been found to decrease when children can make

their own choice in the toys they are playing with (Reinhartsen, Garfinkle, & Wolery, 2002).

Taken together, problems in psychological factors such as self-image, communication, emotional development and self-determination can be underlying causes to problematic behaviour. However, the environment that sets the standards for a child's performance, that facilitates the child's communication or that gives opportunities for choice plays a large role in this too.

2.5.3 Sociocultural causes. Young people with an LD experience stigmatised treatment, both in the community and at school, leading to feelings of being hurt, negative evaluative beliefs, negative self-perceptions, negative consequences on well-being and affecting mental health (Connors & Stalker, 2007; Cooney, Jahoda, Gumley, & Knott, 2006; Jahoda, Wilson, Stalker, & Cairney, 2010; McGuinness & Dagnan, 2001). Stigma experienced by children with an LD is apparent from their experience of bullying (Connors & Stalker, 2007). A study by Mencap (2007), conducted among 507 children and young people with an LD, found that 82% have experienced bullying. These children mostly experienced bullying at school, but also in the street, the park, on the bus, or at youth clubs and leisure centres. In addition, Mencap (2007) found that more than 50% of children with an LD who were bullied, stopped going to the places where bullying had occurred and that eight out of ten children with an LD were afraid to go out.

Research on inclusion has shown that parents of children with an LD experience worries about their child participating in inclusive education because of negative societal views (Leyser & Kirk, 2004). Some parents of TD children in inclusive classrooms hold negative beliefs towards children with an LD, that is, they

do not see the value of investing in these children educationally and are concerned about more teacher time being unfairly spent on the children with an LD (Peck, Staub, Gallucci, & Schwartz, 2004). Societal views on disability will be further discussed in Section 3.1. Although the links between stigma in society, at school and the experience of bullying and child behaviour problems in children with an LD have not been addressed directly, they would likely have an effect on the child's selfimage and self-esteem, which is a factor linked to depression as discussed in the previous section.

2.5.4 Familial causes. A number of longitudinal studies have found family characteristics that are predictors for behaviour problems in children with an LD. Children in lone parent families are more likely to develop behaviour problems (Dekker & Koot, 2003b; Mitchell & Hauser-Cram, 2009). The family's experience of negative life events (Mitchell & Hauser-Cram, 2009) and parents' experience of mental or physical health problems predict child behaviour problems (Dekker & Koot, 2003b; Tonge & Einfeld, 2003; Wallander et al., 2006). In addition, a negative family climate and poor family functioning are predictive of child behaviour problems (Dekker & Koot, 2003b; Mitchell & Hauser-Cram, 2009; Tonge & Einfeld, 2003; Wallander et al., 2006).

Parent behaviour has been found to be related to behaviour problems in children with an LD. For example, disciplinary aggression, the expression of criticism and a lack of continuity in care are associated with behaviour problems in children with an LD (Chadwick et al., 2008). Parents may unknowingly reinforce their child's behaviour problems by using certain strategies. Aggression and disruption in children with an LD are sensitive to both positive and negative

reinforcement and may therefore be unintentionally maintained by parents as a strategy as time-out could actually be a negative reinforcer (Mace et al., 1986; Marcus et al., 2001). Similar suggestions have been made for self-injurious behaviour. Self-injurious behaviour could be socially maintained through positive reinforcement and this reinforcement could even underlie a transition from stereotyped behaviour to self-injury (C. Oliver et al., 2005). The effect of parenting on child behaviour will be further discussed in Section 3.3.

Although parent behaviour might maintain certain problems, it is unlikely that these family factors and parent behaviours are single and direct causes of child behaviour problems. Children are not passive, but evoke reactions from their parents and their environment (Hodapp, 1997; Scarr, 1992). Children with particular disorders or behaviour problems evoke particular reactions from their parents. These indirect effects occur when parents react in a predictable way to aetiology-related behaviours (Hodapp, 1999, 2004). For example, children with an LD who are less responsive, may evoke higher levels of stimulation and directiveness from their parents than TD children (Marfo, Dedrick, & Barbour, 1998).

Nevertheless, as suggested by Bell (1979), the parent's behaviour is not just dependent on the child's behaviour, but is shaped by the parent's thoughts and perceptions on their child (Hodapp, 1999, 2004). Many interactions between cognitions and behaviour of both parents and children over time are likely to shape both the child's and the parent's behaviour. This will be discussed further in Section 3.2.

2.6 Summary

This chapter has shown that the prevalence rate of behaviour problems in children with an LD is high and higher than in TD children. Children with an LD experience a wide range of behaviour problems, some of which are similar to TD children but still of high concern, such as noncompliance. The rate and pattern of behaviour problems differ for children with different levels of severity of LD, aetiology and gender but are an issue for all children with an LD. Behaviour problems affect the child's participation in social and educational settings and are stable and persistent. Parents experience stress in relation to behaviour problems and they have an impact on family life. Biological processes are one of the causes of these problems but sociocultural processes and parenting, which are more amenable to change, also play a role in the expression of behaviour problems.

Taking these points into account, parents of children with an LD likely have a different parenting experience from parents of TD children, both in relation to their child and in relation to society. Because biological processes play a role in behaviour problems and because of the aetiology specific expression of behaviour problems, parents might also think about behaviour problems in a different way. The next chapter will address the influence of society on parenting children with an LD and the influence of parents' interpretations and parenting on child behaviour.

Chapter 3 – Parenting Children with an LD

This chapter describes the negative societal views on LD that persist and how these can place parents at risk for less effective parenting practices. The psychosocial model of disability-related child behaviour problems is introduced as a framework for examining relationships between societal views, parent views, parent behaviour and child behaviour. It is argued that the characteristics the child with an LD brings to the interaction with the parent induces parenting behaviours that are different from those used for parenting TD children. More importantly, however, it is not only the child's characteristics, but also the parent's interpretation of these that affect parenting. Finally, it is shown that parent behaviour affects child behaviour in similar ways as for TD children and that similar interventions work for both groups. There is a gap in the literature however, as these intervention studies have not examined parent cognitions on their child's behaviour which are an important influence on parenting strategies. In addition, the chapter will show that both research to compare views of parents of children with an LD to prevailing societal views on disability, and research to investigate what characterises those parents of children with an LD who change their views from societal views is needed.

3.1 Parenting within the Context of Society

Children do not develop independently from the outer world. Environmental systems in which children grow up influence development. Bronfenbrenner (1979) specified five different systems that surround the child. The microsystem consists of the relationships children have with their direct environment, such as caregivers and school. The interrelationships between different components of the microsystem are called the mesosystem, for example interactions between parents and teachers and

family relations. The next system, the exosystem, consists of settings that are not in direct contact with the child, but even so affect the child's development, such as the family's social support, friends of the family and mass media. The macrosystem surrounds these three systems and represents the culture and ideology of the society. Finally, the chronosystem defines the effects over time that can alter the processes of the four other systems. Not just the parents, but also the societal context affects child development.

The influence of the macrosystem was confirmed in a Swedish study (Olsson & Hwang, 2003). In Sweden, families of children with an LD receive financial help to make up for additional cost and lost income. In contrast to parents in the US and the UK, the study found no differences in income between families of children with an LD and families of TD children, indicating that the Swedish macrosystem minimises financial strain (Olsson & Hwang, 2003). Bell (1968) has also emphasized that while actual child behaviour strongly influences parent behaviour (as will be further explored in Section 3.2), cultural demands and pressures also have a great influence on activation of an action from the parenting repertoire. Baker, Blacher, Kopp and Kraemer (1997) noted for parents of children with an LD that parenting attitudes towards the cause and meaning of disability are greatly influenced by cultural norms and by the professional zeitgeist and that this affects the expectations parents hold for their children.

The psychosocial model of disability-related child behaviour problems (Woolfson, 2004) related the larger societal context to parent and child behaviour specifically for parents of children with disabilities. This model suggested how societal beliefs might influence parent beliefs on disability. Parent behaviours

originate from these beliefs and, in turn, impact on child behaviour. The model outlined three prevailing negative views on disability in society. First, the medical model implies that disability is similar to an illness and relies on medical intervention. Consequently, developmental, health and behaviour problems are viewed as an inevitable part of the medical condition with which parents have to cope and for which they need professionals to intervene. This societal and parent belief would lead to parent behaviour that accepts problematic behaviours from the child, as they are part of the disability. The second societal belief explored in the model is that disability is a personal tragedy and consequently, disabled people cannot be happy. Parents may therefore see themselves as needing to make up to their child for the tragedy of being disabled and again this would lead to parent behaviour that accepts problematic behaviours from the child. Lastly, society views disabled people as dependent and needing protection and help from others so the parents' role may be seen as to protect the child from any challenges. This belief can lead parents to overprotect the child and as a result, the child presents passive, dependent behaviour. For parents of children with an LD, any of these three views could lead to strategies that are less effective for managing the difficult behaviour that children with an LD often display. In order to teach the child appropriate behaviour, parents need to reappraise their view of disability towards a more positive view, which might be different from the prevalent societal view (Woolfson, 2004).

Skinner and Weisner (2007) similarly argued that a family's understanding of their child's disability is shaped by and sometimes created in opposition to societal models and beliefs. Cultural models guide parenting, expectations and what is considered normal development. But when it is recognised that a child has a delay,

the model held by parents can shift and this also alters their attitudes and normal routines (D. Skinner & Weisner, 2007). These theories highlight that the societal context is important for child development as it affects how parents think about their child and consequently how they react towards their child, which in turn affects child development and behaviour.

3.1.1 Societal views on disability. The medical model of disability views disability as a problem that is within a person's body or mind (Landsman, 2005). This leads to the belief that disabled persons do not fully participate in society because of their physical or psychological limitations (M. Oliver, 1986). It also means that only the medical profession can treat disabled people and that it is parents' responsibility to seek out experts for help (Landsman, 2005). In Bryant, Green and Hewison's study (2006), individuals' views of Down syndrome provided evidence that people viewed disability through the framework of a medical model. Their views focused on impairment and on the negative and handicapping impact of the child on the family. They disagreed that difficulties are mainly caused by barriers in society. Views similar to the medical model were also found in a group of people asked about their views on autism, which they perceived as an illness affecting the mind (Huws & Jones, 2010). Views of intellectual disability as a personal tragedy and the dependency view also persist in society. For example, a group of participants in Bryant et al.'s study (2006) were not against calling people with Down syndrome 'sufferers' and another group of individuals held a view of people with Down syndrome as eternally childlike and dependent on others. Participants in Huws and Jones' study (2010) viewed people with autism as unable to function and live independently.

However, positive views of disability also exist. The majority of participants in Bryant et al.'s study (2006) held positive views, sometimes at the same time as holding views in accordance with the medical model, or with models of personal tragedy or dependency. Thirty-seven out of 76 participants viewed people with Down syndrome as similar rather than different to others, but also held the view that a society that struggles to include people is a barrier for people with Down syndrome to achieve a good quality of life. In opposition to the three negative beliefs on disability, the social model of disability stipulates that it is not the physical and psychological limitations that restrict disabled people from participating in the society, but the restrictions that society itself puts upon them (M. Oliver, 1986). In the social model, disability is the result of social organisation and not from the impairment itself (Dowling & Dolan, 2001, p. 23). The models as described in the psychosocial model (Woolfson, 2004) seem to persist within society and the social model describes that it is these disabling views that restrict people with disabilities to lead a full life. This suggests if parents of children with an LD hold the views of the society that they are part of, there may be a need to change parental views about their children with an LD.

3.1.2 Parents' experience of societal views. Mothers of children with an LD interact with both people who hold views in line with a medical model of disability and those who hold views in line with a social model. An example of the medical model is when parents interact with doctors who label the child, for instance as mentally retarded, when a diagnosis predicts the child's reduced life opportunities, or in rehabilitation when the goal is to move toward a norm in behaviour or skills (Landsman, 2005). The experiences of parents of children with an LD often also

reflect the social model of disability. Parents have expressed that it is not their disabled child that is causing burden and emotional distress, but rather the sociocultural constraints, professionals and local authorities they had to work with to gain access to services (S. E. Green, 2007; Tronvoll, 1994). Mothers spend considerable time, energy and financial resources on advocacy because of poorly coordinated and non-responsive systems of service delivery (S. E. Green, 2007). Applying for funds and services was experienced as highly stressful by parents because of the length and complexity of procedures, bureaucracy, having to re-apply every year, and the anxiety and frustration this induced (Dowling & Dolan, 2001; Goddard, Lehr, & Lapadat, 2000). Families indicated going through daily struggles caused by existing discriminatory practices, policies and programmes that prevented them from gaining the support that they needed (D. Skinner & Weisner, 2007). Mothers' concerns about their children's future were not related to the child's physical or cognitive impairment, but were about how the child would be treated by others (S. E. Green, 2003; Landsman, 2005). The disabling effect of negative societal views is further reflected in research on stigma and in research on inclusion.

3.1.2.1 Stigma. Parents have been found to experience increased stress and burden in relation to the stigma they feel exists in society (S. E. Green, 2003; D. Skinner & Weisner, 2007). For example, parents experienced awkward encounters with community members that added to their feeling of being stigmatised (Gray, 1993). Societal stereotypes of LD also place additional impairment upon a family. Children with an LD have been found to be excluded from social opportunities because of negative attitudes towards disabilities (Kelly, 2005). Being pointed out by society as disabled, created boundaries to participate in society (Brett, 2002) and

children of mothers who perceived more stigma were less likely to encourage their child to interact with other children in their home or in the neighbourhood (S. E. Green, 2003)

Parents have expressed feeling stigmatised and oppressed because only being seen as a parent of a child with an LD obscured other sources of identity (Brett, 2002; Gray, 1993). Parents felt that others considered them as different because of their child's disability (Gray, 2002). Mothers of children with an LD indicated that they felt they had not fulfilled maternal role expectations and did not meet the standards set by society (Guerriere & McKeever, 1997). According to society's standards, mothers of children with disability are not successfully bringing up future productive members of the society and therefore are not successful at mothering (Larson, 1998). Mothers experienced blame and were considered responsible for their child's disability (S. E. Green, 2003; McKeever & Miller, 2004). In a metasynthesis of past studies, Nelson (2002) found the same recurring theme of mothers' awareness of societal judgement. Mothers indicated experiencing emotional pain from relatives being critical or not understanding as well as feeling guilty or blamed because of their child's condition. Above all, mothers were aware of society not accepting their child. Connected to this, mothers experienced a form of social isolation.

Not only community members but also professionals working with parents can be stigmatising. Discourse among professionals has been found to be dominantly tragic and dysfunctional, and stereotypical and one-dimensional views persist (Goddard, Lehr, & Lapadat, 2000). Parents have indicated that parenting becomes more difficult because of such negative stereotypes (Goddard, et al., 2000). In

addition, professionals have not always included parents in making decisions and instead expected parents to simply carry out their advice (Brett, 2002). Professionals holding negative values and ideas about people with disabilities can get in the way of parents being able to gain opportunities and services for their child (Scorgie & Sobsey, 2000).

3.1.2.2 Inclusion. Another reflection on society's beliefs about disability is provided by research on inclusion of disabled children in mainstream education and the community. Parents of children with an LD were found to experience worries about their child participating in inclusion because of negative societal views resulting in social isolation and their child being resented (Leyser & Kirk, 2004). Although the majority of parents of TD children have been found to support inclusive education and to see benefits for their nondisabled child, some continued to hold negative beliefs towards children with an LD, that is, they did not see the value of investing in these children educationally and were concerned about more teacher time being unfairly spent on the children with an LD (Peck et al., 2004).

Families of disabled children felt discouraged from participating in the community because of negative attitudes, whereas families of children without disabilities did not report this as a cause for them to withdraw from community activities (Beckman et al., 1998). Parents of children with Down syndrome and children with an LD described the difficulty they had to go through in order to place their child in mainstream education, with schools being unaware, fearful and defensive (Kenny, Shevlin, Walsh, & McNeela, 2005). Where inclusion occurred, experiences were largely positive, but the welcome extended by the school to the child was described as provisional, fragile and undependable.

Taken together, the experience of stigma towards the child and the parent, from both community members and professionals can lead to social isolation and the experience of stress and burden (Gray, 1993; S. E. Green, 2003; D. Skinner & Weisner, 2007). Parents experienced difficulty in gaining the support they needed due to complicated and sometimes discriminatory systems of service delivery (S. E. Green, 2007; D. Skinner & Weisner, 2007) and inclusion is difficult to achieve (Kenny et al., 2005). As such, societal beliefs about disability as described in the psychosocial model (Woolfson, 2004) seem to persist and parent experiences outlined above point towards a social model of disability where societal beliefs have a disabling effect on the child.

While parenting is affected by parents' own assimilation of cultural demands into their expectations for the child (Bell, 1968), these societal views could place parents of children with an LD at risk for less effective parenting (Woolfson, 2004). Some mothers have been found to hold negative attitudes towards disability and they experienced their child as a source of embarrassment (S. E. Green, 2003). Children who were unduly restricted by their parents experienced the restriction as a source of stigma (Cooney et al., 2006) and an unclear set of parental normative expectations has been found to increase problems in adjustment among adolescents with an LD (Zetlin & Turner, 1985).

However, families' understandings of their child's disability can also be created in opposition to views held by society (D. Skinner & Weisner, 2007). Attitudes towards people with disabilities held by the majority of mothers changed positively after becoming a parent of a child with a disability (S. E. Green, 2003). Parents rejected stigmatisation by insisting on the normalcy of their family (Maul &

Singer, 2009). To counteract stigma, some mothers found it important that their child looked the same as others, in terms of physical appearance and speech, because they had more faith in the possibility of change in their child than change in society (Landsman, 2005). Similarly, to help the child cope with stigma, some mothers chose to place their child in a mainstream school (S. E. Green, 2003). It seems that some parents actively change their views from disabling societal views to something that allows them to support their child more effectively. However, parental views of disability have not been directly compared to societal views. There is a gap in the literature regarding the extent that parents of children with an LD comply with or reject prevailing societal views and regarding what motivates parents to comply with or reject these views.

3.2 The Effect of Parent Beliefs and Child Characteristics on Parenting

In addition to parental expectations based on cultural demands, children bring characteristics into the interaction with their parents and so have an impact on their parents and the parent-child relationship. This notion was first proposed by Bell (1968), challenging models that only acknowledged the effect parents had on their children. Since then, others have also argued for the effect children have on their parents through the characteristics they bring into the interaction (Belsky, 1984; Noh, Dumas, Wolf, & Fisman, 1989; Sameroff & Fiese, 2000).

Sameroff and Fiese (2000) proposed a transactional model of child development in which child behaviour influences parent behaviour but parent behaviour is also influenced by the cognitions the parent holds on child development. Parent behaviour will in turn influence child behaviour and so on. The three components, child behaviour, parent cognitions and parent behaviour all influence

each other and change in one is likely to affect change in the other components. For example, parents have been found to adapt the type of control they applied to the child based on whether the child's behaviour was below or was exceeding the parent's expectations (Bell, 1968). Upper-limit control behaviour aims to reduce child behaviour that exceeds parental standards while lower-limit control behaviour aims to stimulate child behaviour which is lower than parental expectations. As behaviour displayed by children with an LD is different from TD children (see Section 2.1), and parents hold different expectations for their children with an LD (see Section 3.1), these parents could be using different strategies from TD parents.

3.2.1 Parenting strategies in parents of TD children. Four distinct parenting types exist based on two underlying dimensions of parental warmth and sensitivity and parental control (Baumrind, 1971; Hetherington & Parke, 2003). Authoritative parenting is characterised by high warmth and sensitivity and high control; parents are responsive to the child's needs and set reasonable limits. Authoritarian parenting is also characterised by high control, but in combination with low warmth and sensitivity. Parents who adopt this style tend to be unresponsive to the child's needs and to use directive and power-assertive methods of control. Permissive parenting then is the combination of high warmth and sensitivity and low control and these parents are inconsistent in their discipline and allow their children to freely express their impulses. Finally, neglectful parenting is characterised by both low warmth and sensitivity and low control. Parents adopting this style tend to be indifferent to their child's needs and focus on their own needs.

Parenting styles are related to child outcomes. Parenting that is high in responsiveness and relatively low in directiveness was found to be related to more

optimal development in TD children (Spiker, Boyce, & Boyce, 2002). Similarly, authoritative parenting was associated with the most positive outcomes for TD children (Deater-Deckard, 1998), that is, higher psychosocial competence and lower psychological and behavioural dysfunction (Lamborn, Mounts, Steinberg, & Dornbusch, 1991), higher social and scholastic competence and lower levels of externalising behaviour (Hetherington et al., 1992), better self-control (Reitman & Gross, 1997) and higher levels of planning-related initiatives (Gauvain & Huard, 1999).

3.2.2 Adaptation of parenting strategies based on characteristics of children with an LD. Children with an LD bring a range of characteristics into the interaction with their parents that are different from TD children. These are related to care demands and interactive behaviours. Due to these, parents of children with an LD are likely to experience more burden and stress and to adapt their parenting to their child's needs.

3.2.2.1 Care demands of children with an LD. Children with an LD are highly dependent on their parents for basic care needs, such as dressing and eating (Tadema & Vlaskamp, 2010), and significantly more dependent than TD children (Curran et al., 2001). Consequently, parenting a child with an LD can present additional time demands (Baker et al., 1997; Olsson & Hwang, 2003). A Mencap report (2001) found that 60% of parents of children with profound intellectual and multiple disabilities spend 18 hours on caring tasks and therapeutic and educational activities every day. For TD children, this time decreases as they grow older, but children with an LD require a great amount of support throughout their lifetime (Baker et al., 1997; Curran et al., 2001; Tadema & Vlaskamp, 2010). Due to these

time and care demands, many mothers of children with an LD disrupt their careers and do not return to work (Baker et al., 1997; Curran et al., 2001; Maul & Singer, 2009; Olsson & Hwang, 2003) and feel restricted in their daily activities (Noh et al., 1989).

Many children with an LD experience health problems such as reflux or organ disorders and the associated visits to doctors and hospital admissions increases the burden experienced by parents (Tadema & Vlaskamp, 2010). The demands of caregiving have been found to impact negatively on parents' emotional and physical health, resulting in the experience of stress, chronic fatigue and sleep deprivation (Murphy, Christian, Caplin, & Young, 2006). It is therefore not surprising that parents of children with an LD have reported lower levels of well-being than parents of TD children (Nachshen & Minnes, 2005). These factors likely have an effect on the parenting experience and parents of children with an LD have reported feeling a lower sense of competence in their parenting role (Noh et al., 1989) and viewed the child as having a higher negative impact on parenting than parents of TD children (Baker et al., 2003).

3.2.2.1.1 Stress. Behaviour problems of children with an LD are a source of stress for parents (see Section 2.4.3). In addition to this, parents of children with an LD experience stress due to not feeling in control over daily events, lack of time to complete daily tasks and the need to advocate for the child (Murphy et al., 2006). Parents of children with an LD also reported more stress than parents of TD children related to child characteristics of how acceptable the parent finds the child, the level of demandingness of the child, how much the child reinforces the parent and how the child adapts to the environment (Fuller & Rankin, 1994; Innocenti, Huh, & Boyce,

1992; Nachshen & Minnes, 2005; Noh et al., 1989). The amount of stress parents experience in relation to a child with an LD is also higher than the amount they experience in relation to a TD sibling and is likely to persist throughout childhood (Baxter, Cummins, & Polak, 1995).

Parent stress is also related to stigma (see also Section 3.1.2.1). Reactions from members of society towards the child have been found to cause stress in the parent, especially people ignoring the child, people giving the impression that they feel uncomfortable, people drawing attention of others to the child and people staring at the child (Baxter, 1989). Parents of children with an LD have scored high on stress related to the perceived acceptability of the child (Fuller & Rankin, 1994; Girolametto & Tannock, 1994). As discussed in Section 2.4.3, child behaviour problems predict parent stress, but over time, parent stress itself has been found to predict child behaviour problems and to have a negative impact on the parent-child relationship and on parenting (Baker et al., 2003; Deater-Deckard, 1998; Mitchell & Hauser-Cram, 2009; Richman, Belmont, Kim, Slavin, & Hayner, 2009).

The presence of difficult child behaviours or stigma however is not enough to predict parent stress. Parents' appraisal of the stressor and their coping mechanisms are more important predictors of stress than the objective presence of child difficulties (Deater-Deckard, 1998; Nachshen & Minnes, 2005; Perry, 2005; Plant & Sanders, 2007a; Saloviita, Italinna, & Leinonen, 2003). Because the child's disability cannot be changed, changing parent cognitions could be a better strategy to reduce parent stress (Saloviita et al., 2003). While difficult child behaviour is related to parent stress, the parents' interpretation of behaviour is more important for the stress reaction and consequent parenting. *3.2.2.2 Interactive characteristics of children with an LD.* Besides more practical demands of time and care giving impacting on parenting, a child also brings a range of social interactive skills and physical, mental and emotional characteristics into the interaction with the parent to which the parent responds (Zirpoli & Bell, 1987). A child's responsiveness is highly rewarding to parents and motivates parents to select a response in return. In children with disabilities however, this responsiveness can take a different form from that of TD children and parents might not recognise it as such (Zirpoli & Bell, 1987).

As well as responsiveness, the child's emotional expressiveness, joint attention and initiation of social interactions can be at a lower level in children with an LD than in TD children (Kim & Mahoney, 2004; Spiker et al., 2002) and social signals are harder to detect from children with developmental delays (Walden, 1996; Walden, Blackford, & Carpenter, 1997). The child's developmental delay as measured with the Bayley Scales of Infant Development has been found to predict subsequent negative parenting, that is, maternal negative affect and intrusiveness (Brown, McIntyre, Crnic, Baker, & Blacher, 2011) and the child with an LD brings in a range of behaviours, some of which might be adaptive, that are different from what parents would expect from a TD child (see Chapter 2). As the child's genotype cannot be changed, it is the parents' responsibility to adapt the caregiving environment so that it meets the child needs and that it optimises child development (Scarborough & Poon, 2004).

3.2.2.3 Adaptation of parenting strategies. Parents of children with an LD have been found to adapt to their child's general competencies by making changes to activities inside and outside the home (Keogh, Garnier, Bernheimer, & Gallimore,

2000). Mothers adapted their strategies according to the child's disability, the child's personality and the type of behaviour (Roskam & Schelstraete, 2007). Over a period of two years, mothers of children with developmental delays have been found to continually adjust their communication patterns to the child's level of development (Guralnick, Neville, Hammond, & Connor, 2008).

For children with an LD aged 27 months, a lower level of authoritative parenting has been observed than for TD children, but these parents did report the same amount of parenting efficacy (Rutgers et al., 2007). Parents of children with an LD have also been found to decrease their use of authoritative strategies as the child gets older, while authoritarian, permissive and neglectful strategies stayed the same (Woolfson & Grant, 2006). In contrast, TD parents increased their use of authoritative strategies as the child got older (Woolfson & Grant, 2006). For parents of children with an LD in particular, authoritative parenting with its high level of control could be challenging because they experience lower parenting competence and lower societal expectations for the child to achieve (Noh et al., 1989; Woolfson, 2004; Woolfson & Grant, 2006). Over time, taking on a less demanding parenting style may be adaptive to continue feeling competent as a parent (Woolfson & Grant, 2006).

While for TD children, high responsiveness and low directiveness are generally related to the most positive child outcomes, mothers of children with an LD have been found to be more directive, indeed even intrusive, when interacting with their children (Spiker et al., 2002). In unstructured play settings, mothers of children with an LD used more directives than mothers of TD children (Kim & Mahoney, 2004; Landry, Garner, Pirie, & Swank, 1994) and mothers of
developmentally delayed infants made more attempts to direct their child's play than mothers of TD infants (Lieberman, Padan-Belkin, & Harel, 1995). This higher level of directiveness was similarly reported by mothers of children with an LD during interviews (Roskam & Schelstraete, 2007). The interactive behaviour of mothers while playing with their child with an LD has also been found to be less responsive and to show less affect than that of mothers of TD children (Kim & Mahoney, 2004).

However, at the same time, the behaviour of children and infants with an LD and developmental delays in play situations has been found to be less compliant with maternal requests and less engaging in terms of the child's attention, persistence, cooperation and joint attention than the behaviour of TD children and infants (Kim & Mahoney, 2004; Landry et al., 1994; Lieberman et al., 1995). Therefore, while for TD children high directiveness has been identified as less supportive of child development, it could reflect a positive adaptation of the parent towards the child with an LD. Due to the child's lower levels of social interactive skills, they may need more control from the parent and therefore a higher level of directiveness could be helpful (Roskam & Schelstraete, 2007).

Indeed, parents were found to be more directive with children who were younger, had lower developmental levels, were more passive and were more noncompliant (Spiker et al., 2002). In addition, an increase in directives in a play situation was found to be related to lower expressive language skills in the child and might well serve to give the child the amount of structure it needs (Landry et al., 1994). Mothers have expressed that they find coerciveness the most appropriate strategy for their child with an LD (Roskam & Schelstraete, 2007). Taken together, to maintain the child's participation in interactions, parents of children with an LD

adapt their strategies from what they would use with a TD child, not only to the child's level of competence but also to their expectations for the child and their views on how much they can do as a parent. Consequently, the strategies these parents use might look different from parents of TD children, but this reflects an adaptation towards the child's interactive skills (Marfo et al., 1998) and the parent's beliefs (Woolfson, 2004).

3.3 The Effect of Parenting on Behaviour of Children with an LD

As in TD children, parent behaviour affects the development and behaviour of children with an LD. A number of studies have assessed the relationship between positive parenting and developmental outcomes of children with an LD. Motherchild interactions that are sensitive to the child's cues, that respond to child distress and that foster growth in the child along with family cohesion predicted growth in communication, daily living and social skills in children with Down syndrome (Hauser-Cram et al., 1999). Parent-child interaction was related to the child's development as measured with the Bayley Scales of Infant Development (BSID) (Mahoney, Wheeden, & Perales, 2004). This relationship was positive for the parent's responsiveness and negative for affect. A meta-analysis carried out over 14 studies assessing the association between parenting and outcomes in children with developmental disabilities found an overall beneficial effect of positive parenting on child outcomes (Dyches, Smith, Korth, Roper, & Mandleco, 2012). Positive parenting was defined as consisting of features of authoritative parenting and as accepting, warm, involved, sensitive, responsive, caring, empathetic, socialemotional, cognitive growth fostering and directive. The average effect size was r =

.22, which indicated a moderate association between positive parenting and child outcomes.

Negative parenting has been found to be related to behaviour problems in children with an LD. In a sample consisting of both children with an LD and TD children, negative parenting when the child was four years old was related to child demandingness a year later (Brown et al., 2011). Negative parenting consisted of maternal intrusiveness and negative affect measured through home observations of family interactions and child demandingness was measured through observation and items from the CBCL. Paczkowski and Baker (2007) found that non-supportive parenting, in terms of minimisation reactions, punitive reactions, and distress reactions towards child distress and negative affect, has an even greater effect on delayed children than on TD children. When mothers were low in non-supportive parenting, there was no difference in behaviour problems between the delayed and the TD group. However, when mothers reported high or medium levels of nonsupportive parenting, children with delays had more behaviour problems than TD children. Parenting behaviours may have a greater impact on children with developmental delays than on TD children (Paczkowski & Baker, 2007).

In addition to this, many parents of children with an LD found it difficult to set rules for their child and to follow through on them, some of the possible reasons being that they felt guilty or sympathetic towards the child, that they had very low expectations or that they wanted to avoid making a scene (Baker et al., 1997). Parents of children with an LD have been identified as at risk for attention-driven coercive processes that keep problematic child behaviours in place, especially in home routines where parents have many responsibilities and are distracted so cannot

always be consistently responsive to the child (Lucyshyn et al., 2004; Passey & Feldman, 2004). These processes are kept in place by both the parent and the child when the parent requests something from the child, and the child responds by engaging in problematic behaviour. Consequently, the parent removes or reduces the request, reinforcing the child, and the child reduces the problematic behaviour, reinforcing the parent (Lucyshyn et al., 2004). One study found that inappropriate child behaviour among children with an LD was especially prevalent when the parent was distracted (Passey & Feldman, 2004). In addition, 77% of this inappropriate behaviour was followed by attention from the parent or the child obtaining an item, therefore reinforcing the inappropriate behaviour. This may increase the risk of these children developing behaviour problems, especially if they are predisposed towards problematic behaviour as was also explored in Chapter 2 (Passey & Feldman, 2004).

LD. Two well-known intervention programmes for problematic child behaviour have been adapted for use with parents of children with an LD. These are the Triple P Positive Parenting Program and the Incredible Years Parent Training (IYPT). The original Triple P combines behavioural family intervention (BFI) with parent management training (Roberts, Mazzucchelli, Studman, & Sanders, 2006). BFI teaches parents to respond contingently towards their child and to plan activities in order to minimise opportunities for problematic child behaviour. The adaptations that were made for Stepping Stones Triple P (SSTP) included coverage of issues relevant to parents of children with an LD (such as increased care giving and inclusion), including additional causal factors for behaviour problems (such as automatic reinforcement) and including strategies for problems associated with an LD such as

3.3.1 Interventions for parent and child behaviour in children with an

self-injurious behaviour (Roberts et al., 2006). SSTP consists of ten individual sessions covering causes of child behaviour problems, 14 strategies for encouraging child development and 11 strategies for managing misbehaviour.

Child behaviour and parent behaviour through both parental report and observations have been found to improve after SSTP and these improvements were maintained at follow up at six or 12 months (Plant & Sanders, 2007b; Roberts et al., 2006; Whittingham, Sofronoff, Sheffield, & Sanders, 2009b). A shorter form of SSTP in which two ninety minute seminars on managing misbehaviour and encouraging child development were delivered to parents also resulted in improvements in child and parent behaviour measured through parent report. These studies included sample sizes ranging from 44 to 74 families per study, including a wait-list control group. However, it remains unclear what the active components of the intervention are (Roberts et al., 2006) and how it impacts on parents' views on their child's behaviour.

IYPT is group-based and involves videotape modelling, role-playing, rehearsing and weekly homework activities. McIntyre (2008a, 2008b) used it among parents of children with an LD. The training was slightly modified by helping parents consider the child's developmental level and by identifying antecedents and consequences of problem behaviour in order to anticipate and avoid it. Parents rated all aspects of the sessions helpful, were satisfied with the programme and the attendance rate was high, indicating that the modifications made were appropriate. After the training, parent report of child behaviour did not improve but observations of maladaptive behaviour decreased and parents' perceived positive impact of the child increased. Additionally, mothers used more appropriate play, commands and

praise, followed through more often and were less intrusive on the child's independence. These changes were not observed for a control group. So with some adaptations, this intervention also seems successful in improving both parent and child behaviour. However, parents' views on their child's behaviour were not included or measured as an outcome.

These interventions focussing on improving parent behaviour also improved child behaviour, as would be expected by Sameroff and Fiese's transactional model of child development (2000). The interventions discussed here were only minimally adapted for use with parents of children with an LD suggesting that the same strategies are applicable and able to improve child behaviour in both groups. However, parent cognitions were neither the focus of the intervention nor were they measured, so it remains unclear if and how these might have been changed as a result of the treatment. Only one of the interventions included a component on causes of problematic child behaviour, but it is not known what the active component is.

Change in parent cognitions as a result of an intervention was measured by Woolfson (1999) in mothers of children who also had motor impairments in addition to an LD. Sameroff and Fiese's model (2000) was implemented to evaluate the intervention. The intervention consisted of parent-child groups and a pre-school group attended by children only and aimed to promote child development (remediation) and parental skills (re-education). Remediation occurred with children showing an increase in skills and mothers rating their child's progress as high. Reeducation also occurred with mothers reporting useful learning in a range of skills which was confirmed by staff. Although change in parent cognitions was not an explicit goal of the intervention, changes in mothers' perceptions and expectations

for the child did occur. While mothers felt unsure before about how to handle crying and tantrums because they had seen it as part of the child's condition and felt that normal care giving rules did not apply, post-intervention mothers described how they had stopped treating their child as different and treated them more as other children. Also, mothers had improved feelings of confidence and altered expectations for their child's behaviour and learning.

3.4 Summary

Negative societal views on disability persist and these place parents of children with an LD at risk for similar negative views and consequently less effective strategies, as parents' interpretations of their child's behaviour have an important influence on parenting. There is a gap in the literature however considering how the views of parents of children with an LD compare to prevailing societal views. The characteristics of children with an LD and stigma are a source of stress for parents which could affect parenting, but again it is the parents' interpretation of these that affects the stress reaction. Parent cognitions of child behaviour therefore play an important part in parenting, although they have not typically been the focus of interventions. The next chapter will examine parent cognitions and their effect on parenting strategies in more detail by using an attributional framework.

Chapter 4 – Causal Attributions

This chapter argues that causal attributions of locus, stability and control in parents of children with an LD are important factors in relation to parenting strategies and child behaviour problems. As prior research into control seldom distinguished causal attributions from judgments of intent, responsibility and blame, this chapter examines these constructs separately. It shows that while there is evidence that such attributions are associated with parenting strategies and child behaviour problems of TD children and children with ADHD, there is a lack of research in this on parenting children with an LD. The final section of the chapter focuses on parents' attributions of their own control and responsibility for child behaviour and shows that these are associated with parent and child behaviour in opposite directions, but that again there is limited research on parents of children with an LD. The chapter identifies gaps in the literature on causal attributions in parents of children with an LD and how these relate to parent and child behaviour.

4.1 Classic Causal Attributions in Parents for Child Behaviour

4.1.1 Classic attributional theory. Attributional theory focuses on how people think about causes of behaviour and how this relates to their reactions towards this behaviour (Heider, 1944). Weiner developed the theory by formulating and testing three dimensions to which causes for behaviour can be ascribed, namely locus, stability and control, and by explaining how these attributions cause emotions and behaviours in response to the perceived behaviour (Weiner, 1979, 1980, 1985).

First of all, the locus of a cause for behaviour can be seen as either internal or external to the person performing the behaviour (Weiner, 1979). When the cause of negative behaviour is attributed as internal to the person, they will generally be

negatively perceived because the cause of the behaviour is seen as due to their own weakness. On the other hand, when negative behaviour is attributed to external factors, the person can still be perceived in a positive manner (Heider, 1944). The second dimension identified by Weiner (1979) is stability. Behaviour can be seen as caused by stable factors, such as personality or temperament, or unstable factors, such as mood. The consequence of attributions to stable or unstable factors is feeling respectively hopeless or hopeful about the possibility of change in the person's behaviour (Weiner, 1985). Finally, causes of behaviour can be seen as controllable or uncontrollable by the person. When a person's negative behaviour is seen as under their own control, for example when outcomes are due to lack of effort, people are likely to become angry and to impose punishment. By contrast, when the cause of behaviour is seen as not under the control of the person, for example where outcomes are due to lack of ability, they are more inclined to feel pity or sympathy and to offer help instead of punishment (Weiner, 1985).

4.1.2 Applying classic attributional theory to parent cognitions on child behaviour. Parents' beliefs for the causes of their child's behaviour can then be described according to attributional theory. Parents may think about their child's misbehaviour in terms of whether it is caused by something internal or external to the child (e.g. temperament versus parent behaviour), by something stable or unstable (e.g. personality versus mood) and whether the child has control or no control over the cause (e.g. effort versus ability).

According to attributional theory, viewing negative behaviour as caused by external, unstable and uncontrollable factors protects self-esteem and allows parents to pardon their child's behaviour (Heider, 1958; Peters, Calam, & Harrington, 2005).

For example, a parent who views their child breaking something as caused by an accident, that is, an external, unstable and uncontrollable attribution, is more likely to tolerate the behaviour and less likely to get angry than another parent who sees this as a characteristic and deliberate act on the part of the child, that is, an internal, stable and controllable attribution. Most parents carry a positive perceptual bias in which positive child behaviour is attributed to internal, stable, and controllable causes and negative child behaviour is attributed to external, unstable, and uncontrollable causes (Cote & Azar, 1997; Dix, Ruble, Grusec, & Nixon, 1986; Freeman, Johnston, & Barth, 1997; Gretarsson & Gelfand, 1988; Mills & Rubin, 1990; Saltmarsh, McDougall, & Downey, 2005; Sobol, Ashbourne, Earn, & Cunningham, 1989). This positive perceptual bias enables parents to "act as consistent, effective, and optimistic caretakers" (Gretarsson & Gelfand, 1988, p. 268). Those parents who hold a positive perceptual bias are more likely to provide a high quality child-rearing environment than those who view their children's behaviour negatively (Daggett, O'Brien, Zanolli, & Peyton, 2000).

Whether this positive perceptual bias also applies to parents of children with an LD is unclear as only eight studies in this area among this group have been carried out (see Section 4.1.5 for details of search strategy). Although there is a lack of research on attributions in parents of children with an LD, research on parents of children with ADHD in particular may provide useful background. Parents of children with ADHD attributed the causes of their child's behaviour as less under their child's control, viewed it as less intentional and felt more frustrated than parents of TD children (Saltmarsh et al., 2005). This suggests that parents of children with ADHD might view their child's negative behaviour as an unavoidable part of the

disorder, rather than as a deliberate act (Saltmarsh et al., 2005). An important issue therefore is that parents of children with ADHD and parents of children with an LD have an additional and salient cause to attribute difficult behaviour to, namely the child's condition, ADHD or LD respectively. The following two sections will explore this further, first by clarifying how each of the causal attributions are related to parenting strategies and child behaviour and, second, how they differ between parents of TD children and parents of children with ADHD. The implications for research on attributions in parents of children with an LD are then discussed.

4.1.3 The relationship between causal attributions, parent behaviour and child behaviour.

4.1.3.1 The relationship between locus and parent and child behaviour. Attributions for locus have been found to be related to parents' reactions towards their child's behaviour. Parents who attributed negative child behaviour to causes internal to the child found it more important to respond than parents who attributed negative child behaviour to causes external to the child (Dix et al., 1986). Parents of both TD children and children with ADHD felt more negative affect in terms of being upset when attributing negative child behaviour to causes internal rather than external to the child (Chen, Seipp, & Johnston, 2008; Dix et al., 1986; Johnston & Leung, 2001; Johnston & Patenaude, 1994; A. M. Smith & O'Leary, 1995). Additionally, attributions for the cause of negative child behaviour that were internal to the child, were related to the use of more negative parenting strategies, the use of mostly reactive, as opposed to proactive, strategies and less sensitive responsiveness and more over-reactive parenting (Johnston, Hommersen, & Seipp, 2009; Wilson, Gardner, Burton, & Leung, 2006a). The relationship between attributions of locus and child behaviour problems has been studied over time. Wilson, Gardner, Burton and Leung (2006b) found that child behaviour problems at age three predicted parental attributions for child behaviour problems that were internal to the child at age four. However, these attributions at age three did not predict behaviour problems at age four. Similarly, Hastings and Rubin (1999) found that observed aggressive child behaviour at age two was related to internal causal attributions for aggression two years later for high authoritarian mothers, however, these researchers did not asses the relationship in the other direction. Finally, Johnston et al. (2009) found that both child oppositional behaviour at age eight and parents' internal attributions for this behaviour were predictors for child oppositional behaviour at age nine. Accordingly, while problematic child behaviour predicts parents' attributions of locus at a younger age, these attributions also play a part in maintaining the behaviour when children are older.

4.1.3.2 The relationship between stability and parent and child behaviour. For stability, relationships between parents' attributions and their reaction to child behaviour have also been found. Baden and Howe (1992) found that parents of TD children and parents of children with conduct disorder who attributed misbehaviour to causes that were unstable, had higher expectations for the effectiveness of behaviour management strategies such as withdrawing rewards and punishment. Accordingly, parents who have higher expectations for these strategies to work, would use them more and consequently could prevent the development or maintenance of behaviour problems. As to the use of specific parenting strategies, more stable attributions for negative behaviour were found to be related to less responsive and more overreactive parenting by Johnston et al. (2009) and to the use of mainly reactive strategies, as opposed to proactive strategies, by Wilson et al. (2006a).

In addition, where parents of children with ADHD rated the cause for positive behaviour as more stable, they reacted more positively towards this behaviour (Johnston & Leung, 2001). On the other hand, when negative behaviour was seen as more stable, they reacted emotionally more negatively towards this behaviour, that is to say, they felt more upset (Chen et al., 2008; Johnston & Leung, 2001). However, several authors have reported finding no relationships between attributions of stability and parent reactions towards behaviour in families of children with ADHD (Freeman et al., 1997; Johnston & Patenaude, 1994) and also in families of children with behaviour problems (Peters et al., 2005). In the ADHD samples this might be explained by sample size as fewer participants were involved in these studies. As for Peters et al.'s (2005) study, the outcome variable was treatment attendance, which was not comparable to parents' emotional reactions used as the outcome variables in the ADHD populations. Overall, parents who attribute their child's negative behaviour to stable causes are more likely to react with negative emotions.

Findings on relationships between stability attributions and child behaviour over time are mixed. For high authoritarian mothers only, a positive relationship was found between aggressive behaviour of their TD two-year old toddlers and attributions for stability for the cause of both withdrawal and aggressive behaviour two years later (Hastings & Rubin, 1999). Johnston et al. (2009) found a relationship in the opposite direction, namely parents' stable attributions for oppositional-defiant behaviour in 8 year old TD children and children with ADHD were predictive of

oppositional behaviour one year later. Finally, no relationship over time between mothers' attributions of stability and child conduct problems was found by Wilson et al. (2006b). As for locus in Section 4.1.3.1, problematic child behaviour predicts parents' stable attributions at a young age, but these attributions also predict problematic behaviour when children are older.

4.1.3.3 The relationship between child control and parent and child

behaviour. In both TD children and children with ADHD it has been reported that parents who viewed their child as more in control of negative behaviour, experienced more negative affect in terms of sadness, anger and feeling upset (Bugental, Blue, & Lewis, 1990; Dix et al., 1986; Johnston & Patenaude, 1994) and also found it more important to respond to their child's misbehaviour (Dix et al., 1986).

In terms of relationships between parents' attributions of control and child behaviour problems, none of the three longitudinal studies discussed in the previous two sections reported results for this. Two of the studies did not include attributions of control in their measurements (Hastings & Rubin, 1999; Wilson et al., 2006b). Johnston et al. (2009), however, did measure attributions of control, but instead of assessing results for each of the attributions separately, created a summary score. The control attribution was found to decrease the internal consistency of this composite measure and was therefore excluded from the analyses.

4.1.4 Differences between parents of TD children and parents of children with ADHD in causal attributions.

4.1.4.1 Comparing attributions of locus in parents of TD children and parents of children with ADHD. In accordance with the positive perceptual bias, as discussed in Section 4.1.2, parents of TD children have generally been found to

attribute their child's positive behaviour to causes internal to the child and negative behaviour to external causes (Cote & Azar, 1997; Dix et al., 1986; Gretarsson & Gelfand, 1988; Mills & Rubin, 1990). Weiner (1985) has related attributions of locus to feelings of pride and self-esteem "*pride and positive self-esteem are experienced as a consequence of attributing a positive outcome to the self and that negative selfesteem is experienced when a negative outcome is ascribed to the self*" (Weiner, 1985, p. 561). Parents of TD children therefore generally feel proud of their children and avoid negative perceptions of their child.

However, in comparison to parents of TD children, parents of children with ADHD view their child's problematic inattentive-overactive (IO) and oppositional defiant (OD) behaviours as caused by factors more internal to the child and indeed perceived prosocial behaviours as caused by more external factors (Johnston & Freeman, 1997; Johnston et al., 2009). An explanation for differences between parents of TD children and parents of children with ADHD is, as suggested in Section 4.1.2, that these latter parents see their child's IO and OD behaviours as caused by the ADHD, which is a factor internal to the child. Interestingly, when a child with ADHD is on medication, parents' attributions for locus become more similar to those for TD children's behaviour, i.e. ADHD behaviour is viewed as more externally caused than when the child receives no treatment and parents react less negatively (Johnston et al., 2000; Johnston & Leung, 2001).

4.1.4.2 Comparing attributions of stability in parents of TD children and parents of children with ADHD. Consistent with a positive perceptual bias, parents of TD children attributed children's positive characteristics to stable causes and negative characteristics to unstable causes (Cote & Azar, 1997; Dix et al., 1986;

Gretarsson & Gelfand, 1988; Mills & Rubin, 1990). Weiner (1985) proposed that attributions of stability are related to expectations. Combined with the positive perceptual bias then, this implies that parents generally expect their child's positive behaviour to occur again in the future. Alongside this, they are hopeful that their child's negative behaviour will not occur again in the future.

Studies comparing attributions for stability indicate that parents of children with ADHD perceive their child less positively than parents of TD children perceive their child. Positive qualities and prosocial behaviour were attributed to less stable causes by parents of children with ADHD than parents of TD children and IO and OD behaviour and misbehaviour were attributed to more stable causes by parents of children with ADHD than parents of TD children (Collett & Gimpel, 2004; Johnston & Freeman, 1997). In addition, Sobol et al. (1989) found that mothers of children with ADHD viewed the cause of both compliant and noncompliant behaviour as less stable than mothers of TD children, and within a group of parents of children with ADHD Saltmarsh et al. (2005) found that parents indicated it to be more likely that their children would act as described in a negative than in a positive scenario.

As for locus, parents might then see negative behaviour as more stable in children with ADHD, because they see it as caused by the stable disorder. Johnston and Leung (2001) and Johnston et al. (2000) found that when children with ADHD received treatment, compliance was seen as more stable than when children received no treatment at all. In addition, ADHD behaviour and noncompliance were seen as less stable than when children received no treatment at all and parents reacted less negatively. How parents think about the cause of the child's behaviour then could be closely linked to the child's condition or disorder.

4.1.4.3 Comparing attributions of child control in parents of TD children and parents of children with ADHD. For causal attributions of control, the positive perceptual bias holds that parents will generally see their child as having no control over misbehaviour and consequently feel pity or sympathy and offer help towards the child instead of feeling angry and punishing the child (Weiner, 1985). Parents were found to see positive behaviour as more under the child's control than negative behaviour in Dix et al.'s (1986) study. However, differences exist between parents of children with ADHD and parents of TD children as to how they perceive their children's control of behaviour. Children with ADHD were seen as less in control of IO and OD behaviours and negative behaviour by their parents than children without ADHD (Johnston & Freeman, 1997; Saltmarsh et al., 2005). In addition, the more severe the child's ADHD behaviour is, the less parents saw the child as in control of that behaviour (Harrison & Sofronoff, 2002). Conversely, Collett and Gimpel (2004) found no differences in attributions of control between parents of children with ADHD and parents of TD children while using similar measures, age groups and numbers of participants. An explanation for this discrepancy could be that, while half of the children with ADHD in Collett and Gimpel's (2004) study were on medication, no instructions were given to mothers to consider the child's behaviour while not taking any medication, as in Johnston and Freeman's (1997) study.

Both IO and OD behaviours are common in ADHD, but while IO behaviours are the core symptoms of ADHD, just 70% of children with ADHD display comorbid OD behaviour (Freeman et al., 1997). In relation to this, it has been found that parents of children with ADHD viewed IO behaviour, the symptoms of the disorder, as less under the child's control than OD behaviour (Freeman et al., 1997;

Johnston & Patenaude, 1994). It seems that behaviours that are seen as symptoms of a disorder are also seen as uncontrollable. However, when children with ADHD received medication, parents perceived their children as having more control over ADHD behaviours and noncompliance (Johnston et al., 2000; Johnston & Leung, 2001), similar to locus and stability (see Sections 4.1.4.1 and 4.1.4.2). This again suggests that the disorder, ADHD, is seen as the uncontrollable cause of IO behaviour when medication to control the disorder is not present.

From findings reported in Section 4.1.3.3, one would expect that these enhanced attributions of child control would be related to more negative parental emotional reactions. However, Johnston and Leung (2001) and Johnston et al. (2000) found that this increased attribution of control coincided with less negative emotional reactions. This could indicate that among the positive effects of more external and less stable attributions, an attribution of more control does not affect parent reactions strongly enough, or that an enhanced attribution of control has a different meaning to parents in these circumstances (Johnston et al., 2000; Johnston & Leung, 2001). In children with ADHD who are seen as having lower levels of control than TD children, an increase from this low level could indicate that parents see the potential for their child to change their behaviour and therefore an increase in their child's control over negative behaviour would not also increase negative parental reactions.

4.1.5 Causal attributions in parents of children with an LD. Parents' causal attributions for the challenging behaviour of children with an LD might follow a similar pattern to the causal attributions found in parents of children with ADHD, that is, the internal, stable and uncontrollable disorder might be seen as the cause for challenging behaviour. Parents of children with an LD would therefore hold causal

attributions for their child's difficult behaviour that are more internal to the child, more stable and less controllable by the child in comparison to parents of TD children and they would not hold or hold a less strong positive perceptual bias. The relationships for attributions of locus and of stability with parent behaviour are likely to be similar for parents of children with an LD and parents of TD children, as was seen with parents of children with ADHD. Holding causal attributions that are more internal and more stable were found to be related to less effective parenting strategies. For child control however, some uncertainties have been raised about the relationship between attributions of control and parent reactions (see Section 4.1.4.3). While attributing less control to the child for misbehaviour would be related to less negative emotional reactions, attributing more control to the child does not necessarily lead to more negative emotions in parents of children with ADHD. Corresponding to attributions of an internal locus and higher stability, parents of children with an LD could be at risk for experiencing negative emotions and using less effective parenting strategies in response to their children's difficult behaviour. As discussed in Section 3.3, ineffective strategies are related to and could be maintaining factors for child behaviour problems (Rothbaum & Weisz, 1994).

To identify studies on causal attributions in parents of children with an LD, the following search terms were used in PsychInfo, Web of Science, Ebsco Host, Embase, Medline, Education Literature Databases and Pubmed for all years: (attribution OR parent(al) cognition) AND (cognitive impairment OR developmental disability OR learning disability OR mental retardation OR intellectual disability OR learning difficulty OR special educational needs). Cited reference searches were carried out in Web of Science on selected papers and their reference lists were

examined to identify additional studies. This resulted in eight studies that addressed causal attributions in parents of children with an LD. They are displayed in Table 4.1 and discussed in the following sections. Overall, the studies show that cognitions of parents of children with an LD on causes of their child's behaviour fit into an attributional framework. Similarly to parents of TD children, in this group there are associations between parents' causal attributions, parent behaviour and child behaviour. However, further research is needed to assess all three attributions of locus, stability and control and to relate these to both parent behaviour and child behaviour in families of children with an LD. The following four sections will discuss this.

4.1.5.1 The impact of the child's LD on parents' causal attributions. In an interview study by Drysdale, Jahoda and Campbell (2009), mothers of children with an LD attributed their child's self-injurious behaviour to causes internal to themselves, internal to the child, or to external causes such as certain uncomfortable circumstances inducing the self-injurious behaviour (noises or moving locations). In addition, most mothers saw self-injurious behaviour as stable over time while some saw it as unstable and unpredictable. In terms of controllability, many mothers experienced self-injurious behaviour as being under the control of their child, although many also felt that they themselves were responsible for controlling and intervening (Drysdale et al., 2009). This shows that mothers of children with an LD hold cognitions on their child's misbehaviour that fit into an attributional framework and that they can hold a number of attributions for behaviour at the same time.

Table 4.1

Study	Sample	Measures	Results	Conclusions
Armstrong	56 mothers of	Locus of control, stability, globality,	Mothers rated all behaviour as more stable	Aggressive acts directed at the mother
and Dagnan	children with	controllability, child responsibility,	when they rated their children as more disabled	are perceived differently from
(2011)	an LD aged 3 to	parental emotional and behaviour	and more challenging. Control, responsibility,	stereotypy and self-injury, where
	18 years	response for three scenarios for	anger were greater for aggression than	children are viewed as having greater
		aggression, self-injury and	stereotypy, $\eta^2 = .06, .06, .11$ resp.) A	control and responsibility and
		stereotypy. Parents rated perception	relationship between responsibility and	consequently mothers experience
		of their child's disability and challenging behaviour.	likelihood to punish, mediated by anger was found.	more anger, which leads to a greater likelihood of punishment.
Chavira,	149 Latin-	Child responsibility for behaviour	Mothers mostly did not perceive their child as	Attributions predict mothers
Lopez,	American	deficits and excesses. Parents'	responsible. More responsibility for	emotional and behavioural reactions.
Blacher and	mothers with a	emotional and behavioural reactions	behavioural excesses than deficits.	However, this was a very specific
Shapiro	child with an	to child behaviour. Severity of child	Responsibility attributions correlated positively	sample and only results for an overall
(2000)	LD aged 3 to 19 years	disability (Vineland).	with negative emotional reactions and mothers' aggressive behaviour. Logistic regression:	responsibility attribution were reported.
			attributions remain significant predictors of emotions and parent behaviour after	
			controlling for child factors.	
Drysdale et al. (2009)	13 mothers of children with	Semi-structured interviews on perceived causes of SIB, responses	Mothers attributed their child's SIB to causes internal to themselves, internal to the child, or	Mothers had no difficulty in spontaneously generating attributions
	an LD and self-	to SIB, and self-efficacy and stress.	to external causes. Most mothers saw SIB as	and demonstrated holding a wide
	injury (SIB)	Discourse relating to locus of cause,	stable over time while some saw it as unstable	range of attributions for their child's
	aged 12 to 36	stability and controllability was	and unpredictable. Many mothers experienced	SIB.
	years	extracted.	SIB as being under the control of their child, although many also felt that they themselves	
			were responsible for controlling it.	
			-	

Studies on Causal Attributions in Parents of Children with an LD.

(continued)

Study	Sample	Measures	Results	Conclusions
Keenan, Wild,	58 parents	Consequences, timeline,	Sleep problems were mostly viewed as	Parents seeing sleep problems as
McArthur and	of a child	cure/controllability, internal causes	chronic, to have severe consequences, to	externally rather than internally caused
Espie (2007)	with an	(child) and external causes (e.g. parent or	be potentially curable/controllable and to	could be more motivated to tackle these
	LD,	environment) for the child's sleep	be caused by internal health/medical	problems. However, the cause to which
	median	problems (Illness Perception	factors. When attributing the problem to	sleep problems were attributed most offe
	age 6	Questionnaire). Treatment acceptability	external causes, pharmacological	was internal, namely 'my child's main
	years	for parent skills training and education, and drug treatment (Treatment	intervention was rated as less acceptable and behavioural intervention as more	medical problem/disability', indicating that it can be difficult for parents to see
		Acceptability Scale). Severity of sleep	acceptable. When attributing the problem	potential for change.
		problems (Sleep Questionnaire and	to internal causes, behaviour treatment	
		Composite Sleep Index).	was rated as less acceptable.	
Whittingham,	59	Attributions for both parent and child	Child-related causes for good and ASD	Positive perceptual bias from child
Sofronoff,	families of	locus, stability and control for three	behaviour rated more stable than for bad	perspective, but lack of a TD compariso
Sheffield and	children	scenarios involving bad/naughty, good	behaviour. Good behaviour more	group complicates the interpretation.
Sanders (2008)	with ASD	and ASD-related behaviour (Parental	controllable by the child than bad and	Parents generalised attributions from
	aged 2 to	Attribution Questionnaire). Parental	ASD behaviour, and bad behaviour more	ASD behaviour to misbehaviour: this
	9 years	autistic traits (Autistic-Spectrum Quotient).	controllable than ASD behaviour.	indicates a misattribution of child behaviour to ASD.
Whittingham,	59	Attributions for both parent and child	Following treatment, parents were less	Stepping Stones Triple P reduced paren
Sofronoff,	families of	locus, stability and control for three	likely to believe their child's bad	internal child attributions for bad
Sheffield and	children	scenarios involving bad/naughty, good	behaviour was caused by internal child	behaviour and stable attributions for AS
Sanders (2009a)	with ASD	and ASD-related behaviour (Parental	factors and that their child's ASD	behaviour, allowing them to view the
	aged 2 to	Attribution Questionnaire).	behaviour was caused by stable child	child more positive and ASD as
	9 years	Dysfunctional parenting: laxness, over-	factors. Change in child behaviour after	changeable. Factors increasing the chan
		reactivity and verbosity (Parenting	treatment was not predicted by	of parents improving their strategies
		Scale). Child behaviour problems	attributions. Child-referent attributions	through the intervention were holding
		(Eyberg Child Behaviour Inventory).	predicted decreases in parental over-	internal and controllable child attributio
			reactivity (external attributions for bad	for misbehaviour before treatment,
			behaviour, stable for good behaviour, and	holding unstable attributions for the
			controllability for ASD behaviour). Child-	child's good behaviour and holding
			referent attributions predicted decreases in	controllable child attributions for ASD

parental verbosity (low control attributions for bad behaviour).

(continued)

behaviour, possibly because these parents had most to gain from the intervention.

Study	Sample	Measures	Results	Conclusions
Whittingham,	42 parents of	Attributions for locus, stability, control	Usability of strategies was significantly	Parents who view child behaviour as less
Sofronoff and	children with	and parent's own perceived control	predicted by perceived control (pos),	stable (and possibly experience less
Sheffield (2006)	ASD aged 3	(Attribution and Control	stability (neg) and child controllability	learned helplessness), less under the
	to 13 years	Questionnaire). Acceptability, usability and behavioural intention for the use of strategies taught in Triple P (Parenting Strategies Questionnaire).	(neg) (R=.53)	child control (as in Weiner's theory, low control related to help giving) and more under their own control, could be more motivated to tackle their child's behaviour problems.
Woolfson, Taylor and Mooney (2011)	20 mothers of children with an LD and 26 of TD children aged 6-12	Attributions for adult controllability uncontrollability, and child controllability and uncontrollability (Adapted Parental Attribution Test). Child behavioural outcomes (CBCL).	Within the group attributing high control towards the child, no difference in behaviour problems was observed between the LD and TD groups. Within the group of parents attributing low control towards child, parents in the LD group reported more behaviour problems than the TD group.	High adult and child controllability particularly benefits parents of children with an LD as these parents report an equally low level of behaviour problems as parents of TD children.

Note: LD = learning disability; ASD = autism spectrum disorder; TD = typically developing

There are also indications that parents of children with an LD hold a positive perceptual bias for their child's misbehaviour. Chavira et al. (2000) employed an overall responsibility scale based on items measuring mothers' attributions for their child's responsibility, intentionality and controllability over behaviour. On the whole, these mothers did not perceive their children as responsible for problematic behaviour. In addition, Whittingham et al. (2008) found that parental attributions for good behaviour were more stable than for bad behaviour and that good behaviour was viewed as more controllable by the child than bad behaviour.

However, other studies pointed out that the child's LD also has an impact on the attributions held by parents. Armstrong and Dagnan (2011) found that mothers who rated their children as more disabled, viewed their child's difficult behaviour as more stable. For sleep problems in particular, Keenan et al. (2007) found that the cause to which parents attributed these most often was 'my child's main medical problem/disability'. This could be related to the type of behaviour, as behaviour typical for children with autistic spectrum disorders was viewed more stable and less controllable by the child than general bad behaviour by mothers of children with autistic spectrum disorders in a study by Whittingham et al. (2008). In addition, stereotypical behaviour and behaviour deficits were viewed as less controllable by the child and the child was held less responsible for it than for aggression and behaviour excesses (Armstrong & Dagnan, 2011; Chavira et al., 2000). This could be similar to parents of children with ADHD who see certain misbehaviours as unavoidable parts of the disorder (Saltmarsh et al., 2005) (see Section 4.1.2).

Overall, cognitions relating to the causes of child behaviour problems in parents of children with an LD are similar to those of parents of TD children in that

they fit in an attributional framework and that they seem to hold a positive perceptual bias. Conversely, these cognitions are also similar to parents of children with ADHD in that the child's disorder is a salient cause to which behaviour is attributed and which affects the attributions, making them less likely to resemble a positive perceptual bias. Because no direct comparison of the attributions of parents of children with an LD and parents of TD children has been made, it is not possible to draw a conclusion on the strength of the positive perceptual bias in parents of children with an LD or on the impact the child's LD might have on the positive perceptual bias.

4.1.5.2 The relationship between causal attributions and parent behaviour in parents of children with an LD. Two studies have assessed the relationship between parents' attributions and their motivation for learning and using new parenting strategies. Keenan et al. (2007) found that parents who attributed their child's sleep problems to external causes, e.g. family problems, more often believed that these sleep problems could be controllable and rated behavioural interventions as more acceptable than parents who attributed the problem to internal causes, such as the child's disability or temperament. Whittingham et al. (2006) assessed parents' views on the usability of strategies offered in the Stepping Stones Triple P programme and found that parents who viewed their child's behaviour as caused by factors that were less stable and less controllable by the child rated the usability as higher. In another study, these latter authors found that those parents who benefitted most from the Stepping Stones Triple P programme in terms of their improvement in the use of strategies, were not those parents holding a positive perceptual bias, but in contrast, were those parents who held internal and controllable attributions for bad

behaviour, unstable attributions for good behaviour and uncontrollable behaviour for ASD behaviour, possibly because these parents had most to gain from the programme (Whittingham et al., 2009a).

In addition, while no relationships were found between the classic attributions of locus, stability, and child control and parents' report of their actual reactions towards their child (Armstrong & Dagnan, 2011), attributions of child responsibility have been found to positively relate to parents' negative emotional reactions, aggressive behaviour and likelihood to punish the child (Armstrong & Dagnan, 2011; Chavira et al., 2000). Moreover, Armstrong and Dagnan (2011) found that feelings of anger mediated the relationship between judgements of child responsibility and parents' likelihood to punish the child.

Consequently, similar to parents of TD children and children with ADHD, attributions of parents of children with an LD influence parents' motivation to address their child's behaviour. Although relationships have been found between child responsibility and parent report of their strategies, only one study addressed the relationship between attributions and parental report of their actual reactions but found none. More research is needed to assess this relationship in parents of children with an LD.

4.1.5.3 The relationship between causal attributions and child behaviour in parents of children with an LD. With regards to associations between attributions and child behaviour, Woolfson et al. (2011) compared controllability attributions of mothers of children with developmental delays (DD) and those of TD children. Within the group of mothers attributing low levels of control to their child, children with DD were found to have more behaviour problems than TD children. Such a

difference between groups was not found for mothers attributing high levels of control to the child. For mothers of children with DD it seems to be disadvantageous to attribute low control to their child, although the direction of effects is unclear. In addition, Armstrong and Dagnan (2011) found that mothers who viewed their child's difficult behaviour as more stable, rated their children's behaviour as more challenging.

Taken together, parents of children with an LD who view their child's misbehaviour as stable and not under the child's control are more likely to have a child with a higher level of behaviour problems. For control this is in contrast to research among parents of TD children where high levels of child control are problematic (see Section 4.1.3.3), but could be in line with research on parents of children with ADHD, where an increase in control did not increase negative parenting (see Section 4.1.4.3).

4.1.5.4 Limitations of studies on causal attributions in parents of children with an LD. In addition to the lack of a TD comparison group (see Section 4.1.5.1), the samples in some of these eight studies also make it difficult to draw any firm conclusions. Some samples were very specific, that is, only mothers of children who experienced self-injurious behaviour (Drysdale et al., 2009) or sleep problems (Keenan et al., 2007) or only mothers from Latin-American descent with low socioeconomic backgrounds (Chavira et al., 2000) participated. Other samples were not restricted to parents of children with an LD, as parents of children with Asperger Syndrome, communication problems or attention problems were also included (Whittingham et al., 2008, 2009a; Whittingham et al., 2006; Woolfson et al., 2011). This makes it difficult to compare the results of different studies and to make any

predictions about parents of children with an LD as a group. A ninth study on attributions of parents of children with an LD that was identified could not be included here due to flaws in the design and outcomes that, after a factor analysis, did not reflect causal attributions (Ly & Hodapp, 2002). Overall, research is needed that addresses these shortcomings and that can clarify the results that have been found so far.

4.1.6 Summary of parents' causal attributions. Clear associations have been found between causal attributions, parenting strategies and child behaviour problems in parents of TD children and parents of children with ADHD. However, insufficient studies of parents of children with an LD have been carried out to support these relationships and to specify if certain cognitions have a negative effect on parenting and child behaviour in this particular group. In addition, in the studies reported, causal attributions held by parents of children with an LD were not compared to those of TD children so it remains unclear if parents of children with an LD hold a positive perceptual bias or if they are at risk for holding attributions that are more internal, stable and less controllable. Finally, it remains unclear why the attribution of child control has a positive association in parents of children with ADHD and an LD. The following sections will address the attribution of control more in depth and will attempt to explain the seemingly contradictory findings around the attribution of child control.

4.2 Unpacking Child Control: Intent, Responsibility and Blame

The above section suggested that causal attributions to the child for challenging behaviour that are external, unstable and uncontrollable (i.e. a positive perceptual bias) would result in the most beneficial parent reactions. There are, however, some contradictory results around attributions of child control. One explanation for the findings of Johnston et al. (2000) and Johnston and Leung (2001) that attributions of higher child control did not result in more negative parent reactions is that the relationship between an attribution of control and parenting behaviour is curvilinear, that is, both high and low child control would be related to less effective parenting. As discussed in Section 4.1.3.3, attributions of high control to the child for misbehaviour are related to negative emotional reactions (Bugental et al., 1990; Dix et al., 1986; Johnston & Patenaude, 1994).

However, for parents of children with ADHD, where attributions of child control were lower than for TD children, it might be a positive change for them to see the child as more in control as it gives hope for behaviour change (Johnston & Leung, 2001). The attribution of both high and low levels of control to the child has been suggested to lead to a lower level of participation by parents in treatment processes (Morrissey-Kane & Prinz, 1999; T. B. Smith, Oliver, Boyce, & Innocenti, 2000). Attributing either extremely high or low levels of control to the child can be disadvantageous to parents' motivation for taking on any behaviour change in the child (Hoza, Johnston, Pillow, & Ascough, 2006; Mah & Johnston, 2008). Woolfson's (2005) 'parenting paradox' argued that neither attributing low control to the child nor attributing high control to the child is desirable but that parents do need to see their child as being at least somewhat in control over behaviour to view them as capable of learning new behaviour. Accordingly, while high levels of control have been found to be related to negative emotional reactions, the attribution of low levels

of control could be related to permissive parenting where the parent is unmotivated to address the child's behaviour.

On the other hand, attributing low control to the child has been suggested to have an additional positive effect for parents. While seeing problematic child behaviour as uncontrollable and "solely a function of child factors" (Morrissey-Kane & Prinz, 1999, p. 186) or "viewing a difficult child as constitutionally impaired" (Gretarsson & Gelfand, 1988, p. 268), is likely to result in fewer attempts from parents to manage the child's behaviour, at the same time it may protect the parents' self-esteem. If the child cannot control his/her own behaviour, it cannot be seen as the parents' mistake and so they would feel less responsible for their child's misbehaviour or for acting to improve it (Gretarsson & Gelfand, 1988). Correspondingly, parents who attribute less control to their child for IO behaviours experienced more parenting efficacy (Johnston & Patenaude, 1994).

While it can be personally beneficial for a parent to view challenging behaviour as uncontrollable and to relieve themselves of the pressure of having to be in charge of that behaviour, at the same time this could lead to fewer attempts at behavioural strategies to tackle the problematic child behaviour, which in the longer term is likely to be disadvantageous for both parent and child. Thus in the case of families of children with an LD, if parents see the child's LD as the cause for their child's misbehaviour, they may view the child as having low control over their misbehaviour. While this might be related to less negative parental emotions, it might also cause the parents to view themselves as less responsible for their child's misbehaviour. And while this could be positive for parental self-esteem and feelings of efficacy, it is likely to be related to parenting practices that maintain rather than

tackle behaviour problems. Indeed, it has been suggested that viewing a child's disorder as the cause for misbehaviour has positive effects for the parent in reducing guilt, anxiety and responsibility, but it also has negative effects on parents' engagement in behaviour change through a demoralisation on the possibility of change (Mah & Johnston, 2008; Whalen & Henker, 1976). As an illustration, mothers who completed a parent management training were less likely to have received a diagnostic label for their child than mothers who dropped out (Peters et al., 2005).

Overall then there could be a curvilinear relationship between attributions of child control and parenting strategies, which also involves parent responsibility and self-esteem. Attributions of low control to the child would be related to a lower parent responsibility and therefore also to less engagement of parents in behaviour change and higher self-esteem. Parents of children with an LD in particular could experience low attributions of child control and low parent responsibility, as they have a salient cause of LD to attribute behaviour to.

Control is a complex construct and people have complex understandings of it. Many studies have not successfully operationalised the target construct of control (E. A. Skinner, 1996). Simply asking participants about their beliefs about control can simultaneously activate other related beliefs, such as responsibility and blame. As argued above, attributions of child control also involve the parents' judgement of responsibility towards themselves. Control, responsibility, blame and intent are closely linked but they do represent different constructs. A parent viewing their child as having increased control over their behaviour does not also have to see the child as increasingly responsible and to blame for their behaviour (Johnston & Leung, 2001).

In order to separate these constructs from each other and to find their individual relationships with parenting strategies and child behaviour, the following sections will review work on parents' judgments of responsibility, blame and intent towards their children and following this, parents' attributions of control and responsibility towards themselves will be explored.

4.2.1 Distinguishing intent, responsibility, blame and control. Judgements of control and responsibility can seem very similar, but it is important to distinguish between them (Weiner, 1995). While attributions of control represent characteristics of causes, responsibility indicates a judgement about a person. In addition, an attribution of control does not automatically bring about a judgement of responsibility. Several factors are taken into account when a responsibility judgement is made. Control is only one of these factors; the cause of the behaviour must be seen as controllable for the actor to be held responsible (Weiner, 1995). In addition to control, the locus of the cause for the behaviour should be internal to the person, that is, the person must be seen as the main cause to be held responsible (Shaver, 1985; Weiner, 1995). The intentionality of the person is also assessed in the responsibility judgement. The more the behaviour of an actor is perceived as intentional, the more they will be judged to be responsible for this behaviour (Heider, 1958; Shaver, 1985; Weiner, 1995). Additionally, the person's ability is taken into account (Heider, 1958). In order to be held responsible, the person must be viewed as having awareness or knowledge of the direct consequences of the behaviour and also as having understanding of the moral implications involved (Shaver, 1985). Finally, mitigating circumstances are considered. The actor will not be held responsible if

they were, for example, coerced or if there was a contribution of environmental factors (Heider, 1958; Shaver, 1985; Weiner, 1995).

Taken together, controllability of the cause and intentionality are prerequisites for responsibility. But there are other factors involved in the responsibility judgement. A person can be seen as having done something intentionally or can be seen as in control of the cause of their behaviour, yet not be held responsible, for example, if the actor has low ability, little knowledge of the consequences of his behaviour or is unaware of moral principles. For this reason, younger children and children with an LD might not be held responsible for actions they intended and are in control of.

Blame might then follow from a judgement of responsibility, although this is not necessarily so. A person can be held responsible for his/her behaviour, but if this behaviour has little or no consequences, there will also be little blame (Weiner, 1995). Blame will only be attributed when the consequence of the behaviour is significant enough and also when justifications or excuses presented by the person are not accepted (Shaver, 1985). As a result, a person can be held responsible but will not be held to blame when the consequence of the behaviour was not that important or when there are acceptable justifications or excuses. The main difference between responsibility and blame is that while responsibility is neutral in affect, blame suggests emotional negativity and is seen as a combination of responsibility and anger (Weiner, 1995).

In terms of the effect of these constructs on parent behaviour and in contrast to what most studies have assessed, i.e. relationships between locus, stability and control and parent behaviour, Weiner (1995) proposed that it is the responsibility

judgement that affects social reactions and that this relationship is mediated by anger and sympathy. Accordingly, once a parent has attributed their child's misbehaviour to causes internal to and controllable by the child, has viewed the child as acting intentionally, has not identified any mitigating factors and finally holds the child responsible, then consequent feelings of anger (or sympathy when the child was not held responsible) will determine their reaction. The following sections will show that intent, responsibility and blame have a positive association with parents' negative emotions and use of ineffective strategies, and will propose that parents of children with an LD are at risk to view their child as acting with less intent, responsibility and to blame than parents of TD children.

4.2.1.1 Parents' judgements of the child's intent. As was described in Sections 4.1.4.1, 4.1.4.2 and 4.1.4.3 for locus, stability and control, the positive perceptual bias also holds for judgements of intent. Parents see their child as intending to act positively but not intending to act negatively (Saltmarsh et al., 2005). An age effect has been found for intent, with older children viewed as acting more intentionally than younger children (Dix et al., 1986). When misbehaviour is judged to be more intentional, parents experience more negative affect (Dix et al., 1986), report more behaviour problems of higher intensity and report using less strategies to effectively manage the child's behaviour such as punishment and withdrawal (Baden & Howe, 1992). However, parents also find it more important to respond to child misbehaviour when they see it as more intentional (Dix et al., 1986).

Parents have beliefs about intentional behaviour even for infants and can misperceive their child's intentions (Reznick, 1999). While seeing behaviour as highly intentional can be related to beliefs that the infant must be punished for

misdemeanours, seeing no behaviour as intentional can be related to the parent ignoring the infant's needs for stimulation and mastery experiences. Finally, children with a diagnosed illness are seen as misbehaving less intentionally than well children as there are more extenuating circumstances for these children (L. S. Walker, Garber, & Slyke, 1995). Parents are less angry, less disappointed, less confused and give less punishment to a child with a diagnosed illness than to a well child for misbehaviour.

When applied to children with an LD then, this would suggests that parents view their child with an LD as misbehaving with less intention than parents of TD children. As a consequence parents could experience less anger and use more effective strategies, but on the other hand might feel it less important to respond and might ignore the need for teaching their child how to behave more appropriately. Possibly, a curvilinear relationship between parenting strategies and intent also exists here as was proposed earlier for control (see Section 4.2).

4.2.1.2 Parents' judgements of the child's responsibility. A number of studies have looked at parents' responsibility judgements for their children. Most of these studies, however, have used responsibility constructs that were composed of other judgements and attributions, making it difficult to interpret and compare the results of these studies. This will be discussed in further detail in Section 4.2.2. Keeping this in mind, viewing the child as responsible for misbehaviour has been found to be related to the experience and expression of negative emotions and anger towards the child (Armstrong & Dagnan, 2011; Chavira et al., 2000; Snarr, Smith-Slep, & Grande, 2009). In addition, parents who see their child as more responsible are more aggressive towards their child (Chavira et al., 2000; Snarr et al., 2009), more overreactive (Snarr et al., 2009), more permissive in their parenting (Snarr et

al., 2009) and more likely to punish their child (Armstrong & Dagnan, 2011) and children who have more behaviour problems are held more responsible for their misbehaviour (Bolton et al., 2003; Snarr et al., 2009).

Although mothers' views could be affected by their child's actual behaviour, an experimental study found that an induced responsibility judgement not only caused mothers to be more overreactive and angrier with their child but these mothers' children were also more upset while interacting with their mothers (Slep & O'Leary, 1998). Finally, parent characteristics have been found to be related to responsibility judgements. Mothers who are higher in expressed emotion or mothers who are depressed or who have less parenting satisfaction have been found to judge their child to be more responsible for misbehaviour (Bolton et al., 2003; Snarr et al., 2009).

One study that did not use a composite score for responsibility but a single item to measure this judgment found that children who are diagnosed with an illness are less likely to be held responsible than well children (L. S. Walker et al., 1995). If this can be applied to parents of children with an LD (see Chapter 1), it would be expected that they hold their child less responsible for misbehaviour and that this would be related to less anger and less ineffective strategies.

4.2.1.3 Parents' judgements of blame towards the child. For blame then, the positive perceptual bias was confirmed again with mothers assigning more credit to their child for positive behaviour than assigning blame for negative behaviour (Gretarsson & Gelfand, 1988). Seeing children as more to blame for their misbehaviour is related to parental reports of negative affect and punishment and also to a general authoritarian parenting style (Dix, Ruble, & Zambarano, 1989).
Maternal report of the intensity of conflict with their adolescent child has been found to be related to the amount of blame ascribed to the adolescent (Grace, Kelley, & McCain, 1993). That is to say, the more intensely mothers experienced conflicts, the more blame they assigned to their child.

The mental capacity of the blame subject also plays a role in this judgement. Actors who are younger, or who have a mental disorder are assigned less blame than actors who are older or who do not have a mental disorder (Fincham & Roberts, 1985). Accordingly, how people understand the behaviour of children with mental disorders differs from children without mental disorders, most likely because their mental capacities are perceived in a different way. Mental capacities of children with an LD would be viewed differently from those of TD children and this could have an effect on how the behaviour of children with an LD is viewed in terms of blame factors by their parents or by others, that is, they would be held less to blame for misbehaviour than TD children.

4.2.2 Measurement issues of intent, responsibility and blame. There are measurement issues around how the constructs of intent, responsibility and blame have been employed in research. Firstly, confusion exists around what the responsibility judgement exactly entails as control, blame and intent have sometimes been used interchangeably when naming this construct (Fincham & Roberts, 1985; Mantler, Schellenberg, & Page, 2003). For example, both Dix et al. (1989) and Gretarsson and Gelfand (1988) asked parents how much blame their child should receive for misbehaviour. In the question posed to participants, the word 'blame' was used, but the name given to the construct was 'responsibility'.

Additionally, as mentioned in Section 4.2.1.2, the construct of responsibility is often composed of a mix of items measuring locus, control, intent, or blame and studies have used different combinations for this (Bolton et al., 2003; Chavira et al., 2000; Slep & O'Leary, 1998; Snarr et al., 2009; Williford, Graves, Shelton, & Woods, 2009). Although these constructs show strong reliability, the problem is that it is not clear what they are exactly measuring, how they should be interpreted and how they compare to each other. In addition, when using such composite constructs it remains unclear what the relationships of responsibility and of intent or blame with any outcome variables and with each other are.

A number of studies have used clearer constructs measuring reliability, blame or intent with items directly related to the construct (Armstrong & Dagnan, 2011; Baden & Howe, 1992; Dix et al., 1986; Dix et al., 1989; Grace et al., 1993; Gretarsson & Gelfand, 1988; Saltmarsh et al., 2005; L. S. Walker et al., 1995). Typically, the same question on reliability, blame or intent will be asked several times for different examples of behaviour. This leads to a construct which is more straightforward to interpret and, as far as scale statistics have been reported, as psychometrically sound as using composite measures. In addition, as was proposed by Heider (1958), Shaver (1985) and Weiner (1995), these constructs might sequentially influence each other. This has been supported by research (Fincham & Roberts, 1985; Mantler et al., 2003). Constructs of control, intent, responsibility and blame then should not be simply aggregated into one measure as they are separate constructs that influence each other and that have individual relationships with outcome variables.

To sum up, there are positive relationships of intent, responsibility and blame with negative emotions and ineffective parenting strategies, although the relationship for intent could be curvilinear. Parents of children with an LD likely assign less intent and blame towards their child than parents of TD children but this could result in less motivation to tackle the child's behaviour. Except for two studies on responsibility (Armstrong & Dagnan, 2011; Chavira et al., 2000), this has not been investigated in parents of children with an LD. In addition, more research is needed measuring the constructs of intent, responsibility and blame individually from each other. In the current section, intent, responsibility and blame were reviewed from the perspective of parents towards their children. As discussed in Section 4.2, the attribution of control towards the child may also involve parents' responsibility judgement towards themselves. In the next section, parents' attribution of control and judgement of responsibility for child behaviour directed towards themselves will be addressed.

4.3 Parents' Judgements of their own Responsibility and Control over Child Behaviour

As was suggested in Section 4.2, parents holding themselves less responsible for their child's behaviour might feel they are better parents and hold higher selfefficacy, but are also likely to engage less in implementing behaviour change strategies for their child. This section will explore research on parents' views on their own control over the cause of their child's behaviour and their perceptions of their responsibility for their child's behaviour, and will propose that parents of children with an LD likely experience less control and responsibility than parents of TD children and that these are associated with parent and child behaviour in opposite directions.

4.3.1 Parent control over child behaviour. Causes of behaviour of older TD children are seen as less under control of the parent than for younger TD children (Gretarsson & Gelfand, 1988). In addition, parents who see themselves as less in control of the cause of child behaviour see negative behaviour more as due to the child's personality and think it is more consistent (Gretarsson & Gelfand, 1988).

Parents of children with ADHD see the cause of their child's behaviour as less under their own control than parents of TD children and those parents who attribute less control to themselves have lower expectations for the use of parenting strategies with their child (Baden & Howe, 1992; Sobol et al., 1989). Moreover, the more severely parents perceive their child's ADHD behaviour, the less they see themselves as in control of the cause of those behaviours (Harrison & Sofronoff, 2002). However, the more knowledge mothers had about ADHD, the more they saw themselves as in control and mothers who saw themselves as more in control indicated experiencing less stress and depression (Harrison & Sofronoff, 2002). In short, parents of children with ADHD generally see themselves as less in control of their child's behaviour than parents of TD children, but those who do see themselves as in control have more positive outcomes.

In parents of children with an LD then, parents were found to view themselves as having more control over good behaviour than over bad behaviour or behaviour related to their child's LD (Whittingham et al., 2008). In addition, parent control was found to moderate the relationship between DD or TD status and problem behaviours (Woolfson et al., 2011). Within a group of mothers attributing

low levels of control to themselves, mothers of children with DD reported significantly more behaviour problems in their child than mothers of TD children. For mothers attributing high levels of control to themselves, such a difference was not found. Accordingly, for mothers of children with an LD specifically, it seems beneficial to attribute higher levels of control to themselves (Woolfson et al., 2011).

4.3.1.1 Parents' perceived control. Bugental and colleagues (Bugental et al., 1993; Bugental, Blue, & Cruzcosa, 1989; Bugental & Happaney, 2004; Bugental, Lyon, Lin, McGrath, & Bimbela, 1999) have combined parents' perceptions of child control and of parent control into one measure of perceived control. Parents low in perceived control attribute high control to the child and low control to themselves. Low perceived control has repeatedly been found to be related to negative outcomes. When interacting with unresponsive children, mothers who are low in perceived control (Bugental et al., 1993). Mothers who are low in perceived control also are harsher in their parenting, more often neglect their child's safety, are more coercive in caregiving and more likely to abuse their child (Bugental et al., 1989; Bugental & Happaney, 2004). Finally, children show weaker attentional engagement towards woman who are low in perceived control (Bugental et al., 1999).

As suggested in Section 4.3.1, parents' attributions of low control to themselves is related to negative child and parent outcomes, but in combination with attributions of high control to the child even more severe parent and child outcomes have been observed. Among a sample of parents of children with an LD, perceived control positively predicted the parents' ratings of the usability of strategies taught in the Triple P parenting programme (Whittingham et al., 2006). However how

perceived control relates to actual strategies used in parents of children with an LD or how this compares to the level of perceived control in parents of TD children, has not been assessed.

4.3.2 Parent responsibility for child behaviour. Parents of children with ADHD have been found to take less responsibility for their child's behaviour than parents of children with no behaviour disorders (Johnston & Freeman, 1997). In addition, parents of children who attend special education perceived their children's outcomes as more due to environmental influences than to parental influences, therefore downplaying their responsibility (Himelstein, Graham, & Weiner, 1991). As previously argued, this could decrease feelings of blame and guilt and protect parents' self-esteem, but also discourages the parent to try to improve the child's behaviour, while those children with ADHD or in special education may be most in need of a parent who tries to maximise child outcomes (Himelstein et al., 1991). Parents who do hold themselves responsible for their child's misbehaviour experience more negative parent-outcomes. They have been found to be angrier and more depressed, to be more overreactive and lax in their parenting strategies, to be more aggressive towards their child and to experience less parenting satisfaction (Snarr et al., 2009).

Taken together and as was suggested in Section 4.3.1, parents of children with diagnosed disorders (in this case ADHD) have been found to attribute less responsibility towards themselves for their child's misbehaviour (Himelstein et al., 1991; Johnston & Freeman, 1997) and this has been found to be related to less depression and anger, less overreactive and lax parenting strategies and more parenting satisfaction (Snarr et al., 2009). For the parent, it seems indeed that it is

more positive to view themselves as less responsible for child misbehaviour. However, how this relates to child outcomes has not been studied.

By contrast, parents who view themselves as less in control over their child's misbehaviour have lower expectations for their strategies to work (Baden & Howe, 1992), view their child's behaviour problems as more severe and experience more stress and depression (Harrison & Sofronoff, 2002). For parents of children with an LD specifically, it is beneficial to view themselves as more in control (Woolfson et al., 2011). These seemingly contradictory results point out that it is important to clearly distinguish between attributions of control and judgements of responsibility as they have opposite relationships with parent outcomes and parents' use of strategies.

4.4 Summary

This chapter has shown that there is limited research on parents of children with an LD regarding causal attributions of locus, stability and child control. It is unclear whether parents of children with an LD hold a positive perceptual bias like parents of TD children. There are especially uncertainties around the attribution of child control and the nature of its relationship with parenting strategies, in addition to the need to separate control from constructs of child intent, responsibility and blame, and parent control and responsibility. Furthermore, it is unclear how these attributions and judgements affect the behaviour of parents and their children with an LD, and how these attributions and judgements affect each other.

Chapter 5 – Study 1: Prevailing Views of LD – Comparing Parents of TD Children and Parents of Children with an LD

5.1 Aims and Hypotheses

The high prevalence of behaviour problems in children with an LD and their negative consequences for parents and children were highlighted in Chapter 2. This chapter also showed that causes of behaviour problems can be found in society and in the family. Chapter 3 then examined these causes more in depth and showed that societal views on disability can affect parents and their parenting of children with an LD. This can place some parents at risk for less effective parenting while other parents actively oppose to societal views. In connection to this, while more children with an LD attend mainstream schools, Chapter 3 also indicated that views of parents of TD children in mainstream education are not always supportive of inclusion (Section 3.1.2.2). However, it is unclear how parents of TD children in this setting view children with an LD in comparison to parents of children with an LD. Chapter 4 identified an attributional framework to examine parental views on child behaviour and showed that causal attributions and causal beliefs are important views behaviour because of their relationship with parent behaviour.

Study 1 then had two aims. The first aim was to examine views of parents of TD children in mainstream schools towards behaviour of children with an LD and to assess if they were as predicted by the psychosocial model of disability-related child behaviour problems (Woolfson, 2004) (see Section 3.1). The second aim was to compare the views of parents of children with an LD on their child's behaviour to the views of parents of TD children in mainstream education on the behaviour of a child with an LD. In addition, it was aimed to assess what identified those parents who

held more affirmative views of disability, that is views that are not focussed on the disability.

- Aim 1.1: To compare causal beliefs and causal attributions of parents of TD children for the behaviour of a child with an LD to the causal beliefs and causal attributions of parents of TD children for the behaviour of a TD child. Hypothesis 1.1: Parents of TD children view the cause of misbehaviour of children with an LD as more internal to the child, more stable and less under the child's control; they also view children with an LD as acting with less intent, and hold them less responsible and less to blame for the cause of the misbehaviour than they do for TD children.
- Aim 1.2a: To compare the causal beliefs and causal attributions of parents of children with an LD on their child's misbehaviour to the causal beliefs and causal attributions of parents of TD children on the behaviour of a child with an LD.

Hypothesis 1.2a: Although some parents of children with an LD are expected to hold more affirmative views of disability than parents of TD children, the average view of parents of children with an LD overall does not differ; no differences were expected to be found with regard to locus, stability, child control, child responsibility, blame and intent.

Aim 1.2b: To select parents of children with an LD who hold more affirmative views than the prevailing view among parents of TD children and explore what factors identify these parents.

- Aim 1.2c: To select parents of children with TD who hold more affirmative views than the prevailing view among parents of TD children and explore what identifies these parents.

5.2 Method Study 1

5.2.1 Participants. Data were collected from 52 parents of children with an LD and 81 parents of TD children. Power analyses were carried out with G*Power (Faul, Erdfelder, Buchner, & Lang, 2009) based on a medium effect size, an alpha of .05 and power of .80. For *t*-tests, this pointed to a sample size of 102. Based on this, the total sample was large enough.

5.2.1.1 Recruitment strategy. Three recruitment strategies were employed. Forty-three parents of children with an LD and 62 parents of TD children were recruited through primary and special education schools. Schools were located in the local authorities of East Dunbartonshire, East Ayrshire, Glasgow City, North Ayrshire, North Lanarkshire, Renfrewshire, South Ayrshire and South Lanarkshire.

Advertisements with a link to an online questionnaire (see Section 5.2.3) were placed on forums on parent websites, that is Netmums, UK Parents Lounge, Parenting UK, DadTalk, and HomeDad which resulted in the recruitment of 11 parents of TD children. Advertisements were also placed in Enable Scotland's and Down's Syndrome Scotland's newsletters. A total of nine responses from parents of children with an LD were received through this.

Finally, parents were recruited at children's indoor and outdoor play areas. Three play areas, of which one specifically for children with special needs, were each visited on two occasions. However, due to the low level of response it was not timeefficient to continue. Nonparticipation of parents who were approached was due to

the child being too young to participate, or due to the parent not being interested or not having enough time to complete the questionnaire. Eight parents of TD children were recruited at the play areas.

5.2.1.2 Inclusion and exclusion criteria.

5.2.1.2.1 Age of participants' children. The participants' children were aged six to twelve years. Younger children, of pre-school age, are seen as possessing less knowledge than school-aged children about what behaviour is and is not appropriate, and so are viewed as having less control, and therefore parents do not become as upset with them for misbehaving as with older children (Dix et al., 1989; Johnston & Patenaude, 1994). To assess any differences between parents of children with an LD and parents of TD children, a sample aged six to twelve is more appropriate as parents of younger children in both groups are likely to share similar attributions that are related to age. As children enter puberty, parents expect to see many changes in their child's behaviour (Gretarsson & Gelfand, 1988) and also have been found to hold different attributions, with their child's behaviour being seen as caused to a greater extend by influences of friends and school (Cote & Azar, 1997). Parents were asked to indicate their child's date of birth on the demographics sheet. This was compared to the date the parent signed the consent form. When the child was younger than six or older than twelve on this date, their parent's questionnaires were excluded from the analysis.

5.2.1.2.2 Criteria specific to the LD group. As specified in Chapter 1, the definition for LD employed in the study was similar to the DSM-IV's criteria for mental retardation. In the participant information sheet, this was explained as follows: '*For learning disabilities, we mean children whose development, learning,*

understanding or communication does not match up to their actual age and who also have problems in independent life skills (such as self-care or social skills). For example, these are children who have developmental delays (with or without a known cause), children with genetic syndromes (such as Down syndrome or Fragile X syndrome) or children who have severe brain injuries. Some children with autism or cerebral palsy also have learning disabilities.' It was also stressed that their child did not need to experience behaviour problems in order for the parent to participate. Parents who viewed their child as matching these criteria self-selected themselves to participate in the study.

In addition to this, questions were asked to check if the child fell within our criteria of LD in the demographics sheet. Parents were asked to confirm if their child had an LD, autism, Down syndrome or fragile X syndrome by checking the appropriate box and were asked to write down any other diagnoses, conditions or impairments the child had. If none of these boxes were checked and the parent did not write down any other diagnoses that indicated an LD, their questionnaires were excluded from the analyses.

Parents were also asked to explain how they first learned their child had an LD, to exclude parents who did not have their child's condition confirmed by a doctor or educational psychologist or other professional authority. Parents were asked to estimate their child's development in comparison to any typical child of the same age. Parents who estimated their child's development to be typical or advanced were excluded from the analyses.

5.2.1.2.3 Criteria specific to the TD group. For parents of TD children it was also stressed that their child did not need to experience behaviour problems to

participate. In the parent information sheet it was explained that '*for typically developing children, we mean children without ADHD, specific learning problems* (*such as dyslexia*) *or autism spectrum disorders*.' Whether or not the child fell within the criteria, was again checked in the demographics sheet. Parents who indicated their child had epilepsy, ADHD, autism spectrum disorder, a specific learning problem or who wrote down any other diagnoses, were excluded from the analyses. In addition, if they estimated that their child's development was delayed in comparison to children of the same age as their child, they were excluded from the analysis.

5.2.1.2.4 Additional inclusion and exclusion criteria. Participants' questionnaires were only included in the analyses when they indicated on the demographics form to be the child's mother, father or main carer.

5.2.2 Design. For the group comparison of Aim 1.1, parents in the TD group were randomly assigned to the 'unknown child with an LD' or 'unknown TD child' vignette condition. For Aim 1.2, the design was based on natural groups (Bryman, 2008; Zechmeister, Zechmeister, & Shaughnessy, 2001). The independent variable was group membership, LD or TD, and dependent variables were causal attributions and causal beliefs. Variables were measured on Likert-type scales and were therefore considered to be interval data. Issues surrounding the interpretation of Likert-type scales are discussed in the following section.

5.2.2.1 Likert-type scales. The debate surrounding Likert scales considers whether they are ordinal or interval in nature and whether they should be analysed with parametric or non-parametric techniques. One side of the argument is that Likert scales are ordinal in nature and that therefore they should be analysed using non-

parametric techniques (Jamieson, 2004). While some authors argue that this is problematic as non-parametric techniques are less powerful (Pell, 2005), studies have shown that no statistical power or sensitivity is lost when using non-parametric techniques (Glass, Peckham, & Sanders, 1972) and that power could even be higher (Knapp, 1990).

Another side of the argument is that, while Likert scales are ordinal in nature, parametric techniques can still be used to analyse them (Lord, 1953; Norman, 2010) and it is widely accepted for nonparametric data to be analysed with parametric techniques (Pell, 2005). Glass et al. (1972) have shown that the F-test is extremely robust against the violation of the assumption of interval data and they found no bias when an ANOVA was used to analyse 7-point Likert scales. This has led other authors to conclude that Likert scales can be analysed using parametric techniques (Carifio & Perla, 2007, 2008). Another discussion around Likert scales is what the appropriate number of answer options on the item scale should be. Lozano, Garcia-Cueto and Muniz (2008) showed that reliability and factorial validity is optimal for scales with more than four response options. These qualities increased when increasing the number of answer options further, but beyond seven answer options, this increase is minimal.

5.2.3 Measures.

5.2.3.1 Written Analogue Questionnaire-Adapted (WAQ-A). The Written Analogue Questionnaire (WAQ) was developed by Johnston and colleagues and has been used extensively (Chen et al., 2008; Freeman et al., 1997; Johnston et al., 2000; Johnston & Freeman, 1997; Johnston et al., 2009; Johnston, Seipp, Hommersen, Hoza, & Fine, 2005). The WAQ assesses parents' attributions for child behaviour. It consists of several vignettes for different child behaviours falling into the categories of inattentive-overactive, oppositional defiant, prosocial, compliance and noncompliance. However, the vignettes can be adapted to be more suitable for a range of populations. Parents read the vignettes and after each vignette they complete a number of scales. The scales used vary across studies, but include attributions of locus, child control, globality and stability, how much of a problem the parent feels the behaviour is, the parent's responsibility for the behaviour, the parent's emotion and the parent's behavioural response. Mainly, scales range from 1 to 10 with an anchor at each extreme. The reliability of the WAQ as reported in prior studies is acceptable (Table 5.1).

Table 5.1

Study	Sample	Reliability
,	1	<u>,</u>
Johnston and	Fifty-two parents of 30	Inter-item correlations $.1082$,
Freeman	children with ADHD; 42	median .49, 16 out of 18 significant [*]
(1997)	parents of 26 TD children	
Johnston et al.	Eighty-six mothers of	Inter-item correlations .13 – .87, mean
(2000)	children with ADHD	.54, 57 out of 60 significant [*]
Johnston et al.	Seventy-three parents of	Cronbach's α .80 – .82 for attributions
(2005)	boys with ADHD	of locus, globality, stability and child
		control, calculated over 10 scenarios
Chen et al.	Parents of 36 children	Ten out of 12 Cronbach's α s .71 – .91,
(2008)	with ADHD	two lower, .68 and .41 for fathers'
		attributions of locus
Johnston et al.	Forty-four mothers of	Cronbach's α .70 – .87 for aggregated
(2009)	boys with ADHD; 53	scales of locus, globality and stability
	mothers of TD boys	for three scenarios

*Authors did not report for which attribution and behaviour type the correlations were non-significant or below .70.

For Study 1 and Study 3 (as described in Chapter 7), the vignettes were

adapted so that both parents of children with an LD and TD children would be able

to imagine themselves and their child in the situation. The process of these

adaptations and pre-selection of six vignettes are described in Appendix A. As a result of pilot work carried out with the six pre-selected vignettes (see Section 5.2.5), three final vignettes were selected for the studies. After reading each of the three vignettes, parents were presented with a number of scales measuring the parent's causal attributions and other cognitions on the child's behaviour. The scales that were used directly from the original WAQ were attributions of locus, child control, stability, the extent to which the parent feels the behaviour is a problem and the parent's responsibility for the behaviour. To these five items, the attribution for parent control was added and a scale asking the parent how much they believe their child's condition influenced the behaviour (if applicable) (adapted from L. S. Walker, 1985). Three questions measuring child responsibility, intent and blame (adapted from Chavira et al., 2000; Cronbach's alpha .75) were added. As the standard version of the WAQ employs 10 point scales and this is considered as having the same qualities as 7 point scales (see Section 5.2.2.1), all scales ranged from 1 to 10 with an anchor at each end. Following this, parents were presented with an open question asking directly what they thought was the most likely cause for their child's behaviour, to measure parents' causal beliefs. Five emotions, namely anger, embarrassment/shame, pity/sympathy, guilt and hopelessness, were rated on ten-point Likert-type scales with anchors "not at all" and "extremely". These emotions were suggested by Weiner (1985) to be related to causal attributions. These questions and scales were also included in the pilot. The WAQ-A can be found in the questionnaire booklet in Appendix B1.

In the current study, the WAQ-A was completed by parents of children with an LD while an adapted version of the WAQ-A was completed by parents of TD

children (see the next Section 5.2.3.2). The reliability of the WAQ-A for the current study can be found in Table 5.2. A value of Cronbach's alpha of .7 or higher is considered acceptable in early stages of research (Field, 2005; Nunnally, 1978). Cronbach's alpha of *influence of LD* was below this, but the three inter-item correlations were strong and highly significant ($\rho = .43$, p < .001; $\rho = .47$, p < .001; $\rho = .53 p < .001$), indicating unidimensionality; in such cases, a measure with low Cronbach's alpha may still be useful (Schmitt, 1996). Due to poor reliability, *locus* was subsequently excluded from the analyses.

Table 5.2

Scale	Cronbach's α (<i>n</i> = 51)
Problem	.70
Locus	.29
Child control	.71
Parent control	.69
Stability	.87
Child responsibility	.82
Parent responsibility	.76
Blame	.73
Intent	.74
Influence of LD	.55
Anger	.84
Embarrassment/shame	.81
Pity/sympathy	.79
Guilt	.83
Hopelessness	.91

Reliability of the Written Analogue Questionnaire-Adapted.

5.2.3.2 Written Analogue Questionnaire-Adapted-Neighbour Version

(*WAQ-A-NV*). The WAQ was also adapted to be used to compare the views of parents of TD children on the behaviour of children with an LD with their views on the behaviour of TD children. For this purpose, the vignettes proposed a situation between a neighbour and her child, similar to Woolfson et al. (2011). The 'unknown'

child either had an LD or was TD and this was explained prior to presentation of the vignettes, resulting in an LD and TD version, WAQ-A-NV(LD) and WAQ-A-NV(TD) respectively. For comparison purposes, the same vignettes as in the WAQ-A were used, only the wording was slightly changed to allow this altered interpretation. The process of these adaptations is described in Appendix A. Following each vignette, participants were presented with the same ten 10-point scales to measure causal attributions, emotions and the same open question to measure causal beliefs as in the WAQ-A, again with slightly changed wording. The WAQ-A-NV(LD) can be found in the questionnaire booklet in Appendix B2 and the WAQ-A-NV(TD) can be found in Appendix B3. These vignettes with the open question and scales were also included in the pilot (Section 5.2.5). The reliability of the WAQ-A-NV for the current study can be found in Table 5.3.

Table 5.3

Reliability of the Written Analogue Questionnaire-Adapted-Neighbour Version.

	WAQ-A-NV(I	LD)	WAQ-A-NV(ΓD)
Scale	Cronbach's α	n	Cronbach's α	n
Problem	.82	33	.90	35
Locus	.79	33	.75	35
Child control	.66	33	.88	35
Parent control	.48	33	.82	35
Stability	.94	33	.91	35
Child responsibility	.79	33	.89	35
Parent responsibility	.68	32	.94	35
Blame	.94	33	.92	35
Intent	.91	33	.84	35
Influence of LD	.84	33	N/A	
Anger	.94	33	.89	35
Embarrassment/shame	.90	33	.90	35
Pity/sympathy	.93	33	.89	35
Guilt	.94	33	.83	34
Hopelessness	.94	33	.89	34

Note: WAQ-A-NV(LD) = Written Analogue Questionnaire-Adapted-Neighbour Version (Learning Disability); WAQ-A-NV(TD) = Written Analogue Questionnaire-Adapted-Neighbour Version (Typically Developing).

Overall, Cronbach's alpha was considered acceptable with a value of .7 or higher (Field, 2005; Nunnally, 1978). However, due to poor reliability of .48, *parent control* in the LD version was excluded from analyses.

5.2.3.3 Demographics. A demographics sheet was included at the end of the questionnaire. Parents were asked to provide information on their child's date of birth, gender, presence of any known impairments, conditions or disabilities. To make sure participants fell within the inclusion criteria, parents were also asked to provide information on how they first learned about their child's condition, to estimate their child's developmental level and to confirm their relationship to the child. Furthermore, parents were asked about ages of other children, ethnicity, level of education, marital status, current employment and income. The demographic questions can be found in the questionnaire in Appendix B6.

5.2.4 Procedure. After ethical permission was granted by the School of Psychological Sciences and Health Ethics Committee and approval was gained from local authorities, individual schools were approached. Parents received an information sheet (Appendix C), consent form (Appendix D) and the questionnaire pack (Appendix B) in their child's school bag and returned completed questionnaires to their child's school where they were collected. Contact details of the researcher were provided for parents. For the online questionnaire, parents found the link on forums or in newsletters and could complete the questionnaire online. In addition, play centres were approached and the researcher visited these to ask parents individually to complete questionnaires. Informed consent was gained from all parents. Completion of the questionnaires took 30 to 45 minutes. These procedures collected the data for both Study 1 and Study 3 (see Chapter 7). Parents of TD

children randomly received either the WAQ-A-NV(LD) or the WAQ-A-NV(TD). Parents who indicated wishing to receive a summary of the results of the study did so after the study was completed.

5.2.5 Pilot. Prior to the study, a pilot was carried out. The aim of this pilot was to confirm parents' understanding of the WAQ-A and WAQ-A-NV and the vignettes. As the original vignettes from the WAQ were adapted with the purpose that they would be applicable to both parents of children with an LD and TD children, it was necessary to check if both groups of parents could picture themselves and their child in the situation represented in the vignettes. In addition to this, the WAQ was used in a novel way by asking parents to consider a neighbour and either their child with an LD or TD child in the situation.

5.2.5.1 Pilot method. Six parents of children with an LD and four parents of TD children were recruited through primary and special education schools, after gaining ethical permission from the School of Psychological Sciences and Health Ethics Committee and local authorities. Parents participated in individual sessions which lasted between 30 minutes and one hour and these were conducted at the child's school. Parents were presented with each of the six adapted vignettes (Appendix A) and were asked how well they were able to imagine themselves and their child in the vignette. They rated this on a 10-point scale ranging from 'not at all' (1) to 'very much' (10) and were asked to explain why they could or could not imagine the situation.

After going through each vignette, parents completed the scales of the WAQ-A. They were asked if they had any trouble understanding the scales and if so, they were asked why and for any suggestions on how to improve this. For parents of TD children, the same procedure was followed for the vignettes of the WAQ-A-NV(LD).

5.2.5.2 Pilot results.

5.2.5.2.1 Selection of Vignettes. When considering the ratings of parents of children with an LD and parents of TD children separately, the LD group gave the highest ratings for vignettes C, D and F, while the TD groups gave the highest ratings for vignettes D, F and S (Table 5.4) (see Appendix A for content of the vignettes). The average ratings over all ten participants indicated that the vignettes most applicable to all participants were vignettes C, D and F.

Table 5.4

Means (M), Standard Deviations (SD) and Range of Vignette Interpretation Ratings.

	LD (<i>n</i> = 6)	TD (<i>n</i> = 4)	Overall $(n = 10)$
Vignette	M (SD; range)	M (SD; range)	M (SD; range)
С	7.50 (3.99; 1-10)	5.50 (4.20; 1-10)	6.70 (3.97; 1-10)
D	8.67 (2.81; 3-10)	7.50 (1.00; 6-8)	8.20 (2.25; 3-10)
F	8.00 (3.52; 1-10)	8.00 (3.37; 3-10)	8.00 (3.27; 1-10)
G	6.17 (4.26; 1-10)	5.50 (2.52; 2-8)	5.90 (3.51; 1-10)
S	5.67 (4.13; 1-10)	6.75 (1.71; 5-9)	6.10 (3.28; 1-10)
Т	4.83 (4.17; 1-10)	3.75 (2.75; 1-7)	4.40 (3.53; 1-10)

Vignette C: For vignette C, eight out of ten parents had experienced similar situations in which the child would ask for a toy, for food or juice while the parent was talking on the phone. Especially for the LD group, this was experienced as a difficult situation as these parents found it difficult to tell their child to wait. (*'He wants your attention. For anything, toy, drink, juice. He would continue to, even when you say "I'm on the phone, and I'll be one minute", he would still continue to, demand that you put him first'; 'As my son has communication difficulties and issues with waiting, timing, etcetera, and frustration with speech, to tell him to wait is a*

major issue'). Two parents in the TD group had experienced similar situations, but the other two indicated that their child would not interrupt while they were on the phone ('She's quite independent. She would go and look for the thing herself'; 'Usually when, she knows when I am on the phone, she wouldn't interrupt').

However, these two parents also indicated having experienced the situation either with their other child or when their child was younger. Therefore, the situation was not unknown.

Vignette D: Vignette D was familiar for all ten parents. However, the specific situation was automatically adapted by a number of parents to more generally wanting to hear something on the TV. (*Maybe not so much the weather, but something's come on, the news, or something that I really want to hear'; Well generally, if it wasn't the weather and I'm trying to watch something, that happens a lot in my house'*). Because these participants automatically adapted it without being prompted, it was decided not to further adapt the vignette to a less specific one. In addition, information on the importance for the parent to hear the TV and the child being excited about the day out would be lost when making it less specific.

The kind of noise the child made varied widely as well, from singing to computer games to broadly stating that the child is noisy. ('*He makes noise all the time*'; '*The scenario would happen, for sure, it would, you know, you're trying to do something and he's a very noisy boy*'; '*He likes, on the computer, playing his games and he'll turn it up gradually, and I'll say to him turn it down, and it goes back up*'; '*It's not so much with toys and games it's more, she sings a lot and she just, she is more noisy like that*'). This indicated that the nonspecific way in which the noise the child makes was described was a useful adaptation from the original vignette for the current group of parents.

Vignette F: Nine out of ten parents could imagine the situation described in vignette F or something similar to happen between themselves and their child. Something similar would be brushing teeth in the morning or more general getting ready on time in the morning. ('I usually do that anyway because it is a bit of a fight with the tugs and if, really gentle and she doesn't like, or, it's a riot, so you just do it really slowly, and brush her hair'; 'Just the general getting dressed getting shoes on'; 'Brushing his teeth. You always have to get him, you always have to say go brush your teeth. He wouldn't do it automatically'). One parent in the TD group could not imagine the situation at this age with her daughter, but was familiar with the situation from when her daughter was younger so was still able to complete the scales based on this vignette (Parent: 'Aha, she's got hair to her waist. But in Primary 1, we used to put bunches in, we used to turn around and they'd be out. She said they were hurting her head. So that is a big thing.' Interviewer: 'And right now?' Parent: 'No, she's not so bad now. But aha, as small, yeah').

Vignette G: Vignette G was not as easy to imagine for most parents as the previous vignettes. Only five out of ten parents could see this happening. Many children did not have problems going to bed or the parent structured the bed-time routine in such a way that the problem described in the vignette did not rise at all. ('*I can understand it to a point, but usually, it's kind of already organised that she has... I won't put a programme on until I know it finishes at a certain time so that that's ok for bed*'; '*That's actually not likely to happen. No, he is fantastic at going to bed. You know, when I say it's time to go to bed, he goes to bed, and we don't really have*

any, any arguments over it'; 'Aha, well, it's half nine, she has to be in bed for, so, twenty past nine, she is to start getting teeth brushed, and a last drink and get to bed. Once or twice she does it, but normally she is good.')

Vignette S: Six out of ten parents could imagine vignette S happening or could adapt it into something similar that would happen. Some parents indicated mostly not asking their child to tidy up their clean laundry, but could change it into another task involving tidying up, such as their room or their plate. (*Yeah, well, maybe not socks, but could be a pile of toys, or pile of his washing. And I could say, could you take that to your room?*'; *'Not just with socks, but with everything else. There are some times that he can do it and there are times that he doesn't*'; *'Hmhm, yeah, usually not socks or whatever, but things that he has brought into the living room'*). Parents were unable to interpret the situations when their child was always compliant with such requests or when they never requested their child to carry out such tasks. (*'She's very good at doing things like that when I ask her'*; *'He just couldn't do it. He wouldn't have the understanding or the ability to do it'*).

Vignette T: Finally, vignette T was the hardest to imagine for the parents. Only four out of ten parents indicated that this was something that happened between themselves and their child. Mostly, getting the child to the table for dinner was not a problem (*'She likes her food'*; *'It's not really a problem in my house'*; *'When there is food involved, he is there. He very rarely doesn't come for food'*; *'I just need to shout, and he's down. That's a great motivator for him, food'*; *'No, she likes her food too much.'*)

Final selection: Taken together, the parents' statements indicated that vignettes C, D and F resonated best for most parents. This was also indicated by the

average scores based on all ten participants (see Table 5.4). Therefore, Vignettes C, D and F were selected for the WAQ-A and the WAQ-A-NV for Study 1 and Study 3 and will be named A, B and C respectively.

Interpretations and comments on the vignettes for the WAQ-A-NV were not considered for the selection, as most parents were not exposed to all the vignettes due to time constraints. For the vignettes they did give their opinion on, most could readily relate to the situation itself. From this it became clear that if parents could envisage the situation happening with their own child, they could envisage it for any child (*With any child, whether they had a disability or not, yeah, definitely*'; *'I could picture that with any child, so aha, yeah, it could be, could be a child with learning disabilities just the same as you could with a normal child*').

5.2.5.2.2 Adaptation of WAQ-A introductions, questions and scales. The introduction to the WAQ-A raised no further questions with any of the participants and was said to be clear. No adaptations to this introduction were made. The introduction to the WAQ-A-NV was also understood by parents in terms of the instructions and what they were asked to do. The explanation of the child with an LD however, was not always interpreted as intended. After reading the explanation, parents were asked what kind of child they could picture based on the explanation. First of all, parents found this difficult to do if they did not know any child with an LD personally and therefore felt uncomfortable and uncertain to answer questions about this child's behaviour. To reassure participants that they do not need to know any child with an LD personally to be able to answer the questions, a sentence to state this was added to the introduction: "*Even if you don't know anyone with a learning disability, you can still complete this questionnaire.*"

The second difficulty with the description of LD was that some parents assumed a wider range of diagnoses to fall under this, such as ADHD, learning difficulties and even eating disorders. This pointed to the need to make the description of LD more specific. The version used in the pilot was the following:

"The development, learning, understanding or communication of children with learning disabilities does not match up to their actual age. In addition, these children may have problems in independent life skills (such as self-care or social skills). They are likely to have difficulty learning new things, adapting to new situations and coping independently.

These are children who may have general developmental delays or a specific condition such as Down syndrome or even more severe brain injuries. Some children with autism or cerebral palsy also have learning disabilities.

Some children with learning disabilities go to a special school and spend no or only some time at a linked primary school. Other children with learning disabilities go to a mainstream school and usually get extra support."

After rewriting to make the description more specific, the adapted version used in the WAQ-A-NV(LD) for Study 1 was as follows:

"Children with learning disabilities develop slower than their peers. They can have problems with understanding and communication, and with life skills, such as self-care, health and safety.

They often find it difficult to learn new things, adapt to new situations and to cope independently. These are children who have general developmental delays or a specific condition such as Down syndrome or more severe brain injuries. Children with autism or cerebral palsy can also have learning disabilities. Many children with learning disabilities go to a special school and spend no or only some time at a primary school."

With regards to the questions, some parents took more time than others to complete them, but most had no problem understanding and answering them. The rating scales did not cause any problems and parents rated their answer on them without needing further instructions. However, on some occasions, instead of circling either number 1 or 10, parents circled the label, which results in a 12-point instead of a 10-point scale. Therefore, these labels were distanced further from the numbers 1 and 10 so they would not appear as part of the 10-point scale and at the top of the questionnaires it was stressed to circle a number.

5.2.5.3 Pilot summary. Based on the outcomes of the pilot, both parents' ratings and reasoning, vignettes C, D and F from the WAQ were selected for the WAQ-A and the WAQ-A-NV and were named respectively A, B and C. The description of LD in the WAQ-A-NV(LD) was made more specific to avoid misinterpretation. Finally, the rating scales were slightly adapted to avoid parents from circling the labels of the extremes as their response. The final versions of the WAQ-A, the WAQ-A-NV(LD) and the WAQ-A-NV(TD) can be found in the questionnaire booklet in Appendix B1, Appendix B2 and Appendix B3 respectively.

5.2.6 Analyses. Data were analysed using SPSS. Cleaning up the data involved checking for missing data, checking for outliers and assessing the normality of the data. The preliminary analyses consisted of computing descriptives and reliabilities of the scales. For Aim 1.1, *t*-tests and Mann-Whitney *U*-tests were carried out to examine any differences between the causal attributions on the WAQ-A-NV of parents of TD children on the behaviour of an unknown child with an LD

versus the behaviour of an unknown TD child. For Aim 1.2a, *t*-tests and Mann-Whitney *U*-tests were carried out to examine any differences between the causal attributions on the WAQ-A of parents of children with an LD on their own child's behaviour versus the causal attributions on the WAQ-SV(LD) of parents of TD children on the behaviour of an unknown child with an LD. For Aim 1.2b, parents of children with an LD holding different views on children with an LD from those views prevailing among parents of TD children were identified using standard deviations. Group differences were assessed using *t*-tests and chi-square tests. For those views prevailing among parents of TD children to the views on children with an LD from those views prevailing among parents of TD children to the views on children with an LD from those tests. For Aim 1.2c, parents of TD children holding different views on children with an LD from those views prevailing among parents of TD children to the views on children with an LD from those tests. For Aim 1.2c, parents of TD children holding different views on children with an LD from those views prevailing among parents of TD children to the views on children with an LD from those views prevailing among parents of TD children to the views on children with an LD from those views prevailing among parents of TD children were identified using standard deviations. Group differences were assessed using *t*-tests and chi-square tests.

5.3 Results Study 1

5.3.1 Preparation of the data.

5.3.1.1 Inclusion and exclusion criteria. Data were collected from 52 parents of children with an LD and 81 parents of TD children. One participant from the LD group was excluded due to large amounts of missing data (see next section). Thirteen participants in the TD group were excluded due to not meeting the criteria (one participant was a sister; two participants' children were too young or too old; four participants' children had dyslexia, asthma or type 1 diabetes; six participants had large amounts of missing data). The final sample consisted of 119 participants with 51 in the LD group and 68 in the TD group of which 33 completed the WAQ-A-NV(LD) (the TD(LD) group) and 35 completed the WAQ-A-NV(TD) (the TD(TD) group).

5.3.1.2 Missing data. Missing data was due to participants missing questions or parts of questionnaires. One participant in the LD group missed all answers on scenario C. The mean WAQ-A scores for this participant were therefore based on only two scenarios. None of the other participants and variables had more than 10% missing data. One case had chunks of missing data where the participant had missed the five emotion questions for two of the three scenarios on the WAQ-A-NV(TD). This participant was excluded from analyses involving the emotion questions only. When less than 10% of the data on any given variable and any participant is missing any imputation technique to replace missing data can be employed without biasing the results (Field, 2005; Tabachnick & Fidell, 2013). Mean substitution (Field, 2005; Tabachnick & Fidell, 2013) was employed to replace missing data.

5.3.1.3 Outliers. For all variables, *z*-scores were calculated and those exceeding +/- 3.29 were considered outliers (Field, 2005; Tabachnick & Fidell, 2013). One outlier was found on *embarrassment/shame* and one on *guilt* from two respondents in the LD group. These were replaced with a score equal to a *z*-score of 3.29 (Field, 2005; Tabachnick & Fidell, 2007).

5.3.1.4 Normality. Skewness and kurtosis values were calculated for all variables. These were converted to *z*-scores and absolute values greater than 1.96 were considered to indicate a skewed or peaked/flat distribution (Field, 2005; Tabachnick & Fidell, 2013). In addition to this, Kolmogorov-Smirnov and Shapiro-Wilks tests were carried out to assess the overall shape of the distribution.

For the first aim in which the TD(LD) group was compared to the TD(TD) group, *problem*, *child control*, *child responsibility*, *blame*, *intent* and *parent responsibility* were normally distributed in both groups. *Stability* had a negative skew

in the TD(LD) group and *parent control* had a negative skew in the TD(TD) group. Log, square root and inverse transformations did not result in normal distributions for both groups and these two items were therefore considered non-normal. The emotion questions were found to have a build-up of responses on the lowest score and no transformation could normalise this. These variables were dichotomised. The group was split in two with the half scoring lowest being assigned a 1 and the half scoring highest being assigned a 2.

For the second aim in which the LD group was compared to the TD(LD) group, *problem*, *child control*, *parent control* and *parent responsibility* were normally distributed in both groups. *Stability* and *influence of LD* were significantly different from normal in both groups and *child responsibility*, *blame*, *intent* in the LD group only. The distribution of *intent* was normal for both groups after a square root transformation. Log, square root and inverse transformations did not result in normal distributions for both groups for the other constructs and these were considered non-normal. The emotion questions again were found to have a build-up of responses on the lowest score and no transformation could normalise this. These variables were dichotomised. The group was split in two with the half scoring lowest being assigned a 1 and the half scoring highest being assigned a 2.

5.3.2 Demographics of the sample. Demographics for the samples of Study 1 and Study 3 can be found in Table 5.5. The two TD groups did not differ from each other on any of the demographics. As expected, participants in the LD group were more likely to have sons (see Chapter 1), were more likely to estimate their child's development as delayed and were less likely to have their child attend mainstream education than participants in the TD(LD) group. The LD group consisted of parents

Demographics of S	Study 1 and Stud	ly 3 Sample.
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Table 5.5

							Test statistics	
			_				LD vs	TD(LD) vs
		LD	TD	TD(LD)	TD(TD)	LD vs TD	TD(LD)	TD(TD)
Child age		8.7 (1.62;	8.4 (1.66;	8.2 (1.66;	8.6 (1.67;	t(116) =	t(81)=1.33	<i>t</i> (66)=-0.91
M (SD; range)		5.5-12.5)	5.9-11.7)	6.3-11.7)	5.9-11.6)	0.98		
Child gender	Boy	39 (76.5)	36 (52.2)	16 (48.5)	20 (55.6)	$\chi^2(1) =$	$\chi^2(1)=7.75^{**}$	$\chi^2(1)=0.35$
n (%)	Girl	11 (21.6)	33 (47.8)	17 (51.5)	16 (44.4)	8.30**		
Estimate	Severe delay	28 (54.9)	0 (0.0)	0 (0.0)	0 (0.0)	N/A	N/A	$\chi^2(2)=0.49$
development	Moderate delay	19 (37.3)	0 (0.0)	0 (0.0)	0 (0.0)			
n (%)	Mild delay	3 (5.9)	3 (4.3)	1 (3.0)	2 (5.6)			
	Typical	0 (0.0)	50 (72.5)	25 (75.8)	25 (69.4)			
	Advanced	0 (0.0)	14 (20.3)	6 (18.2)	8 (22.2)			
	Missing	1 (2.0)	2 (2.9)	1 (3.0)	1 (2.8)			
School	Mainstream	7 (13.7)	69 (100)	33 (100.0)	36 (100.0)	N/A	N/A	N/A
n (%)	Specialist	36 (70.6)	0 (0.0)	0 (0.0)	0 (0.0)			
	Specialist unit	6 (11.8)	0 (0.0)	0 (0.0)	0 (0.0)			
	Both spec. and main.	2 (3.9)	0 (0.0)	0 (0.0)	0 (0.0)			
Children	1	7 (14.3)	16 (23.2)	10 (30.3)	6 (16.7)	$\chi^{2}(2) =$	$\chi^2(2)=3.29$	$\chi^2(2)=1.99$
in family	2	28 (57.1)	34 (49.3)	14 (42.4)	20 (55.6)	1.51		
n (%)	>2	14 (28.6)	19 (27.5)	9 (27.2)	10 (27.8)			
Know persons	Yes	N/A	42 (60.9)	21 (63.6)	21 (58.3)	N/A	N/A	$\chi^2(1)=0.20$
with an LD	No	N/A	27 (39.1)	12 (36.4)	15 (41.7)			
n (%)								
Relation	Mother	42 (82.4)	58 (84.1)	27 (81.8)	31 (86.1)	$\chi^2(2) =$	$\chi^2(3)=5.51$	$\chi^2(2)=0.26$
to child	Father	6 (11.8)	2 (2.9)	1 (3.0)	1 (2.8)	0.06		
n (%)	Carer	1 (2.0)	9 (13.0)	5 (15.2)	4 (11.1)			
Ethnic	White	45 (88.2)	67 (97.1)	31 (93.9)	36 (100.0)	N/A	$\chi^2(3)=4.25$	$\chi^2(1)=2.25$
background	Asian/Asian British	4 (7.8)	0 (0.0)	0 (0.0)	0 (0.0)		• /	
n (%)	Black(British)/African/Caribbean	1 (2.0)	0(0.0)	0 (0.0)	0 (0.0)			
` '	Mixed/multiple groups	1 (2.0)	2 (2.9)	2 (6.1)	0 (0.0)			
	1 0 1							(continued)

							Test statistic	S
							LD vs	TD(LD) vs
		LD	TD	TD(LD)	TD(TD)	LD vs TD	TD(LD)	TD(TD)
Level of	Primary/secondary	11 (21.6)	10 (14.5)	4 (12.1)	6 (16.7)	$\chi^{2}(3) =$	$\chi^2(3)=3.39$	$\chi^2(3)=5.27$
education	Highers/college	7 (13.7)	16 (23.2)	10 (30.3)	6 (16.7)	4.16		
<i>n</i> (%)	Degree/diploma	18 (35.3)	22 (31.9)	13 (39.4)	9 (25.0)			
	Postgraduate	8 (15.7)	20 (29.0)	6 (18.2)	14 (38.9)			
	Missing	7 (13.7)	1 (1.4)	0 (0.0)	1 (2.8)			
Marital status	Never married	5 (9.8)	6 (8.7)	1 (3.0)	5 (13.9)	$\chi^2(1) =$	$\chi^2(5)=2.38$	$\chi^2(5)=10.05$
<i>n</i> (%)	Cohabiting	6 (11.8)	6 (8.7)	4 (12.1)	2 (5.6)	0.01		
	Currently married	32 (62.7)	46 (66.7)	18 (54.5)	28 (77.8)			
	Separated	2 (3.9)	4 (5.8)	3 (9.1)	1 (2.8)			
	Divorced	4 (7.8)	3 (4.3)	3 (9.1)	0 (0.0)			
	Widowed	2 (3.9)	1 (1.4)	1 (3.0)	0 (0.0)			
	Missing	0 (0.0)	3 (4.3)	3 (9.1)	0 (0.0)			
Occupation	Paid employment	25 (49.0)	43 (62.3)	19 (57.6)	24 (66.7)	$\chi^2(1) =$	$\chi^2(6)=4.37$	$\chi^2(6)=4.42$
<i>n</i> (%)	Self employed	3 (5.9)	4 (5.8)	2 (6.1)	2 (5.6)	3.33		
	Non-paid, volunteer	1 (2.0)	1 (1.4)	1 (3.0)	0 (0.0)			
	Student	2 (3.9)	1 (1.4)	1 (3.0)	0 (0.0)			
	House maker	14 (27.5)	15 (21.7)	8 (24.2)	7 (19.4)			
	Unemployed	1 (2.0)	2 (2.8)	0 (0.0)	2 (5.6)			
	Other	5 (9.8)	0 (0.0)	0 (0.0)	0 (0.0)			
	Missing	0 (0.0)	3 (4.3)	2 (6.1)	1 (2.8)			
Income	up to 15,000	19 (37.3)	14 (20.3)	7 (21.2)	7 (19.4)	$\chi^2(3) =$	$\chi^2(3)=3.70$	$\chi^2(3)=2.37$
<i>n</i> (%)	up to 30,000	14 (27.5)	18 (26.1)	11 (33.3)	7 (19.4)	7.74*		
	up to 45,000	11 (21.6)	15 (21.7)	7 (21.2)	8 (22.2)			
	up to 60,000	4 (7.8)	17 (24.6)	6 (18.2)	11 (30.6)			
	Missing	3 (5.9)	5 (7.2)	2 (6.1)	3 (8.3)			

Note: LD = LD group; TD(LD) = TD group completing questionnaire on child with an LD; TD(TD) = TD group completing questionnaire on TD child; M = mean; SD = standard deviation; n = number. *p < .05; **p < .01.

of 17 children with autism, 12 children with Down syndrome, 4 children with cerebral palsy, 1 with fragile X syndrome, 1 with ring chromosome 15, 1 with Angelman syndrome, 1 with IDIC 15, 1 with chromosome 13 deletion and 13 with an LD that was not otherwise specified (LD-nos).

5.3.3 Aim 1.1 – Views among parents of TD children on children with an LD versus TD children. Views of parents of TD children on a neighbour's child with an LD (the TD(LD) group) were compared to views of parents of TD children on behaviour of a neighbour's TD child (the TD(TD) group). This was to examine views of parents of TD children in mainstream schools towards behaviour of children with an LD and to assess if they were as predicted by the psychosocial model of disability-related child behaviour problems (Woolfson, 2004). When dependent variables were normally distributed in both groups, *t*-tests were used and Mann-Whitney *U*-tests were used when they were non-normal in one or both groups. Bonferroni adjustments were not used to correct for the number of tests conducted, as this increases the chance of Type II errors (Field, 2005; Perneger, 1998). To adjust for the chance of Type I error then, results were assessed using a more stringent significance level of .01.

Results are displayed in Table 5.6. Levene's test showed that variances were equal in the two groups for all six dependent variables in the *t*-tests. The TD(LD) group viewed the cause of misbehaviour as significantly more stable and as less under the child's control, and viewed the child as less responsible, less to blame and as acting with less intent than the TD(TD) group. Effect size r ranged from medium to large. No differences were observed in how big a problem the behaviour was, and in the parent's responsibility.

Table 5.6

Means (M), Standard Deviations (SD), Test Statistics and Effect Sizes (r) for TD

	TD(LD) (n = 33)	TD(TD) $(n = 35)$		
	M(SD)	$M\left(SD\right)$	Test statistic	r
Problem	4.39 (1.87)	5.01 (2.33)	t(66) = -1.20	.15
Stability	8.02 (1.71)	6.44 (2.08)	$U = 321.50^{*}$.38
Child control	5.02 (1.71)	7.14 (1.74)	$t(66) = -5.06^{**}$.53
Child responsibility	4.51 (1.90)	6.90 (1.88)	$t(66) = -5.21^{**}$.54
Blame	4.23 (2.19)	6.39 (2.28)	$t(66) = -3.98^{**}$.44
Intent	3.94 (2.08)	5.48 (2.08)	$t(66) = -3.05^*$.35
Parent responsibility	4.97 (1.75)	4.83 (2.16)	t(66) = 0.29	.04

Groups on the Written Analogue Questionnaire-Adapted-Neighbour Version.

Note: TD(LD) = TD group completing questionnaire on child with an LD; TD(TD) = TD group completing questionnaire on TD child; n = number.

 $p^* < .01; p^* < .001.$

Chi-square tests showed no significant differences between the TD(LD) and

the TD(TD) group on emotions using the more stringent significance level of .01.

The contingency table can be found in Table 5.7.

Table 5.7

		TD	TD				TD	TD	
		(LD)	(TD)	Total			(LD)	(TD)	Total
Anger	No	19	16	35	Guilt	No	18	20	38
	Yes	14	18	32		Yes	15	14	29
	Total	33	34	67		Total	33	34	67
Embarrass-	No	17	16	33	Hopeless-	No	18	22	40
ment/shame	Yes	16	18	34	ness	Yes	15	12	27
	Total	33	34	67		Total	33	34	67
Pity/	No	12	22	34					
sympathy	Yes	21	12	33					
	Total	33	34	67					

Contingency Table for TD Groups on Emotions.

Note: TD(LD) = TD group completing questionnaire on child with an LD; TD(TD) = TD group completing questionnaire on TD child.

5.3.4 Aim 1.2 – Views of parents of children with an LD and prevailing views among parents of TD children.

5.3.4.1 Aim 1.2a – Comparing views of parents of children with an LD to prevailing views among parents of TD children. T-tests and Mann-Whitney U-tests were employed to assess the difference between causal attributions of parents of children with an LD on the WAQ-A and of parents of TD children on the WAQ-A-NV(LD). Again, a more stringent significance level of .01 was used to adjust for the increased chance of Type I error when conducting a large number of tests, rather than a Bonferroni adjustment, as this increases the chance of Type II error (Field, 2005; Perneger, 1998). Levene's test showed that variances for all dependent variables in the *t*-tests were not significantly different between the two groups. The results are displayed in Table 5.8. No significant differences between the two groups were found.

Table 5.8

Means (M), Standard Deviations (SD), Test Statistics and Effect Sizes (r) for LD and TD(LD) groups on the Written Analogue Questionnaire-Adapted-Neighbour Version.

	LD (<i>n</i> = 51)	TD(LD) (n = 33)		
	M(SD)	M(SD)	Test statistic	r
Problem	4.92 (2.01)	4.39 (1.87)	t(82) = 1.19	0.13
Stability	7.79 (2.20)	8.02 (1.71)	U = 825.00	-0.02
Child control	5.53 (2.00)	5.02 (1.71)	t(82) = 1.21	0.13
Child responsibility	4.76 (2.31)	4.70 (1.74)	U = 818.00	-0.02
Blame	3.99 (2.01)	4.23 (2.18)	U = 809.00	-0.03
Intent (sqrt)	1.84 (0.57)	1.91 (0.55)	t(82) = -0.59	0.07
Parent responsibility	4.30 (2.14)	4.97 (1.75)	t(82) = -1.50	0.16
Influence of LD	7.91 (1.54)	6.85 (1.98)	U = 606.00	-0.24

Note: LD = LD group; TD(LD) = TD group completing questionnaire on child with an LD; n = number.

Chi-square tests showed no differences between the two groups on the

emotion questions. The contingency table can be found in Table 5.9.

Table 5.9

			TD					TD	
		LD	(LD)	Total			LD	(LD)	Total
Anger	No	26	17	43	Guilt	No	25	18	43
	Yes	25	16	41		Yes	26	15	41
	Total	51	33	84		Total	51	33	84
Embarrass-	No	26	17	43	Hopeless-	No	25	18	43
ment/shame	Yes	15	16	41	ness	Yes	26	15	41
	Total	51	33	84		Total	51	33	84
Pity/sympathy	No	26	18	44					
	Yes	25	15	40					
	Total	51	33	84					

Contingency Table for LD and TD(LD) Groups on Emotions.

Note: LD = LD group; TD(LD) = TD group completing questionnaire on child with an LD.

5.3.4.2 Aim 1.2b – Identifying parents of children with an LD who hold

affirmative views. In order to identify parents of children with an LD who had more affirmative views, that is, different from those views prevailing among parents of TD children, viewing their child's behaviour as caused by factors less stable, more under the child's control, viewing the child as having more responsibility, acting with more intent and more to blame and viewing the influence of the LD as less, participants scoring 1.5 standard deviations higher or lower (as applicable on each variable) than the TD(LD) group on one or more of these variables were selected. When selecting participants based on a cut-off of 2 standard deviations, only nine parents would be selected, which is too small to carry out any meaningful analyses. When selecting participants based on a cut off of 1 standard deviation, as many as 30 parents would be selected, which is too large to view them as a unique group separate from most parents of children with an LD in the sample. The group of participants crossing one or more cut-offs of 1.5 standard deviations consisted of 18 parents leaving 33 parents in the other group (Table 5.10).
Table 5.10

Means (M), Standard Deviations (SD), Cut-offs, and Numbers (n) of LD Participants

Construct	TD(LD) M(SD)	Cut off 1.5 SD	n LD participants
Stability	8.02 (1.71)	<5.46	8
Child control	5.02 (1.71)	>7.59	9
Child responsibility	4.70 (1.74)	>7.31	7
Blame	4.23 (2.18)	>7.50	1
Intent	3.94 (2.08)	>7.06	2
Influence of LD	6.85 (1.98)	<3.88	0

Differing 1.5 SDs from Societal Views.

Note: TD(LD) = TD group completing questionnaire on child with an LD.

A *t*-test indicated that parents in the group differing from the prevailing view among parents of TD children viewed themselves as having significantly more control over their child's behaviour (M = 6.63, SD = 2.00) than parents in the other group (M = 5.29, SD = 2.02), t(49) = 2.28, p = .03, r = .31. Although the table had expected counts less than 5 in 33.3% of cells, a chi-square test indicated that the group differing from the prevailing view among parents of TD children was more likely to classify their child as having a mild delay, rather than a moderate or severe delay, $\chi^2(2) = 6.37$, p = .04, medium effect: Cramer's V = .36, p = .04. This group was also more likely to have a child attending mainstream than any other type of education; Fisher's exact test was significant with p = .045 and a medium effect: Cramer's V = .30, p = .03 (the table had expected counts less than 5 in 50% of cells). The contingency tables can be found in Table 5.11. When examining the children's diagnoses, no significant associations arose.

Table 5.11

Contingency Table for Participants that do and do not differ from Prevailing Views among Parents of TD Children.

	Cut-off group	Non-cut off	Total
severe delay	9	19	28
moderate delay	5	14	19
mild delay	3	0	3
Total	17	33	50
mainstream	5	13	18
other	2	31	33
Total	7	44	51
	moderate delay mild delay Total mainstream other	severe delay9moderate delay5mild delay3Total17mainstream5other2	moderate delay514mild delay30Total1733mainstream513other231

^{*}p < .05

5.3.4.3 Aim 1.2c – Identifying parents of TD children who hold affirmative

views. The same method as for the previous analysis was used to identify parents of TD children who had more affirmative views than the prevailing view among parents of TD children. A cut-off of 1.5 standard deviations was again employed for *stability, child control, child responsibility, intent, blame* and *influence of LD*. When selecting participants based on a cut-off of 2 standard deviations, only three parents would be selected, which is too small to carry out any meaningful analyses. When selecting participants based on a cut off of 1 standard deviation, as many as 16 parents would be selected, which is too large to view them as a unique group separate from most parents of TD children in the sample. The group of participants crossing one or more cut-offs of 1.5 standard deviations consisted of nine parents leaving 24 parents in the other group (Table 5.12).

A *t*-test was carried out and Levene's test found no significant difference between the variances of both groups. The results indicated that parents in the group differing from the prevailing view had significantly older children (M = 9.66, SD =1.65) than parents in the other group (M = 7.67, SD = 1.33), t(31) = 3.60, p = .001, r = .54, with a large effect size. No differences were found between the two groups on any of the other demographics, or on the parent attributions of the WAQ-A-NV(LD).

Table 5.12

Means (M), Standard Deviations (SD), Cut-offs, and Numbers (n) of TD Participants Differing 1.5 SDs from Prevailing Views among Parents of TD Children.

Construct	TD(LD) M(SD)	Cut off 1.5 SD	n TD participants
Stability	8.02 (1.71)	<5.46	5
Child control	5.02 (1.71)	>7.59	2
Child responsibility	4.70 (1.74)	>7.31	3
Blame	4.23 (2.18)	>7.50	2
Intent	3.94 (2.08)	>7.06	3
Influence of LD	6.85 (1.98)	<3.88	3

Note: TD(LD) = TD group completing questionnaire on child with an LD.

5.4 Discussion Study 1

5.4.1 Prevailing views among parents of TD children are different for children with an LD and TD children. The results for Aim 1.1 were in line with the hypotheses and provided evidence of parents of TD children utilising a medical model in their beliefs for children with an LD as proposed by Woolfson (2004) (see Section 3.1). That is to say, problematic behaviour is viewed as a stable part of the child's disability and child misbehaviour may therefore be excused, resulting in a view in which the child is seen as having less control, is less responsible, less to blame, and acting with less intent than TD children. The behaviour in the scenarios was viewed similarly problematic for children with an LD and TD children. Finally, the role of the parent was viewed similarly for parents of children with an LD and parents of TD children, as there was no difference between the amount of responsibility that was assigned to them for child behaviour. Overall, the prevailing among parents of TD children towards parents and their children with an LD was one that excused the child for difficult behaviour, but not the parent. These findings are in line with the literature. In the current study, children with an LD were not held responsible but the parents of children with an LD were, signifying that the child was dependent on the parent for behaviour change. This is similar to the findings of Bryant et al. (2006) and Huws and Jones (2010) where participants viewed people with Down syndrome and autism as 'sufferers' and dependent on others. As discussed in Section 3.1.2.1, being pointed out by society as disabled creates boundaries to participate in society (Brett, 2002) and because of negative attitudes towards disabilities children with an LD are excluded from social opportunities. The current study has shown that children with an LD are indeed viewed differently from TD children by parents in mainstream schools, and that misbehaviour is viewed as caused by factors that are stable and uncontrollable, highlighting the role the LD plays in the child's behaviour. Consistent with prior research (Brett, 2002; Kelly, 2005), in a setting where such views are held, children with an LD are likely to experience exclusion.

The current study also found that parents of children with an LD were not excused from responsibility for their child's behaviour, similar to Landsman's finding (2005) that it is the parent's role to seek help from experts. The negative side is that mothers can experience this responsibility as blame and feel judged by others (S. E. Green, 2003; McKeever & Miller, 2004; Nelson, 2002). As discussed in Section 3.1.2.1, this is a stressful experience for parents adding to their burden and discouraging them and their child from participating (S. E. Green, 2003; D. Skinner & Weisner, 2007). Overall, the result relating to Aim 1.1 showed that views prevailing among parents of TD children in mainstream schools are different for

children with an LD than for TD children, and that these views are likely not supportive for the child's inclusion and for effective parenting.

5.4.2 Identifying factors of parents holding affirmative views of LDs. In relation to the psychosocial model of disability-related child behaviour problems (Woolfson, 2004), the results relating to Aim 1.2a indicate that overall, parents of children with an LD utilise the same medical model as parents of TD children in their beliefs for the behaviour of their child. Parents of children with LD appear to be holding the same view where problematic behaviour is seen as part of the disability. This supports D. Skinner and Weisner (2007) who argued that a family's understanding of disability is shaped by societal models and beliefs, affecting the beliefs of both parents of children with an LD and parents of TD children in similar ways. What the consequences are of such views for parenting strategies is the topic of Study 2 and Study 3. However, a family's understanding of their child's disability can sometimes be created in opposition to prevailing beliefs (Maul & Singer, 2009; D. Skinner & Weisner, 2007). In relation to Aim 1.2b, the current study found that those parents who held views that were different from views prevailing among parents of TD children, that is, not in line with the medical model and more affirmative, attributed more control towards themselves for their child's misbehaviour, and appeared more likely to classify their child as having a mild delay rather than moderate or severe, and more likely to have a child going to mainstream rather than special education.

The more affirmative views in this group of parents could simply be related to the child having a less severe delay, allowing them to view themselves as having more control and mainstream education being a more viable option. Conversely, the

explanation could be in the other direction where parents' views motivate their decisions. Holding more affirmative views of disability is in line with a parent who opposes prevailing views; choosing mainstream rather than specialist education, viewing and rating the child as mildly rather than moderately or severely delayed, and viewing themselves as more in control over their child's behaviour. These two processes could work at the same time, where it is more difficult for a parent of a child with a more severe delay to hold more affirmative views, and where those parents opposing prevailing views make more affirmative choices. How the beliefs of parents of children with an LD affect parenting strategies is the topic of Study 2 and Study 3.

Study 1 also aimed to find identifying factors of parents of TD children who held more affirmative views of disability than the prevailing view. The only difference was the age of the respondent's child with those who held more affirmative views having older children. Parents were asked to imagine the neighbour's child with an LD to be of the same age and gender as their own child. As discussed in Section 5.2.1.2.1, younger children are excused more for misbehaviour than older children (Dix et al., 1989; Johnston & Patenaude, 1994). Possibly, a child who was younger and had an LD was excused for misbehaviour to a greater extent than a child who was older and had an LD.

5.4.3 Limitations. One limitation of the study was the sample size. For some of the chi-square tests, there were cells with expected counts less than 5 which results in a loss of power (Field, 2005). Some effects might not have been detected. The second limitation is related to the nature of the sample and the generalisation of results. Data collected for this study was an addition to Study 3, and therefore one

group of the sample represents a convenience sample of parents of TD children in mainstream education. While relevant in relation to children with LD attending mainstream education, it would be valuable to also assess the views of society at large of children with LD. This is to get an understanding of societal views in itself in addition to how the views of parents of children with LD are placed within society and to what extent parents of children with LD hold similar or different views.

5.4.4 Conclusions. To summarise, the present study found that views prevailing among parents of TD children for the behaviour of children with an LD was different from TD children, in line with the medical model as proposed by Woolfson (2004). In addition, it was found that overall, parents of children with an LD hold similar views of their child to these prevailing views. Some parents of children with an LD however hold more affirmative views of their child's behaviour. These were likely parents of children who were less severely delayed but at the same time these views could motivate them to hold further affirmative views and make decisions for themselves and the child in line with this. The following Study 2 will consider what the attributions mean to parents of children with an LD. Study 3 will then consider what the effect of holding certain attributions, similar or different from the medical model, is on parent behaviour and child behaviour and will assess differences between parents of children with an LD and parents of TD children.

Chapter 6 – Study 2: Exploring Causal Beliefs of Parents of Children with an

LD

6.1 Aim and Hypothesis

An attributional framework to examine parental views on child behaviour was identified in Chapter 4. The chapter also argued that there is a lack of research on causal attributions and their relationship to parenting strategies in parents of children with an LD. Study 1 then found that parents of children with an LD overall hold similar views to views prevailing among parents of TD children in terms of attributions, but that some parents hold more affirmative views. In order to consider the predictive relationship of these views on parenting strategies, Study 2 first aimed to explore in depth how parents of children with an LD think about the causes of their child's behaviour in terms of causal attributions and causal beliefs and how this relates to the strategies they use. This was a qualitative study employing interviews in a small sample of parents. It was hypothesised that parental beliefs viewing factors related to the child's LD as causes of misbehaviour along with accompanying internal, stable and highly controllable or highly uncontrollable causal attributions would be related to the use of less effective parenting strategies. Parents' causal attributions towards themselves, in particular low control and high responsibility, were also hypothesised to be related to the use of less effective parenting strategies.

6.2 Method Study 2

6.2.1 Participants. Eight parents of children with an LD were recruited through special education schools. Teachers and staff in the schools individually invited parents to participate in an interview and handed them the participant information sheet (Appendix E). Participants either contacted the researcher to make

an appointment or the school passed on contact details of interested parents to the researcher who then contacted them. A further two parents were recruited through Down's Syndrome Scotland and Enable Scotland, who placed advertisements for the study in their newsletters. The parents contacted the researcher for further information, at which stage they were sent the participant information sheet.

The inclusion and exclusion criteria were the same as for Study 1, namely that participants were the parent or main carer of a child with an LD between the ages of 6 and 12 (see also Sections 5.2.1.2.1 and 5.2.1.2.2). These criteria were checked with parents before making an appointment for an interview. Demographic details of the sample can be found in Table 6.1.

Table 6.1

Sample Demographics using M	lean (M), Standard Deviation	(SD) and Number (n).
-----------------------------	------------------------------	----------------------

	8.78 (1.66; 6.42-12.33)
Boy	6
Girl	4
Mainstream	2
Specialist	2 8
2	7
>2	7 3 9
Mother	9
Father	1
White	10
Other	0
	12.67 (1.86)
Never married	3
Currently married	5
Divorced	5 2 2
Paid employment	2
Homemaker/Carer	8
up to 15,000	2
up to 30,000	5
up to 45,000	1
up to 60,000	1
	Girl Mainstream Specialist 2 >2 Mother Father White Other White Other Never married Currently married Divorced Paid employment Homemaker/Carer up to 15,000 up to 30,000 up to 45,000

Five of the participants' children had autism, two had Down syndrome, one

had microcephaly, one had Cornelia de Lange syndrome and for one child the cause

of the LD was not known. Details of the participants can be found in Table 6.2.

Table 6.2

Participant	Relation to	Gender	Age	
initials	child	child	child	Child diagnosis
LN	mother	girl	6	microencephaly; global delays
DR	mother	boy	10	LD; autism
SA	mother	boy	9	LD; autism; severe
				behavioural difficulties
NR	mother	boy	7	LD; autism
HP	mother	boy	9	autism
SE	mother	boy	9	autism
PR	father	girl	9	Cornelia de Lange syndrome
KG	mother	boy	8	LD; epilepsy
KT	mother	girl	12	Down Syndrome
MD	mother	girl	9	Down Syndrome

Participant Information

Note: Participant initials have been modified to ensure anonymity.

6.2.2 Design. A qualitative approach was selected to facilitate the aims of the study. Due to its exploratory nature, semi-structured interviews were employed to collect the data. Semi-structured interviews allow the participant to be perceived as the topic's expert and they can be given full opportunity to tell their story, which allows the researcher to get a detailed picture of the participant's perceptions (J. A. Smith, 1995). It also allows the researcher to follow up on interesting topics brought up by the participant and therefore gives a fuller picture (Banister, Burman, Parker, Taylor, & Tindall, 1994; J. A. Smith, 1995). The conceptual framework for Study 2 is pictured in Figure 6.1. This was based on Woolfson's (2004) psychosocial model of disability-related child behaviour problems, Sameroff and Fiese's (2000) transactional model of child development and Weiner's (1979, 1980, 1985)

attributional theory, as discussed in Sections 3.1, Section 3.2 and Section 4.1.1 respectively. The research questions were as follows:

- What do parents of children with an LD see as causes for their child's difficult behaviour?
- How do parents of children with an LD see causes for their child's difficult behaviour in terms of causal attributions, i.e. locus, stability and control?
- What are the strategies that parents of children with an LD use in response to their child's difficult behaviour?
- What are the relationships between causal beliefs and attributions, and parents' behavioural responses?



Figure 6.1 Conceptual framework for Study 2.

6.2.3 Materials.

6.2.3.1 Vignettes. The six vignettes from the WAQ (Johnston & Freeman, 1997) that were adapted for Study 1 to be suitable for parents of both children with an LD and TD children (see Appendix A) were used at the start of each interview. This was done to ease participants into the subject and to avoid starting the interview by asking personal or sensitive questions about their own child's problematic behaviour.

6.2.3.2 Topic guide. A topic guide was designed for the semi structured interviews (Appendix F). This was based on the literature around causal attributions and parenting strategies. The topic areas that were identified were: identification of problematic child behaviour, participants' causal attributions for their child's misbehaviour and participants' responses to their child's misbehaviour. The topic guide consisted of a number of possible questions, probes and prompts for each topic area.

6.2.3.3 Demographic questions. Participants were asked to provide information on their child's date of birth, gender, presence of any known impairments, conditions or disabilities. Participants were also asked to provide information on how they first learned about their child's condition, to estimate their child's developmental level and to confirm their relationship to the child. Participants were asked about ages of other children, ethnicity, level of education, marital status, current employment and income.

6.2.4 Procedure. Ethical permission was gained from the University of Strathclyde Department of Psychology Ethics Committee. All participants were informed that the information would be confidential and anonymous. Participants were asked for permission to be audio recorded and it was explained that recordings and transcriptions would be stored in a locked filing cabinet and on a password protected computer in a locked office and that only the researcher and their supervisor would have access. Participants were required to give their informed consent prior to the interview (the consent form can be found in Appendix G).

Eight interviews with parents recruited through schools were carried out in private rooms at the school attended by the participants' child. Interviews with

parents recruited through Down's Syndrome Scotland and Enable Scotland were carried out in the participants' home and workplace. All participants agreed for the interview to be audio recorded. After explaining the ethical considerations and the procedure of the interview, participants signed the consent form.

Each interview started with the researcher reading out the six adapted scenarios from the WAQ. For each scenario, parents were asked if the situation described ever took place between themselves and their child, what they thought caused the situation or the child's behaviour and how they would react. Following this, parents were asked to describe problematic behaviours displayed by their own child, what they thought the causes were which included exploring their causal attributions and how they would normally react to the behaviour. In many of the interviews, participants came up with related and interesting topics which were also explored. At the end of the interview, participants were asked if they had anything to add or anything to ask the researcher and finally completed the demographics sheet.

Interviews lasted between 30 minutes and one hour. Participants received a £5 Marks and Spencer voucher for their participation or were included in a prize draw for a £30 voucher. All participants were given a debriefing sheet (Appendix H) and were sent a summary of the overall results of the study. All interviews were transcribed by the researcher.

6.2.5 Analyses. The process used for encoding the data was thematic analysis. Thematic analysis allows qualitative data to be used in a systematic manner and enhances accuracy in understanding and interpreting observations (Boyatzis, 1998). The steps used in the analysis followed Braun and Clarke's (2006) recommendations and are outlined in the following sections.

6.2.5.1 Phase 1: familiarisation with the data. The researcher carried out the interviews, transcribed all the interviews, re-read the whole dataset and was therefore highly familiar with and aware of the breadth and depth of the content of the data prior to starting the analyses (Braun & Clarke, 2006). Consequently, the information was processed on both an intuitive and a conscious level (Boyatzis, 1998, p. 45). Ideas for coding that came up during the interviews, the transcription of interviews and the re-reading were marked from these stages onward.

6.2.5.2 Phase 2: generating initial codes. Both a theory-driven and datadriven approach were used for generating codes. When using a theory-driven method, the data is approached with specific questions and themes in mind to code around in order to support a theory (Attride-Stirling, 2001; Boyatzis, 1998; Braun & Clarke, 2006). The theory provides the wording of themes and elements of the code. The theory-driven approach was applied to gather information on causal attributions. Wording of the codes and themes were taken directly from attributional theory. These themes and codes can be found in Table 6.3. However, coding was not restricted to the prior identified theory-driven themes, but features of the data that appeared interesting in relation to the study were also coded. This is a data-driven approach where codes and themes are constructed inductively from the data (Attride-Stirling, 2001; Boyatzis, 1998). The themes are consequently not based on a specific theory, but are determined by the gathered data (Braun & Clarke, 2006). The datadriven approach was applied to find any other additional codes and themes that seemed relevant in relation to the research questions.

Table 6.3

Theme	Locus	Stability	Control-related	Responsibility
Codes	Internal	Stable	Child control	Child responsibility
	External	Unstable	Parent control Intentionality Blame	Parent responsibility

Theory-Driven Themes and Codes.

The unit of coding was identified as 'the most basic segment, or element, of the raw data or information that can be assessed in a meaningful way regarding the phenomenon' (Boyatzis, 1998, p. 63). Codes were given specific definitions to avoid codes being interchangeable or redundant (Attride-Stirling, 2001). The researcher worked systematically and recursively through the entire data set and went back to previously identified codes to check their meaning and consistency when new data was added. Text surrounding an extract of interest was also coded to retain the context of the extract.

6.2.5.3 Phase 3: searching for themes. Codes that were generated from the data were sorted into potential themes and sub-themes, based on how they related to each other. To this extent, the extracts within each code were re-read. At this stage, a thematic network approach (Attride-Stirling, 2001) was used in which themes, subthemes and codes were linked together graphically. This served as a tool in the organisation of themes and interpretation of the text.

6.2.5.4 Phase 4: reviewing themes. First, all extracts for each theme were reread and it was examined if they seemed to form a coherent pattern. Themes were dropped or reinterpreted and adjusted when there was not enough data to support them, when the data within a theme did not fit meaningfully together (internal homogeneity) or when themes were not clearly distinct from each other (external

heterogeneity) (Braun & Clarke, 2006). Themes were adjusted to be specific enough to avoid repetition while also being broad enough to contain a set of linked ideas (Attride-Stirling, 2001). The extracts were either placed in other themes or dropped from the analysis. In the thematic network, themes, subthemes and codes were adjusted accordingly. Next, the whole dataset was reread to consider whether meanings and themes within the dataset as a whole were validly and accurately reflected in the thematic map. This seemed to be the case and no further changes were made.

6.2.5.5 Phase 5: defining and naming themes. The data extracts for each theme were organised into coherent and consistent accounts accompanied by narrative in order to tell the story within each theme as well as the stories relating the themes to each other and to the research questions. The sixth phase, producing the report, as identified by Braun and Clarke (2006) will be presented in the following results section.

6.3 Results

The analyses identified three main themes. Besides the theory-driven theme of causal attributions, a theme bringing together causal beliefs of difficult child behaviour and a theme bringing together parenting strategies were found.

6.3.1 Causal beliefs. Parents viewed their child's behaviour as caused by a range of factors, which can occur at the same time. Most causes were internal to the child (the LD, frustration, difficulty understanding, a limited attention span, attention seeking, pushing boundaries and the child's personality), and two were external to the child (the situation and parent behaviour). Of the internal causes, three were clearly related to the child's condition, namely LD causes, frustration and difficulty

understanding. Attention-seeking and pushing the boundaries were more typical causes and this was also strongly expressed by parents specifically for causes that were related to the child's attention span and personality. A thematic map can be found in Figure 6.2.



Figure 6.2 Thematic map of 'causal beliefs'.

6.3.1.1 Disorder/condition. Six parents in total (26 quotes) named causes for child misbehaviour that were related to the LD, namely the diagnosis, delayed (brain) development and medical issues. This showed that parents held knowledge about their child's LD and the types of behaviour related to or caused by the LD. Consequently, behaviour that conformed to this knowledge was ascribed to the LD. Although the type of behaviour attributed to the LD could differ, this applied to parents of children with different conditions showing that this kind of attribution was not dependent on the type of diagnosis the child had. For example:

'He is very specific, all part of autism, about what he'll eat. He actually eats a lot more than most kids. Variety-wise, I am quite fortunate. He eats about five things that aren't sweets.' [DR]

'And I do think children with Down syndrome have quite strong... they take over, if you don't kind of assert yourself.' [KT]

'I think immaturity. I think her mental age, her emotional age is not the same as her physical age.' [LN]

'It could be stuff in the brain. Because it is part of the brain obviously, it isn't working properly.' [SA]

Seeing the condition as a cause for some parents affected their further response.

When the LD was seen as the cause, certain misbehaviours were not perceived as problematic. This could prevent parents from trying to adjust their child's behaviour.

'He makes a lot of noise as well. You sort of say to him, calm down or... he gets louder and louder and louder. If you're not paying him any attention, which is quite funny. It really is his... but I don't see it as a problem because it is because of the autism.' [SE]

'It's the thing, it is probably... there is nothing I can do, because it is a disorder. You know what I mean, so. You just need to tell him "no, that's wrong" and "you can't do that." [HP]

Viewing the condition as the cause for behaviour was also supportive. If parents identified what the cause was, they could consequently change their strategies to prevent behaviour from becoming problematic:

'But what I learned was that if I say "get off the chair" and I wait too long, what others would say too long, she will get off the chair. And I said to the teachers "whatever you ask her to do, wait more than seems polite, and you'll often find she

will respond". And they did use that because I think it takes a long time. People with Down syndrome, they can't process quickly.' [KT]

6.3.1.2 Frustration as a cause of misbehaviour. Frustration was a common cause for misbehaviour and was used as an explanation by six parents (13 quotes).Communication issues or physical limitations or inabilities, ranging from playing computer games to sitting up, caused the frustration.

'And I think frustration about, not just about her physical movement, what she is trying to explore, the world, but communicating who she is.' [PR]

'Sometimes, I mean, it's hard to tell but most, I would say, most of his behaviour, is frustration with not being vocal (...) when he wants something and he can't... he knows what it is and he cannot get it out.' [DR]

Only one parent related this cause to a strategy. When her son was frustrated because he could not find something her strategy was to find it for him. It is interesting in itself why this cause was not mentioned in relation to strategies more often. Because of the link with the disability, parents might find that there is not much they can do about the child's frustration, as expressed by a parent in the final extract.

'It can happen at any time, they have to have it there and then. So normally what I try to do is have it sorted out for him. The same with the toys, if he can't find something, he gets frustrated. So he starts kind of crying and shouting.'[SE] 'I would say it is his inability to communicate whatever his frustration is and the fact that I can't help.' [NR]

6.3.1.3 Difficulty understanding. A lack of understanding was mentioned by eight parents as a cause for difficult behaviour (23 quotes). This was expressed as the child not understanding or not realising how bad the behaviour was, or that the behaviour came from not understanding the situation or what was happening.

'In a shop, for example, if he wants one of the sitting rides for a two-year-old, trying to explain to him that he is nine and he's about seven stone, and he's far too big for it can be a problem. You know, he doesn't get that, so he'll lie on the ground. And he'll bang and he'll kick.' [DR]

'A lack of understanding that he is not getting something. Why he is not getting it or why it is not happening now. Why am I not doing something that he wants? And he just, you can't just explain it to him, simply.' [NR]

'She maybe wouldn't get that she, about how you should, how appropriate it is to do something.' [KT]

Parents reacted to behaviour that they saw as caused by a lack of understanding in different ways. One mother stressed the importance of reiterating the rules to her daughter, in order to eventually internalise rules.

'Some of it is, but just a bit naughty, hiding and things like that, and you are like well, you've explained it to her and how much she understands of what you've explained is very difficult and I think she does know because again I will explain to her "I couldn't see you there, I was really worried, Mummy was crying." Not that I do, because I think "oh she is somewhere". But to try and get her to understand how I felt about a situation, so that she can maybe start to develop thinking "well I don't want to see my Mummy like that so I will not do that again". Again you just need to consolidate that over a long period of time.' [MD]

However, other mothers responded to behaviour differently depending on whether they believed the child understood. One mother explained that when her son understood the situation, she did not let him have his way, but she was more tolerant of misbehaviour that was caused by his difficulty understanding.

'It's trying to distinguish between what he understands and what he doesn't. Because you have to deal with it completely different. You know, if it's just for naughtiness

because I am not giving him biscuits, well he can go and cry if he wants to, he is not getting them. But if he wants something specific and he can't tell me what it is, or if somewhere, as I say, for example, a good example is if it's closed, if he can't understand why, that's frustration because of his disability, you know. That causes the behaviour.' [DR]

6.3.1.4 The child's limited attention span. The child's attention span was mentioned as a cause for difficult behaviour by six parents (7 quotes). Children found it difficult to stay on task or to remember parents' instructions. Parents dealt with this by constantly reminding the child, trying to keep them on task or by structuring the environment to reduce distractions.

'Her attention span is very limited, so... to sit her, you know, you constantly got to keep her on target and on task.' [LN]

'At Christmas I had quite a lot taken away because I had cleared all the stuff away because he always had too much out and so the attention span wasn't good.' [KG] Another cause of difficult behaviour identified by the interviewees was that when the child's attention was focused on a particular activity they did not have attention left to follow instructions from their parent. Two parents clearly stated that this was something they thought relevant for all children and not typically for children with an LD:

'She has a very short attention span as well, so if she is concentrating on the iPad, then that is what she wants to do or if she is doing this then it's what she wants to do, because there is television, that is what they want to do so they just go down the avenue that they can see. They don't see the big picture, they just see... I think it is that very much kids in general.' [MD]

6.3.1.5 Attention seeking. Eight of the ten parents mentioned attentionseeking as a cause for their child's misbehaviour (10 quotes).

'He wants your attention. For anything, toy, drink, juice. He would continue to, even when you say "I'm on the phone, and I'll be one minute" he would still continue to demand that you put him first.' [SA]

'That was her misbehaving. Because she... settle up and get her into bed and that's what should be happening, not... there is no other purpose, just oh well, going to get up and keeping us up and... attention.' [PR]

It was difficult for parents to point this out as a main cause for behaviour as different things could happen at the same time in a situation.

'At that moment maybe two people are in the house and he might find it too noisy. And he would act like that, it could be any reason. As well as it could possibly be he just wants your attention. You've got to try and analyse everything round about at the same time.' [DR]

6.3.1.6 Pushing boundaries. Seven out of ten parents talked about causes of their child's misbehaviour that were related to pushing the boundaries or just being naughty (9 quotes). Some parents expressed this cause as being normal, as unrelated to the child's LD or physical limitations. Consequently, parents used strategies to manage the child's behaviour.

'Also, I mean, he is still a nine-year-old boy. Some of it is just bad temper. He wants what he wants.' [DR]

'He's not physically unable to do it. That's what I mean. If he's not doing it, it's because he is digging his heels in and he doesn't want to do it rather than he can't do it.' [SA]

'She'll manipulate the situation perfectly. She'll be "I need the toilet, I need the bathroom, I need my teddy, I need tadatadatada..." Oh, she is good at that. And again it is about setting the rules and saying "No, I am putting you to bed this time".' [MD] 6.3.1.7 Personality. Nine parents referred to the child's personality as a cause for difficult behaviour (10 quotes). This also included behaviours that were seen as 'just' part of the child or 'just' something they enjoyed doing. In relation to this, parents stressed that it was not always the child's LD that influenced behaviour, but that the child's personal characteristics were important as well.

'She is quite an active girl and if she has been doing something really exciting, she can still be really quite alert when she goes to bed at night. Especially during term time when she has got school. She doesn't really want to go to her bed at eight or nine 'o clock.' [MD]

'That is a different kind of behaviour. That's laziness. Autistic or not, that's laziness.' [DR]

'So I think what I've learned is, each child is different anyway, each person is different and some are more difficult to manage in other ways.' [KT]

Some parents ascribed difficult behaviour to their child's personality to such an extent that it almost became a stable and internal part of the child. This could mean they accepted the difficult behaviour, and this could affect their strategies.

'Sometimes he can't help it. It's just something that he does with his mouth, it's like noise he makes, like he, grinds, makes funny noises or he makes animal noises. It depends on what he's doing at a particular time. But he is, he makes noises all the time (...) Because, it's something that he does.' [SA]

6.3.1.8 Situation. A range of causes in the child's environment, in a particular situation or in the child's or family's life were named as causes for difficult behaviour by eight of the ten parents (14 quotes). In some cases, a situational cause pointed directly to strategies that the parent could use. However, again, it was difficult for parents to point out a cause, as different causes can be

relevant at the same time, such as the LD or personality along with situational factors such as distractions, change in structure, or the response of others to the child's behaviour.

'With autism it's slightly... you got to put more thought into, you know, why, why, where does this come from? Is this sensory, is it something that's happening within the room that's distracting him and causing this, or...' [DR]

'Sometimes he just doesn't sleep. Don't know whether it's things that happened through the day that's made him anxious that kind of... it's on his mind and he is thinking of it. And it's mulling over and it's maybe upsetting him and it's stopping him from sleep. Or if it is just the fact that he just doesn't feel tired. He might just not feel tired. (...) But we are going to keep a diary. The school just asked me to keep a diary for the teacher. Because they are going to try and see if the days that he hasn't been sleeping, if it relates to behaviours that he is having that day.' [SA]

6.3.1.9 Parent behaviour. Nine out of ten parents viewed their own behaviour as playing a role in their child's difficult behaviour (16 quotes). The following is a clear example where a child refused to engage in a situation because of how the mother had previously dealt with the situation. This consequently motivated the mother to change her own behaviour.

'We don't really push it. Because we've done that before and then he never went out for five months. So what we do is, we kind of say "I would like you to come". We've got a way of working. (...) We take him, right away, because we've tried that before and it got that he just wouldn't go. Because if you don't take him out of the situation right away, then he feels as if you are not protecting him. So, he doesn't trust you, do you know what I mean? It's like a trust issue, where he would say "well, I'm not going, because Dad did that last time, he didn't take me out", or "he didn't let me go to the car" and then he just wouldn't go, ever, for months.' [SA]

Parents also acknowledged their own permissiveness as a cause for difficult

behaviour. However, even though they realised this, they found it very difficult to be stricter in certain situations. This difficulty related to the parents' view of the child as not understanding or to the expectation that a child with an LD is always going to be difficult.

'I just let him do, if in the morning he wants to put something on, I let him, I know it's not the right way to do it, but see when you are rushing in the morning, you've got no time for this.' [KG]

'I let her... "It's just Helen", you know, "it's fine and she doesn't know it". I let her away with too much sometimes.' [LN]

'Their behaviours are formed and then they are really, really difficult to change that, that's the habit. Like when it is your first child, you don't really know, you're still a bit like you cannot deal with that, have to let them do that, but I think once you formed bad habits, that's really hard to change.' [KT]

6.3.2 Causal attributions. Parents' narratives on stability, control, responsibility, blame and intent referred to the child's behaviour rather than to the causes of child behaviour. Generally, parents' narratives concerned the LD as a cause and a consequent attribution of stability, control, responsibility, intent or blame. Parents did not refer to the locus of causes or of behaviour. However, the previous sections indicated that most causes parents spoke of were internal (the LD, frustration, difficulty understanding, limited attention span, attention seeking, pushing boundaries and the child's personality) rather than external to the child (the situation or parent behaviour). A thematic map is depicted in Figure 6.3.



Figure 6.3 Thematic map of 'causal attributions'.

6.3.2.1 Stability. Eight out of ten parents made reference to stability and instability (13 quotes). This was not in reference to the stability of causes of behaviour, but to the stability of behaviour itself. Parents presented a mixed picture of always anticipating problems with the child but also hoping that through child development and parent learning the situation would improve. First of all, parents referred to instability of current child behaviour. This was expressed as behaviour becoming better or worse or going through cycles, highlighting the unpredictability of the child's behaviour.

'I can get great behaviour for six months and then it's horrendous.' [DR] In terms of future behaviour, parents talked about stability in a negative sense and instability in a positive sense. Stability referred to the expectation that the child would always have problems, without knowing what these will be. Instability referred to the expectation or hope that the child would develop, mature and learn rules of behaviour and how to cope with difficult situations, consequently changing

and calming behaviour. Not only the child, but also the parent was expected to learn new strategies that would change and calm behaviour.

'Right at this very moment... six months ago I would probably have had a different answer, but right at this moment, things are definitely getting worse, and there is no light at the end of the tunnel. It's not like if you have a typical child, you will say "oh, he will grow out of it", or, you know, this may not get better. Things might not change. His understanding, his level of understanding might never increase.' [NR] 'Hopefully get a lot better. I am hopeful, because with the help, you're learning all the time, you're learning all the time (...) But it's experiencing the teachers and there are people within the school that, they can guide you, they can, the support, you can't do it yourself. You need the support.' [DR]

However, parents were aware that puberty was ahead and that this can be an especially difficult period where behaviour might worsen again.

'The next thing obviously the hormones to kick in, which won't help the behaviour whatsoever.' [DR]

One parent highlighted these issues. She talked about stability in terms of expecting that there would always be issues, but at the same time expecting that both she and her child would learn and that therefore behaviour would improve. She also acknowledged that despite her child's diagnosis she did not know what the child's future would be like, she did not know this for her TD child either; attempting to use the same perspective. Just as with her TD child, puberty could worsen behaviour.

'LN: With her diagnosis of her medical condition, there is no hard and fast rule of how that child will be as an adult, a teenager, you know. I couldn't imagine when she was a baby and had that diagnosis who she'd be today to a point. So there is no kind of set ways, so, will she be able to... I still think she'll always be quite immature and she'll do things that are much more, in my mind... my gut feeling is,

that she will always be a little vulnerable, and a little immature. Yes, I think she will be able to do better. She'll be able to control her situations a little better. She'll be able to behave herself cause there'll be learned behaviours that school and home and social life will keep reiterating to her. But I think there will be times when I will see her immaturity. You know, her lack of control for situations and her lack of abilities, so. I don't think it will be as bad as this, but I still think we'll have challenges ahead of us.'

Interviewer: It is unpredictable?

LN: Yeah, very unpredictable. I can't imagine. She got better than she was so... and I learn other ways of doing things, you know, it's a learning process. So I think maybe other things we can put in place... and she should mature as such, so, yeah, certain things. There might just be different problems. I have no idea, you know, it could be just different things, I don't know. When her hormones start, who knows? I just have no idea who she'll be then, so ... I suppose I don't know with my mainstream child either. We can go through a difficult phase or hitting teens and being a really horrible child, you know. So, I try not to pre-empt it too much and just go, I'm not saying day to day, but month to month maybe. Just the issues we have, a lot of them haven't changed. A lot of her behaviours haven't changed, you know, the difficulty going out places or joining in with things is still as difficult, maybe in different ways.'

6.3.2.2 *Child control.* Eight parents referred to the amount of control they believed their child had over behaviour (15 quotes). Parents viewed their child as having control over some behaviours but not over others and had the expectation that the child would gain more control as they matured.

'Sometimes she should be able to control that. She has the ability to control that. Other times... no I don't think she has the ability to control it so well. So, depending on the situation.' [LN]

'I hope that he will be able to learn... strategies to be able to cope in different situations. Not that the situations, or the feelings will be any different and the fear or the stress or the anxiety, but that he'll have a control of it, with age and development, hopefully.' [SA]

Two parents explained they distinguished between behaviour they viewed as caused by the LD that they did not think the child controlled and behaviour they viewed as the child pushing boundaries and that the child did control. Based on the cause and the amount of control, the reaction from the parent towards misbehaviour differed. However, it is unknown if parents' viewed level of control is the same as the child's actual level of control. A wrong interpretation can lead to tolerating behaviour that could be managed. This was reflected in doubts expressed by the parents. The final extract highlights that it is a process of learning for parents to understand how much the child can control.

'We firmly believe that he is a complete control freak for all his difficulties and problems, you know, he likes to control you. So there are definitely things that are within his control. And sometimes I think we don't give him enough credit, you know. (...) Some, the control questions, as I said, it's very easy to say "well, yes, it's something he can control" or something if it's autism, that is something quite simply outside of his control. (...) Things where I know he can't control, obviously I have sympathy and I think "well, it's really not his fault". He is behaving this way or he is doing this thing. It's not that he can control it. Other things, I don't know. He is

they are likely to get a different response. He is just, in that situation, he is just any other naughty child.' [NR]

'It is one of those things you feel quite precious as a parent and her brother, he has got a TV in his room now, but when he was younger, we'd read stories or we'd have a story tape on and go to sleep and I thought "oh yeah, we've knocked this off". You know, we've had one child and this shouldn't be a problem. But it did become a problem. But Sleep Scotland were good in that way as well, just coming talking it through and thinking, just look, you've got to leave it, you've got to leave her at night. You don't stay there until she falls to sleep, because then it is one eye open and she was up again. And you think, she is taking control of this, this isn't right.'

6.3.2.3 Child responsibility. Five parents spoke about the child's

responsibility for misbehaviour (7 quotes). When the child understood the situation, they were held responsible. They were not held responsible when the parent thought the behaviour was caused by a lack of understanding or by the LD.

'He is completely responsible, he knows he is doing it.' [NR]

'It's quite hard to say, is your child responsible for the behaviour, because, I know you try to instil these behaviour things in him, but autism is quite hard, you know, it's...' [HP]

'Not at all responsible because they're not responsible for the behaviour because they don't know what they are doing.' [SE]

6.3.2.4 Intent and blame. Four parents referred to the child's intent and blame for misbehaviour (10 quotes). Parents viewed some of their child's behaviour as intentional and some as unintentional. When the behaviour was attention seeking, the intentionality was apparent for parents. While one parent reasoned that their child behaved on purpose and therefore was to blame, other parents were more careful and refrained from using the word blame. Blame does not automatically follow from intent. The child's knowledge and understanding was taken into account and the child could consequently be acquitted.

'He could be getting something sensory out of the noise that he is making that he doesn't... Autistic kids don't realise your needs. So it's not doing it on purpose, he's not doing it to distract you from the television, it could be something that he's getting a self-satisfactory from the noise etcetera, so...' [DR] 'It's definitely on purpose, it's an attention seeking thing.' [NR] 'Is your child to blame for what he did? Yes, because he does it on purpose.' [SE] 'Does your child behave this way on purpose, well, yes, he's got, he's trying to get your attention, the only way he knows. But it's not blame, again, behaving that way on purpose.' [DR]

6.3.2.5 *Parent control.* Eight parents spoke about having or not having control over their child's behaviour (13 quotes). By changing a situation, parents can control the child's behaviour. However, when the LD was viewed as the cause for misbehaviour, parents indicated not feeling in control.

'It's very easy to have one on one and a very small number and manipulate the situation. Throw us into a party, throw us into a big family gathering, outdoors, it's very hard to keep that control on her.' [LN]

'These seem to be quite common traits in Autism, so, I'm not sure that I have much control over them.' [NR]

6.3.2.6 Parent responsibility. All ten parents showed a strong sense of responsibility for their child's behaviour (24 quotes). This fell into three further categories. First, sometimes parents took responsibility in a more negative sense. They viewed it as their fault that certain behaviours or situations arose or admitted they did not always take responsibility when they should have.

'I've taken quite a lot of the blame. For why she did that. You know, taking the call, maybe taking a bit longer. Maybe not... Maybe taking more responsibility for her behaviour. My gut instinct is to go higher on the blame on my part than on hers. And that's just. But then I rationalise it and think, well really, I should be able to take a call or I should be normal, but there's a part of me thinks, really, I have time to do that, she is at school.' [LN]

'Because I think, four years ago, I was just looking at the autism and he was more destructive, and he has, I mean, he's still destructive, but he's not as bad as he used to be and I think maybe that's the problem because I was looking at the, his disorder first before his actual age.' [HP]

Parents also took responsibility for their child's behaviour in a more positive sense by consciously setting rules for the child to teach them appropriate behaviour.

'For example, the biscuits would be an easy, you would know exactly why. It is because he wants something he can't have. Although you can't explain to him that it's bad for his health, it'll make him fat, it gives him bad teeth. None of that is important to him. He just wants the biscuits. So it's my responsibility to have a limit on what he gets.' [DR]

'It's something he understands and also to an extent I should push him a wee bit harder.' [SE]

Finally, parents took responsibility for their child's development and viewed it as their task to encourage the child. They were aware of the risk where children with an LD are not stimulated to learn because of their difficulties and therefore took responsibility for their child's learning.

'We have given him the opportunity and we have to... you have to push him a wee bit. You know, you cannot protect him all the time. You have to gear him that wee bit. Push to just to see that he actually... and what his limits are. Because they change as he's got older. I mean, there was a time he wouldn't even get in the car. There was a time he wouldn't even go on the school bus. So he does all these things now because we have kind of pushed that. And it's like everybody else, you cannot protect him.' [SA]

'But we are setting boundaries, you could be too nice, you could be too kind with her and too "oh well it is just Lucy", not take her learning seriously. Through all of that we take the lead, the school take the lead and it is the attitude and the approach and the teacher and the instructor that are taking her learning seriously.' [PR] 'People, if they feel they can't deal with you then you won't be allowed in, uhm, access, shall we say. "People don't have to let me in but I'm thinking to learn how to behave." In order for her to go places she has to learn how to behave with other people.' [KT]

6.3.3 Parenting strategies. Parents referred to four different types of strategies they used in response to difficult child behaviour. A thematic map can be found in Figure 6.4.



Figure 6.4 Thematic map of 'parenting strategies'.

6.3.3.1 *Permissive strategies.* Nine of the ten parents admitted giving in to their child's behaviour, doing what the child wanted, or letting the child do what it wanted (15 quotes). Parents realised that this was not the best response to child behaviour but in circumstances of multi-tasking or rushing to get to school could be the best option.

'It's easier just to stop doing what you're doing and then... all the time explaining that that's not what you do, I'm still saying to him, you know "you have to wait when Mum asks you to wait". So I would still be explaining that that's what I want him to do. Even though, I'm doing what he's asking me to do.' [SA] 'In the mornings, he likes to wear dressing up stuff. He is really strongly in dressing up. And I say "no, you have to put your uniform on first" and it is, eventually, I get it on but then I have to put the dressing up stuff. So sometimes he comes into school with dressing up stuff but they take it straight off and it's not a problem. I give in, I do give in, because, see, in the morning, I am rushing about and if I miss the bus then I have to get him here and it is a lot of problems getting him here. So I just give in, because I know in school they just take it straight off. He shouts and he screams at you and he can pick things up and hit you.' [KG]

Bedtime and sleeping through the night was a major issue for many parents. Parents acknowledged that they did not always use the right strategy and let the child stay up or get up.

'You know within half an hour or so, you know whether he is likely to go back to sleep. If he's awake but he's quiet. And sometimes he'll get a wee musical toy. He'll get up and put that on himself and climb back into bed. So you know he's tired and he's thinking about going back to sleep. But with... before long, I'll hear the door open and then he's up and he's shouting and ready to go. So, there is no point even trying then.' [NR]

Parents acknowledged that they found it difficult to avoid using permissive strategies. This could be due to life circumstances, but also due to the expectation that the child will be difficult to manage because they have a condition and therefore attempting less to manage the child's behaviour.

'I think I just let it happen, to be honest. I maybe tried, but I was just too weak and I thought "awfff", you know.' [HP]

'But maybe if it is a first child, it is a big shock and the whole idea of getting a child like that is that it's hard to manage, so "that's ok, we knew it was going to be hard to manage, this is right". Do you see what I mean? That whole expectation lends itself to that. You've got that burden, so.' [KT]

6.3.3.2 Consistently firm strategies. Parents were not always permissive in response to their child's behaviour. All ten parents (28 quotes) gave examples of situations where they were consistent in applying rules and consequences. Parents indicated finding it difficult to be consistently firm because the child was likely to get upset.

'And I turned round and she touched it, and I said "there is no sweetie now" and she was heartbroken. And I said, you know, to a point, it's hard, because I thought "oh, just give her that sweet". But at the same time, I thought "no, you were told" and I said "tomorrow if you're...", you know.' [LN]

Even though it could be difficult, parents realised it was important to be firm with their child. Parents expressed the necessity for applying rules in order for the child to learn. Especially for a child who has difficulty learning, they believed it was important to have clear rules and follow through. 'I think if you keep training their brain basically and tell them... sort of conform with how he should behave at that age. Don't know if he'll eventually click but I mean, it's easier to handle, do what they do, and understand him.' [HP] 'She needs consequences for her actions as well. You can't always say "urgh never mind". Because a lot of people kind of... grannies are a bit more like "never mind". And I'll say "no, she needs to learn that that is not appropriate behaviour" and it is not appropriate behaviour. So you can't treat them like cotton wool because they have already got an issue with their learning. If you are consolidating that more by not, by saying, "ah it's ok".' [MD]

Due to the cause of the child's behaviour, parents did not always feel comfortable applying consistently firm strategies. When difficult behaviour was viewed as caused by frustration, the LD, anxiety or a lack of understanding, parents preferred to use strategies that were more accommodating to the child's needs.

'He knows that drawing on the walls is not going to happen and it isn't going to be a thing that he is going to be allowed to do, so that would just be a big issue and it would be nipped in the butt and he would understand that that is not going to happen and that we are not going to allow that to happen. Then there is things like, when I say, with the anxiety, like going out, into the public, and even getting him on a train, we know that that might not happen, any time soon. It is just... you're just getting to know your own, you do.' [SA]

6.3.3.3 Accommodating strategies. The strategies that all parents spoke about most (40 quotes) were those that accommodated the situation, environment, parent behaviour or parent expectations to the child's needs. This was different from being permissive because it was seen by parents as necessary rather than a weakness of themselves, and it was different from being consistently firm because it could involve bending rules. Family life was often adapted towards the child's level of
understanding, or to the child's needs. This involved what kind of trips were taken, how they were taken, if they were going to be taken at all, and more importantly that parents' lives were lived around the child.

'Some of the things I do with her are more for three, four year olds, sometimes. You know, in a way I talk to her always like that but... organising trips, organising things are usually for a child of a younger age. I wouldn't take her to the cinema a lot of the time. Her behaviour... she couldn't sit down long enough. And I wouldn't take a three-year-old to the cinema. You know, I wouldn't do because I'd be asking too much of their attention, their behaviour and it would be unfair on the people around us, so I... we tailor our family life more towards having a younger child than we actually have.' [LN]

'But I think where it comes from or what we can do with her is engage with her purposefully and they certainly do at school and at home, it is having the time. I gave up work and her mother works full-time but it is... we live our lives around her and we are with her.' [PR]

Within the family's house, changes were made to accommodate the child's interests and abilities and to avoid dangerous situations.

'You, know, it's the same thing again and again and again. That was a problem recently I dealt with anyway. He's got his TV and DVD in his own room now. Instead of in the living room because we watch the same thing again and again. So you deal with the problem by letting him have his autism in his room.' [DR] 'We've got a house, we've got a lovely home, it is quite a sterile environment because you can't touch this or that or it is all polished surfaces and she would... we tried to make her home interesting and she kept practicing on the back steps, you know, up and down, up and down and we've decked the outside so she can walk

about and there are things that she can go and touch, so. We just try to make it safe, with the cooker and things like that.' [PR]

Parents also accommodated to the child by adapting situations to avoid them from evoking problematic behaviour. The situation was changed in such a way that it did not cause unnecessary drama.

'The thing when the bus comes in the morning to collect him, because he doesn't understand the waiting thing, it's all a bit of a minefield, trying to get him ready at the right point. Because, once he is ready, he wants to go. Once the shoes and jacket are on, he has to go then, but the bus may not be here yet, and it may not be here for another ten minutes, so, I try to leave it, but then at the same time, I don't like to keep the bus waiting. So it's all a bit of a trying to get it done just at the right moment, so he is ready as the bus arrives because if you do it and he's ready to early, the bus is not here and the bus is here and he is not ready.' [NR] 'It was when he was five or six, that was a problem, because he couldn't even... he wouldn't even let you cut his hair. So it was getting long and curly. And, you'd take him to the barber's and end up coming out because he was screaming the place down. I used to do it when he was sleeping at night, you know, with clippers, but

he'd wake up, sometimes he'd go to school with long and short (laughs).' [HP] Again to avoid unnecessary drama, parents also adapted their expectations and relaxed the rules, for example about what the child could have for dinner or what they considered was a good enough sleep.

'You know that he doesn't like it. And again it's putting it into a category. How important is it really that his hair is brushed? Is it worth upset and drama? You know, is it really worth it, priorities. Giving him medication would be worth him screaming the place down. Brushing his hair, not so.' [DR]

'Because he is so limited in what he eats, he picks his dinner. I'll say to him "what does Simon want for dinner? Show Mum". And he'll show me, so, I'd rather he ate something than nothing.' [DR]

'You're hoping that it'll, that he will sleep, from midnight till morning. That at least that's what. I mean, we're not looking him to go to bed at nine 'o clock like, get up at 6 or 7, we know that he is never going to sleep ten hours, we know that. If he at least got seven or six hours, just solid sleep, I think it would be a good thing.' [SA]

Finally, parents spend considerable time to help and support the child. This support could be directed at helping the child get things done, helping them to communicate their needs, helping them to learn or helping them cope with situations.

'She'll take a while, to eat her breakfast so... and then I'll say "come on, come on, stop being so distracted, stop getting...". If I don't sit there and participate, I can't go off and get other things done, you know. Get a packed lunch done. Sit with her and encourage her to eat.' [LN]

'He has no independence at all. I was speaking to a friend who's in the same class. If he wants to drink a milk, he goes and gets it. Or if he wants to watch something else on TV he turns over, you know, he knows the channel numbers. Matthew can't do any of that. It's all done for him.' [NR]

'If you have time then you can try things out and that is something that I am always saying with her Dad as well "let her have time to get dressed on her own, let her do this", but you have to factor in an awful lot more time to do that. Because she can get dressed really quickly, but it doesn't need to say that she is going to get dressed really quickly, it could take her an hour, as it did the other week, to get ready to go out.' [MD]

6.3.3.4 Planning and routine. Six parents (9 quotes) spoke about the importance of planning and routine as a strategy for behaviour problems. Planning

ahead was necessary to anticipate and avoid difficult behaviour such as not wanting to go to bed because the child was involved in another activity, becoming bored in a restaurant while waiting for food and even in planning the child's learning over the next year. Having a routine was also considered important for the child to know what was expected of them at certain times and this would affect how likely it was that the child would comply.

'I think sometimes, if I... but again, it's that conflict, if I plan for things better. My nature, I'm a little bit hash-bash. I like to... I'm always a hundred miles an hour. And sometimes that's a conflict, you know of, if I plan for things I can have a better... going out for lunch, if I took the time before I left to pack crayons, colouring pads, and pre-empt more things, I might have had an easier time in the restaurant. Than not having enough things to fulfil her to keep her sitting down until the food arrived. So there is a lot of issues there where I could have done better. You know, I could have pre-empted the situation and diverted the issue by being a better planner...'

[LN]

'With autism it's a build-up of a routine that you keep. He knows after his bath, after his pyjamas, it's either computer, colour in, he knows bed is coming. So he is prepared for it. You've always got to prepare, prepare, prepare. So he knows when I lift his Teddy, that's the signal, and he won't like it, and he'll say no, but he will go.' [DR]

6.4 Discussion

6.4.1 How do causal beliefs affect parenting strategies? As discussed in Section 2.5.1, the LD has an influence over child behaviour, through direct effects and total and partial specificity (Hodapp, 1997, 1999, 2004), and parents in the present study recognised this. Parents attributed some of their child's misbehaviours to causes that were related to the child's LD, as did parents in Keenan et al.'s study

(2007). The parents' personal circumstances influenced this as behaviour known to be associated with a particular condition was attributed to the LD more easily, for example, children with autism expressing strong preferences or sleep problems being common for all children with an LD. The current findings also suggested that parents' attributions of child behaviour to the three causes that were related to the child's condition, that is the child's LD, frustration and difficulty understanding, affected parenting strategies. Viewing the LD as a cause supported effective parenting when it motivated a parent to find and implement the right strategy. However, viewing the LD as a cause could also leave parents feeling quite helpless when it stimulated views of the behaviour as a fixed and unavoidable part of the LD. Similarly, while some parents who viewed the child's lack of understanding as a cause were motivated to reiterate rules with the goal to eventually consolidate understanding, for others this cause was related to feelings of sympathy and tolerating misbehaviour. The child's frustration as a cause was not found to be related to strategies, possibly because this frustration was viewed as caused by the child's inabilities, which is part of the LD. These findings support the psychosocial model that suggests that parent cognitions of the LD for some parents interfere with teaching the child rules of appropriate behaviour and for others motivate to help the child overcome problems (Woolfson, 2004). Whether the causal cognition interferes or not could be dependent on the degree to which parents' further views of the child's LD are affirmative of the LD.

As described in Section 3.2, parent cognitions affect parent behaviour (Bell, 1968; Sameroff & Fiese, 2000), and the current findings underscore that parents' interpretation is important. There can be a discrepancy between parents' views on

how strongly the LD affects behaviour and the LD's actual influence on behaviour. Overestimating the influence of the LD or underestimating the child's understanding of situations could lead to expectations of child behaviour that are too low and therefore parenting that tolerates child misbehaviour and consequently the child not learning the rules. This is in line with Baker et al. (1997) who found that parents of children with an LD found it difficult to set rules for their child and to follow through on them, because of feelings of guilt and sympathy and holding low expectations. The current study shows that it is parents' interpretation of what causes the behaviour that is important and that in order to use more effective strategies, parents should be supported in identifying the right cause and appropriately acting upon it.

Not all causes parents referred to were related to the child's LD. In contrast, for some causes parents specifically stressed that they viewed them as they would for any other child. Causes related to the child's limited attention span or by the child just trying to push boundaries were viewed as typical for all children. When behaviour was viewed as caused by the child's personality, parents placed a strong emphasis on the child's individuality, de-emphasising the effect of the LD. It seems important for parents to not just see their child as a child with an LD, and to stress that they are like any other child. This is similar to prior research finding that some parents place particular importance on counteracting stigmatising societal beliefs of LDs (S. E. Green, 2003; Landsman, 2005; Maul & Singer, 2009; D. Skinner & Weisner, 2007), as discussed in Section 3.1.2.2. However, the present study has also shown that the circumstances that parents find themselves and the child's behaviour in can be complex and do not always allow for a single cause to be distinguished. Consequently, while emphasising the child's individuality and de-emphasising the

effect of the LD, parents also recognise that the LD does affect behaviour, which allows them to adapt their strategies when necessary in particular circumstances to be an effective parent.

6.4.2 The influence of the child's LD on parental causal attributions. Parents spoke about the stability and instability of their child's current and future behaviour. Stability related to parents expecting that behavioural issues would persist over time, as the literature on stability and persistence of behaviour problems in children with an LD suggests (see Section 2.4.2). However, parents also held the expectation that through child and parent learning, difficult behaviour would be less frequent. Instability was related to current behaviour in terms of being unpredictable. This mixed picture of stability and instability with parents being both realistic and hopeful about the future is similar to mothers' views of their child's self-injurious behaviour in a study by Drysdale, Jahoda and Campbell (2009). The current study extends this to the child's difficult behaviour in general.

When behaviour was viewed as caused by the LD or by a lack of understanding, parents did not attribute control or responsibility to the child or viewed the child as acting with intent. Consistent with this, attention-seeking, a cause that was unrelated to the LD, was viewed as intentional. Even where behaviour was viewed as intentional, the parent did not necessarily blame the child. This shows that Weiner's (1995) theory (see Section 4.2.1) can be applied to parents of children with an LD where a child can be excused from blame due to mitigating factors, a lack of understanding in this case, even when viewed as acting with intent.

The way parents of children with an LD viewed their child's behaviour problems in terms of causal attributions in the current study was related to the strategies they used to manage the behaviour. As was suggested in Section 4.2 based on research with parents of TD children and parents of children with ADHD (Johnston & Leung, 2001; Morrissey-Kane & Prinz, 1999; T. B. Smith et al., 2000; Woolfson, 2005), from these interviews it seems that because of uncontrollable, nonresponsible, unintentional and non-blaming child-directed attributions, parents of children with an LD were tolerant of problematic behaviour rather than trying to manage it. These results are also similar to Woolfson's study (1999) that found that mothers of children with an LD felt unsure before about how to handle behavioural difficulties because they viewed it as part of the child's condition and felt that normal care giving rules did not apply. The current study points to a relationship between causal attributions for difficult behaviour formed around the child's LD and the effectiveness of parenting strategies among parents of children with an LD.

In terms of attributions directed towards the parent, parents did not feel in control over their child's behaviour when viewing the LD as a cause which can be demotivating when trying to manage child behaviour. This extends the literature discussed in Section 4.3.1 where parents of TD children who attributed less control to themselves had lower expectations for the use of parenting strategies with their child (Baden & Howe, 1992; Sobol et al., 1989) to parents of children with an LD. At the same time though, because of the child's LD and the child's consequent difficulties with learning and development, parents felt more responsible for setting rules and more responsible for promoting their child's development. While Himelstein et al. (1991) suggested that parents who do not take responsibility are less likely to act on their child's behalf, Snarr et al. (2009) suggested that parents of TD children who held themselves responsible for their child's misbehaviour experienced

more negative parent outcomes (see Section 4.3.2). This can be explained with the different aspects of parent responsibility that were found in the current study. It is possible that for parents of TD children responsibility mostly reflects the self-blaming aspect of responsibility, which would be related to negative parent outcomes. For parents of children with an LD on the other hand, the motivational aspect of responsibility stemming from the child's difficulty with learning and development seems to be more salient, which motivates parents to teach their child rules of behaviour.

6.4.3 The strategies parents use and their relationship with the child's LD. The strategies parents referred to in the interviews were related to four different types, namely being permissive, being consistent, accommodating to the child and using planning and routine. The child's LD affected strategies used by parents in different ways. Parents acknowledged using permissive strategies because of an expectation that the child will display behavioural difficulties due to the LD. As also proposed by the psychosocial model (Woolfson, 2004), the child having an LD can allow for a permissive attitude towards problematic behaviour when the difficult behaviour is expected as part of the LD. It was not only such views that prompted permissive strategies though. Parents seemed to choose to not fight a battle when dealing with the behaviour was not a priority in that particular situation, for example when multi-tasking, when rushing in the morning or when life itself became too demanding. At the same time, parents found it important to be consistent. They expressed that especially for a child with an LD who has difficulty learning, it is important to have clear rules that are consistently reiterated to consolidate understanding of appropriate behaviour. As discussed in Section 2.4.1, children can

be excluded due to problematic behaviour, affecting their learning (Mace et al., 1986; Marcus et al., 2001; Roberts et al., 2003). Parents in the current study seemed aware of this and to consciously counteract this.

However, parents talked most about how they accommodated towards their child's developmental level and their child's needs in order to avoid unnecessary problematic behaviour. Not only were expectations and rules changed, but also the physical environment and family life were adapted towards the child, as was also found by Keogh et al. (2000). This took considerable time and energy, but allowed the child to have experiences that they could not have had without the accommodations. Prior research has also emphasized the time and care demands of children with an LD as discussed in Section 3.2.2.1 (e.g. Mencap, 2001; Olsson & Hwang, 2003; Tadema & Vlaskamp, 2010) and the current study demonstrated that parents take on these demands and the time to support the child in their development and to prevent problematic behaviour from arising.

6.4.4 Limitations and future directions. Of the ten participants, only one was a father. Overall, his views were similar to the mothers' views and he was the main carer of his child as were all the participating mothers. The use of vignettes can have impacted on parents' responses. The behaviour example in the vignette might not have been a typical behaviour for the child, leaving the parent to speculate on how they would view the cause and how they would react. However, parents were always asked if the behaviour was typical for their child and if not the parent often gave an example that was similar. In addition, not only vignettes were used. Parents were also asked to talk about their child's actual behaviour.

The qualitative design of the current study did not allow for a number of questions to be answered. First of all, it is not clear why some parents do not feel in control and others feel responsible. Relating the parent's control and responsibility to parent and child characteristics could offer some clarification. In addition, how much the LD actually influences parental views was not examined, as the parents' views were not compared to the views of parents of TD children. Finally, it was not possible to assess the strength of the relationships between attributions and strategies. Study 3 aimed to address these questions by using a quantitative design and by involving both parents of children with an LD and parents of TD children.

6.4.5 Conclusions. Parents viewed a range of factors as causes for difficult child behaviour. The LD was a salient cause, but causes that apply to behaviour of TD children and environmental causes were also central. It can be difficult for parents to distinguish between causes, but selecting the correct one and attributing the right levels of control, responsibility, intent and blame to the child will help the parent to respond with effective strategies. A child who is in control of behaviour but is seen by the parent as not having control because they attribute the behaviour to the LD, is less likely to receive a parental response that teaches them appropriate behaviour than a child who is viewed as in control and pushing the boundaries. The study also showed that viewing LD related factors as a cause can both support or hinder the parent in using effective strategies. Parents can experience low levels of control when viewing the LD as a cause because they feel there is nothing they can do. However, because the child has an LD, the parent can also feel more responsible for the child's learning and development and consequently feel more motivated to manage child behaviour. Overall, parental causal beliefs and causal attributions seem

to have an impact on the strategies parents use. This will be examined quantitatively in Study 3.

Chapter 7 – Study 3: Causal Attributions, Parenting Strategies and Child Behaviour Problems

7.1 Aims and Hypotheses

Study 1 found that parents of children with an LD hold similar views on their child's behaviour as views prevailing among parents of TD children, but that some parents hold more affirmative views. Study 2 then found that causal beliefs and causal attributions are likely related to parenting strategies, but the exact relationship could not be assessed due to the qualitative nature of the study. The present study then aimed to assess the relationship between causal attributions and parenting strategies quantitatively. In addition, as was discussed in Chapter 4, it is not known if parents of children with an LD view their child's behaviour through a similar positive perceptual bias as parents of TD children or if the child's LD has an impact on these views, as was discussed in Chapter 4. The present study therefore also aimed to compare the causal attributions and causal beliefs of parents of children with an LD children. Chapter 4 argued that constructs related to cognitions on control should be clearly separated, so Study 3 also aimed to unpack the attribution of control by assessing parents' judgements of child responsibility, blame and intent and the parent's own control and responsibility for child behaviour.

 Aim 3.1: To compare the causal attributions and judgements on the role of the parent and the child in child misbehaviour of parents of children with an LD to those of parents of TD children.

Hypothesis 3.1a: Parents of children with an LD view the cause of their child's misbehaviour as more internal to the child and more stable than parents of TD children.

Hypothesis 3.1b: Parents of children with an LD view the cause of their child's misbehaviour as less under the child's control and view their child as acting with less intent, and hold them less responsible and less to blame than parents of TD children.

Hypothesis 3.1c: Parents of children with an LD view the cause of their child's misbehaviour as less under their own control and hold themselves less responsible for their child's misbehaviour than parents of TD children. It was unclear if there would be any difference between these two groups of parents on perceived control.

Aim 3.2: To assess the relationships of causal attributions and judgements on the role of the parent and the child in child misbehaviour with parents' report of their use of ineffective parenting strategies in parents of children with an LD and parents of TD children.

Hypothesis 3.2a: There is a positive relationship between causal attributions of locus (more internal to child) and stability and the parent's report of their use of ineffective parenting strategies.

Hypothesis 3.2b: There is a positive relationship between judgements of the child's responsibility and blame for child misbehaviour and the parent's report of their use of ineffective parenting strategies. There is a curvilinear relationship for parents' causal attributions/judgements of both child control and intent for child misbehaviour with the parent's report of their use of ineffective parenting strategies. Both high and low levels of child control and intent are related to more ineffective strategies.

Hypothesis 3.2c: There is a positive relationship between parent responsibility and the parent's report of their use of ineffective parenting strategies and a negative relationship between the causal attribution of parent control and parents' perceived control for child misbehaviour and the parent's report of their use of ineffective parenting strategies.

Aim 3.3: To assess the relationship between parents' report of their use of ineffective parenting strategies and child behaviour problems in parents of children with an LD and parents of TD children.

Hypothesis 3.3: There is a positive relationship between parents' report of their use of ineffective parenting strategies and child behaviour problems in parents of children with an LD and parents of TD children.

- Aim 3.4: To assess the interrelationships between parents' causal attributions/judgements of locus, stability, child control, intent, child responsibility, blame and parent responsibility for child misbehaviour.

Hypothesis 3.4a: There is a positive relationship between parents' causal attributions of child control for child misbehaviour and parents' judgements of their own responsibility for child misbehaviour, especially with less child control predicting less parent responsibility.

Hypothesis 3.4b: In line with Weiner's theory (1995), the following sequence of relationships was hypothesised: locus – control – intent – responsibility – blame and anger.

7.2 Method Study 3

7.2.1 Participants. Data for Study 1 and for Study 3 were collected at the same time and from the same 52 participants in the LD group and 81 participants in

the TD group. For the recruitment strategy and the inclusion and exclusion criteria, see Sections 5.2.1.1 and 5.2.1.2. As specified in Section 5.2.1, power analysis for *t*-tests pointed to a needed sample of 102. In addition to this, Tabachnick and Fidell (2013) recommended a minimum sample size of 98 when carrying out multiple regression to test up to six individual predictors. According to S. B. Green (1991) and G*Power (Faul et al., 2009), for a study with medium effect size, a minimum sample size of 97 and 112 respectively is needed when including 6 predictors, with a power of .80 and an alpha of .05. The sample size of 120 was therefore large enough for carrying out multiple regression.

7.2.2 Design. For the between-group analysis of Aim 3.1, the design was based on natural groups with independent variable group membership, LD or TD, and dependent variables causal attributions and causal beliefs. For the within-group analysis of Aim 3.2 and 3.3, the design was correlational and cross-sectional (Bryman, 2008; Zechmeister et al., 2001). Design related issues regarding the use of common methods for measuring all constructs, is discussed in the following section.

7.2.2.1 Common method variance. The use of self-report measures only in questionnaire studies has been criticised in relation to concern for common method variance (CMV) (Pace, 2010; Spector, 2006). Campbell and Fiske (1959) were the first to describe CMV by observing that variance in measurement is not only attributable to traits, but also to the method used (e.g. self-report questionnaires). They noted that an inflation in the relationship between two constructs will occur if these are measured using the same method. This is problematic as the method of measurement now poses an alternative explanation for an observed relationship between two constructs (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003) while it is

not possible to distinguish between the variance stemming from the constructs and the variance stemming from the method used (Campbell, 1955). However, there is no agreement as to how serious CMV and its consequences actually are (Spector & Brannick, 2010).

Several authors have argued that CMV does not pose a great threat, because it both inflates and deflates the correlation between two constructs measured with the same measure (Conway & Lance, 2010; Lance, Dawson, Birkelbach, & Hoffman, 2010; Podsakoff et al., 2003; Spector, 2006). The method chosen to measure the construct can affect the data in two ways (Spector, 2006). First, the method can change the underlying constructs, for example, a participant's opinion can be changed by merely asking them about it. Second, the chosen method can affect the measurement process, for example, the measurements of two constructs by employing a similar self-report measure might both be affected by social desirability. While the former process will likely deflate the observed relationships, the latter will likely inflate it. Consequently, due to unreliability stemming from using a certain method for measuring two constructs, the relationship is deflated and at the same time it is inflated due to the method having the same effect of the measurement of both constructs. These two processes are said to counterbalance each other (Conway & Lance, 2010; Lance et al., 2010).

In addition, Spector (2006) argued that many self-report surveys do not find a baseline level of correlation between all variables. In fact, it is common for studies to find no significant correlations between constructs measured with similar methods, even when these were theoretically expected. According to Spector (2006), this refutes the idea that CMV is a widespread inflator of correlations. In spite of these

two arguments, Pace (2010) found that journal reviewers see CMV as a frequent problem and that many would reject manuscripts based on concerns about the use of common methods. Reviewers recommend authors to consider the consequences of CMV in the design stage and to use post hoc statistical procedures to control for potential CMV (Pace, 2010).

In line with this, several procedural methods and post hoc statistical procedures to control for CMV have been proposed by Podsakoff et al. (2003). As a standard procedure, they recommended that different sources and/or different contexts should be used to measure constructs. When the source of method bias can be identified, for example social desirability, it should be measured and controlled for statistically. However, when these procedures cannot be carried out, all procedural remedies related to questionnaire design need to be performed in advance in addition to psychologically separating measurement of the different constructs, guarantying anonymity to respondents and, finally, using the single-common-method-factor approach as a statistical post hoc remedy.

The single-common-method-factor approach estimates method bias at the measurement level and controls for measurement error. However, this approach controls for only a single source of method bias and assumes that there are no interactions between method and trait. Podsakoff et al. (2003) argued that these disadvantages are not very serious in many cases. On the other hand, Conway and Lance (2010) argue that this approach is *'logically indefensible as it may easily remove trait variance when multiple traits have a common cause'* (Conway & Lance, 2010, p. 331). Richardson, Simmering and Sturman (2009) evaluated this approach on simulated data that either did or did not contain CMV. They concluded that the

approach only correctly identified the presence of CMV in 41% of cases and only occasionally produced accurate corrected correlations when CMV was present. The acceptance of the use of post hoc statistical correction and detection techniques for CMV in the general field is not yet known (Pace, 2010) and Lance et al. (2010) stated that ignoring the threats of unreliability and common method effects stemming from CMV might not be a bad idea as they tend to balance each other out.

For the current study, to reduce the possible bias introduced by the use of a common method to assess all constructs, the standard procedure offered by Podsakoff et al. (2003) was followed by 1) performing all procedural remedies related to questionnaire design, 2) psychologically separating measurement of the different constructs and 3) guarantying anonymity to respondents. It was chosen not to employ any post hoc statistical correction and detection techniques for CMV as their suitability and precision are as yet unclear. Because existing questionnaires were used, the first procedure consisted of providing evidence from previous studies of the psychometric properties of these questionnaires and piloting any adjustments made to the questionnaires.

The second procedure, psychologically separating measurements of different constructs, was also employed. Podsakoff et al. (2003) explained that this can be done '*by using a cover story to make it appear that the measurement of the predictor variable is not connected with or related to the measurement of the criterion variable*' (Podsakoff et al., 2003, p. 887). They argued that psychological separation of constructs reduces the apparent relevance of the information recalled before in short-term memory and previous answers will seem less salient, available or relevant to the respondent. In the current study, a cover story was not appropriate as all

questionnaires are clearly related to children and parenting. However, the cover letter and the information provided with each questionnaire did not mention relationships between them. In addition, one of the questionnaires introduced the parent to specific scenarios on which they based their views, whereas the two others are on their child's general behaviour and their general reactions to child behaviour. This introduced a degree of separation.

Finally, anonymity was guaranteed to participants. This was stressed in both the cover letter and the information with the questionnaires. The only section where participants were asked to provide their name was on the consent form and contact details were given voluntarily. It was explained and stressed that both would be separated from the questionnaires and stored separately from each other upon reception by the researcher.

7.2.3 Measures.

7.2.3.1 Written Analogue Questionnaire-Adapted (WAQ-A). All information on the WAQ-A can be found in Section 5.2.3.1 and the piloting of this questionnaire in Section 5.2.5. The reliability of the scale for the LD group, the TD group and the whole sample can be found in Table 7.1. A value of Cronbach's α of .7 or higher is considered acceptable in early stages of research (Field, 2005; Nunnally, 1978) and this can be .6 in exploratory research (Hair, Black, Babin, & Anderson, 2010). Due to poor reliability *locus* was excluded from the analyses. The other scales, including *influence of LD* (see Section 5.2.3.1) were retained. The WAQ-A can be found in Appendix B1.

Table 7.1

	Whole sample	LD group	TD group
	(n = 120)	(n = 51)	(n = 69)
Scale	Cronbach's α	Cronbach's α	Cronbach's α
Problem	.70	.70	.70
Locus	.44	.29	.54
Child control	.76	.71	.66
Parent control	.70	.69	.71
Stability	.87	.87	.84
Child responsibility	.87	.82	.80
Parent responsibility	.77	.76	.76
Blame	.84	.73	.84
Intent	.71	.74	.64
Influence of LD	N/A	.55	N/A
Anger	.86	.84	.87
Embarrassment/shame	.81	.81	.82
Pity/sympathy	.83	.79	.86
Guilt	.78	.83	.74
Hopelessness	.91	.91	.87

Reliability of the Written Analogue Questionnaire-Adapted.

7.2.3.2 Child Behavior Checklist (CBCL). The CBCL (Achenbach &

Rescorla, 2001) assesses children's behaviour through parent report. It consists of a competence section and 113 behaviour problem items. Each item presents a short description of problematic behaviour and parents are asked to rate on a three-point scale whether this behaviour is "not true" (0), "somewhat or sometimes true" (1) or "very true or often true" (2) for their child now or in the past six months. The behaviours are related to nine narrow-band factors, namely *anxious/depressed*, *withdrawn/depressed*, *somatic complaints*, *social problems*, *thought problems*, *attention problems*, *rule-breaking behavior*, *aggressive behavior* and *other problems* and to two broad-band factors, namely *internalizing problems* and *externalizing problems*. In addition, a *total problems* score can be calculated. Internal consistencies

of narrow-band, broad-band and *total problems* factors as reported by Achenbach and Rescorla (2001) range from .78 to .97 and test-retest reliability from .82 to .94.

It has been suggested that the use of the CBCL is not always appropriate for children with an LD as it was developed for use with TD children (Embregts, 2000). Some problem items do not actually measure problematic behaviour in children with an LD, such as 'acts too young for his/her age', while other problems that are typical of children with an LD, such as communication limitations, are ignored (Koskentausta, Iivanainen, & Almqvist, 2004). Whereas externalising problems in children with an LD can be assessed more accurately, internalising problems may be overlooked by the CBCL. The CBCL is suggested to be more suitable for children with mild LDs than for children with moderate to profound LDs (Koskentausta et al., 2004). However, the structure of the *internalizing* and *externalizing* broad-band factors were confirmed in a factor analysis based on the CBCL data of parents of children with an LD (Borthwick-Duffy, Lane, & Widaman, 1997) and adequate internal consistencies for both narrow-band and broad-band factors among parents of children with an LD have been reported (Berman, Solish, Nachshen, & Minnes, 2002, cited in: Nachshen, Garcin, & Minnes, 2005).

The competence section was not used in the present study as it has been found not to accurately reflect the daily activities of most children with moderate to profound LDs (Koskentausta et al., 2004). *Somatic complaints* was also not used as it has not been found to accurately reflect internalising problems in children with medical conditions. It is difficult for parents to discriminate between physical complaints caused by medical or psychological factors (Drotar, Stein, & Perrin, 1995; Friedman, Bryant, & Holmbeck, 2007; Perrin, Stein, & Drotar, 1991;

Wallander et al., 1989; Wallander, Varni, Babani, Banis, & Wilcox, 1988). The inclusion of physical symptoms can therefore introduce bias when measuring psychological symptoms (Wells & Strickland, 1982). As children with an LD often also experience additional medical (somatic) problems (Oeseburg, Jansen, Dijkstra, Groothoff, & Reijneveld, 2010; van Schojenstein Lantman-de Valk et al., 1997), *somatic complaints* as an indication of behaviour problems was excluded.

One hundred and eight problem items were used for eight narrow band factors and a *total problems* score, while still considering the possible limitations of using these CBCL items for measuring behaviour problems in children with an LD. The CBCL can be found in Appendix B4. The reliability of the CBCL for the current study can be found in Table 7.2. Due to poor reliability, *thought problems* in the TD group and *other problems* in the LD and TD group were excluded from analyses. All other scales were considered reliable for the current study with Cronbach's alphas of .6 to .7 or higher (Field, 2005; Hair et al., 2010; Nunnally, 1978).

Table 7.2

	Whole sample	LD group	TD group
	(<i>n</i> = 118)	(<i>n</i> = 50)	(<i>n</i> = 68)
Scale	Cronbach's α	Cronbach's α	Cronbach's α
Anxious/depressed	.74	.73	.76
Withdrawn/depressed	.70	.64	.64
Social problems	.76	.63	.67
Thought problems	.86	.87	.54
Attention problems	.87	.81	.79
Rule breaking behaviour	.65	.63	.62
Aggressive behaviour	.91	.90	.88
Other problems	.61	.57	.57
Internalising	.81	.81	.81
Externalising	.91	.91	.90
Total problems	.96	.96	.94

Reliability of the Child Behavior Checklist.

7.2.3.3 Parenting Scale (PS). The PS (Arnold, O'Leary, Wolff, & Acker, 1993) assesses parental discipline strategies for general child misbehaviour. It is a self-report questionnaire that takes five to ten minutes for parents to complete. The usefulness of the scale is maximised across populations and behaviour problems because it measures parental discipline irrespective of the child's specific misbehaviours. The PS consists of 30 items and 3 scales, namely *laxness*, *overreactivity*, *verbosity* and a *total score*. Each item consists of a 7-point scale which proposes a discipline 'mistake' on one anchor and its more effective equivalent on the other anchor. Parents are asked to identify their average response during the past two months. Higher scores indicate less effective strategies.

Laxness is related to permissive discipline (11 items, $\alpha = .83$, Arnold et al., 1993), e.g. 'When I say my child can't do something, I let my child do it anyway – I stick to what I said. *Overreactivity* reflects displays of anger or irritability (10 items, $\alpha = .82$, Arnold et al., 1993), e.g. 'I get so frustrated or angry that my child can see I'm upset – I handle it without getting upset'. *Verbosity* assesses lengthy verbal responses when talking is ineffective (7 items, $\alpha = .63$, Arnold et al., 1993), e.g. 'I give my child a long lecture – I keep my talks short and to the point'. A *total score* can also be calculated ($\alpha = .84$, Arnold et al., 1993). Test-retest reliability ranges from .79 to .84 (Arnold et al., 1993). The developers of the PS (Arnold et al., 1993) reported promising validity by means of significant correlations with observations of lax, overreactive and verbose parenting. In addition, the PS was able to discriminate between groups of clinic and non-clinic families.

Arnold et al. (1993) acknowledged that social desirability might be an issue with the PS. However, they reported that mothers indicated that they often did not

know which alternative was the 'correct' and which was the 'incorrect' response. In addition, Arnold et al. (1993) found a full range of responses for each item. The PS can be found in Appendix B5. The reliability of the PS for the current study can be found in Table 7.3. *Laxness, overreactivity* and *total score* were considered reliable with alphas over .7 (Field, 2005; Nunnally, 1978). Due to poor reliability, *verbosity* was excluded from analyses.

Table 7.3

	Whole sample	LD group	TD group
	(<i>n</i> = 120)	(<i>n</i> = 51)	(<i>n</i> = 69)
Scale	Cronbach's α	Cronbach's α	Cronbach's α
Laxness	.85	.84	.86
Overreactivity	.76	.81	.70
Verbosity	.56	.46	.61
Total	.85	.83	.86

Reliability of the Parenting Scale.

7.2.3.4 Demographics. A demographics sheet was included at the end of the questionnaire. See Section 0 for what was included. The demographic questions can be found in Appendix B6.

7.2.4 Procedure. For procedures on data collection, see Section 5.2.4. The order of the questionnaires within the booklet was randomised to an extent. The first questionnaire was the WAQ-A for all participants and the final questionnaire was the WAQ-A-NV (used for Study 1), for parents of TD children. It was judged that the WAQ-A was more important to be completed without fatigue than the other questionnaires. Parents' data on the WAQ-A could still be used for analysing Aim 3.1 even if the following CBCL and PS were missing or unreliable. The WAQ-A-NV was moved to the end to avoid answers on the WAQ-A influencing answers on the WAQ-A-NV as much as possible. The order of the CBCL and the PS was

randomised for all parents. This resulted in two different versions of the questionnaire booklet.

7.2.5 Analyses. Data were analysed using SPSS. Cleaning up the data involved checking for missing data, computing sum scores for the WAQ-A, PS and CBCL, checking for outliers and assessing the normality of the data. The preliminary analyses consisted of computing descriptives and reliabilities of the scales. In addition, group differences on the CBCL and the PS were assessed. For the analyses of Aim 3.1, t-tests and Mann-Whitney U-tests were performed to assess differences between the LD and TD group on the causal attributions and judgements on the role of the parent and the child in child misbehaviour. For Aim 3.2, after constructing and inspecting scatterplots, correlations were calculated between (1) all causal attributions and judgements on the role of the parent and the child in child misbehaviour and (2) parents' report of their use of ineffective parenting strategies. In addition, multiple regression was carried out to assess the predictive value of causal attributions and judgements for parents' report of their use of ineffective strategies. For Aim 3.3, after constructing and inspecting scatterplots, correlations were calculated between (1) parents' report of their use of ineffective parenting strategies and (2) parents' report of child behaviour problems. In addition, logistic regression was carried out to assess the predictive value of causal attributions and judgements for parents' report of their use of ineffective strategies. Finally, for Aim 3.4, interrelationships between parents' causal attributions/judgements of locus, stability, child control, intent, child responsibility, blame, and parent responsibility for child misbehaviour were assessed using correlational analysis.

7.3 Results Study 3

7.3.1 Preparation of the data.

7.3.1.1 Inclusion and exclusion criteria. Data were collected from 52 parents of children with an LD and 81 parents of TD children. In addition to the participants excluded due to the criteria as described in Section 5.3.1.1, one further participant was excluded due to large amounts of missing data. The final sample consisted of 120 participants with 51 in the LD group and 69 in the TD group.

7.3.1.2 Missing data. Missing data was due to participants missing questions or parts of questionnaires. None of the variables and participants had more than 10% missing data. When less than 10% of the data on any given variable and any participant is missing, any imputation technique to replace missing data can be employed without biasing the results (Field, 2005; Tabachnick & Fidell, 2007). Mean substitution (Field, 2005; Tabachnick & Fidell, 2013) was employed to replace all other missing data. One participant in the LD group missed all answers on scenario C. The mean WAQ-A scores for this participant were therefore based on only two scenarios. Another participant in the LD group and one in the TD group had missed half of the questions (one page) of the CBCL and were excluded from all analyses involving the CBCL.

7.3.1.3 Outliers. For all variables, *z*-scores were calculated and those exceeding +/- 3.29 were considered outliers (Field, 2005; Tabachnick & Fidell, 2013). In the LD group, four values were found originating from four cases, and in the TD group nine values were found originating from two cases. Outliers were replaced with a score equal to a *z*-score of 3.29 (Field, 2005; Tabachnick & Fidell, 2013).

7.3.1.4 Normality. Skewness and kurtosis values were calculated for all variables. These were converted to *z*-scores and absolute values greater than 1.96 were considered to indicate a skewed or peaked/flat distribution (Field, 2005; Tabachnick & Fidell, 2013). In addition to this, Kolmogorov-Smirnov and Shapiro-Wilks tests were carried out to assess the overall shape of the distribution. The distribution was significantly different from normal for 19 out of 30 variables in the LD group and 35 out of 58 variables in the TD group. The transformations will be discussed in the relevant sections below.

7.3.2 Preliminary analyses.

7.3.2.1 Demographics. Demographic information for both groups is displayed in Table 5.5. Chi-square tests were carried out to assess any differences between the two groups. There were no significant differences between the LD and TD group for child age, number of children in the family, proportion of mothers, level of education and employment. The ethnic background of the two groups was similar, with most parents coming from white backgrounds, but slightly more parents from non-white backgrounds in the LD group. As might be expected, the two groups differed significantly on child gender, with children in the LD group being 3.26 times more likely to be a boy than children in the TD group (see Chapter 1). A difference in household income was found with the frequencies of the lowest and highest incomes in the LD group occurring respectively more and less than to be expected and the frequencies of the lowest and highest incomes in the TD group occurring respectively less and more than to be expected (see Chapter 1 and Section 3.2.2.1). Parents in the LD group estimated their child's development as mostly severely or moderately delayed while most parents in the TD group estimated their child's

development as typical. Most children in the LD group attended specialist education and all children in the TD group attended mainstream education. Information on the aetiologies of LDs in the sample was provided in Section 5.3.2.

7.3.2.1 Parenting Scale. Scores on the PS were compared to assess group differences on parenting strategies. Data on the scales of the PS were normally distributed in the LD group, but in the TD group data were not normal for *laxness* and *overreactivity*. A log transformation applied to both groups resulted in the best distribution for *laxness* and a square root transformation applied to both groups resulted in the best resulted in the best distribution for *overreactivity*.

The correlation between the *laxness* and *overreactivity* scales was .35 and as a result a MANOVA worked acceptably well (Tabachnick & Fidell, 2013). Univariate normality was found in both scales, which is necessary for but does not guarantee multivariate normality (Field, 2005). As there were more than 20 degrees of freedom and more than 20 cases in the smallest cell, the MANOVA was robust against violations of multivariate normality (Tabachnick & Fidell, 2013). It was therefore assumed that the data's multivariate normality was acceptable. Univariate outliers were adjusted as explained earlier (see Section 7.3.1.3). Mahalanobis *D* indicated one multivariate outlier which was removed for this analysis. Scatterplots were examined to determine linearity between the dependent variables and no deviations from linearity were found. Homogeneity of variance-covariance matrices was confirmed with Box's *M* test (Box's M = 3.52, *F* (3, 1003241.86) = 1.15, *p* = .33) (Field, 2005; Tabachnick & Fidell, 2013).

Pillai's trace was used as the test-statistic as sample sizes were unequal (Field, 2005; Tabachnick & Fidell, 2013). Univariate *F* was chosen for follow up

tests rather than Stepdown *F* because, even though the dependent variables were correlated, it was not possible to prioritise between them, which would make interpretation difficult (Tabachnick & Fidell, 2013). Multivariate η^2 was used as a measure for the effect size of the MANOVA while ω^2 was used for the effect size of the follow up tests.

The MANOVA showed that there was a significant effect of group on the PS, Pillai's Trace = .11, F(2, 116) = 6.95, p = .001 with a small effect size ($\eta^2 = .11$). Univariate ANOVAs were carried out with a Bonferroni type adjusted Type I error rate at .025, equal to the family-wise error rate (.05) divided by the number of tests (Tabachnick & Fidell, 2013). Results showed that the LD group used significantly less overreactive strategies than the TD group, but with a very small effect size (Table 7.4). No differences were found for lax strategies. Overall, parents of children with an LD reported using a similar amount of ineffective strategies to parents of TD children, while parents of children with an LD used slightly less overreactive strategies.

Table 7.4

Group Differences on the Parenting Scale using Means (M), Standard Deviations (SD), Test Statistics and Effect Sizes (ω^2).

	LD $(n = 50)$	TD (<i>n</i> = 69)		
	M(SD)	M(SD)	Test results	ω^2
PS laxness (log)	1.44 (0.16)	1.40 (0.17)	F(1, 117) = 1.44	.00
PS overreact (sqrt)	4.85 (0.89)	5.24 (0.70)	$F(1, 117) = 7.00^{**}$.00

Note: Bonferroni type adjusted Type I error rate at .025. $p^{**} < .01$.

7.3.2.2 *Child Behavior Checklist.* Scores on the CBCL were compared to assess group differences on child behaviour problems. Data on all scales of the CBCL for both groups were found to be not normally distributed due to severe

positive skew. Log, square root and inverse transformations were carried out, but did not improve the distribution of the data (Tabachnick & Fidell, 2013). Mann-Whitney *U*-tests were therefore used to assess group differences on the CBCL. As for Study 1 (see Section 5.3.3 and Section 5.3.4.1), a more stringent significance level of .01 was used to adjust for the increased chance of Type I error when conducting a large number of tests, rather than a Bonferroni adjustment, as this increases the chance of Type II error (Field, 2005; Perneger, 1998). Parents of children with an LD reported their child experiencing significantly more behaviour problems than parents of TD children on all CBCL scales and factors, except for *anxious/depressed* and *internalizing* with effect sizes ranging from medium to large (Table 7.5).

Table 7.5

Group Differences on the Child Behavior Checklist using Means (M), Standard Deviations (SD), Medians (Mdn) Test Statistics and Effect Sizes (r).

	TD (<i>n</i> = 50)		LD (<i>n</i> = 6	LD (<i>n</i> = 68)		
	M(SD)	Mdn	M(SD)	Mdn	U	r
AD	3.38 (3.17)	2.00	3.08 (3.06)	2.00	1594.00	-0.05
WD	2.84 (2.47)	2.00	1.03 (1.48)	0.00	900.50**	-0.42
SP	6.42 (3.14)	6.00	1.78 (2.24)	1.00	389.50**	-0.66
AP	9.92 (4.37)	9.50	3.70 (2.79)	3.00	385.50^{**}	-0.66
RBB	3.11 (2.51)	3.00	1.54 (1.70)	1.00	1010.50^{**}	-0.35
AB	10.08 (6.87)	8.50	4.29 (4.44)	3.00	787.50^{**}	-0.46
Int	6.22 (5.12)	4.50	4.12 (4.03)	3.00	1261.00	-0.22
Ext	13.22 (8.99)	11.00	5.82 (5.82)	4.00	786.00^{**}	-0.46
Tot	47.96 (27.28)	40.00	20.13 (16.09)	15.00	615.50^{**}	-0.54

Note: AD = anxious/depressed; WD = withdrawn/depressed; SP = social problems; AP = attention problems; RBB = rule breaking behavior; AB = aggressive behavior; Int = internalizing; Ext = externalizing; Tot = total problems. *** p < .001.

7.3.3 Aim 3.1 – Group differences on WAQ-A. Scores on the WAQ-A were

compared to assess group differences on causal attributions. Of all scales in the WAQ-A, only data for *problem* and *parent responsibility* were normally distributed in both groups. Log, square root and inverse transformations were carried out

(Tabachnick & Fidell, 2013). For *child control* and *parent control*, the square root transformation resulted in normally distributed data for both groups. For all other scales, the transformations did not improve the distributions for either one or both groups. The *perceived control* variable was created by first rescoring the original child control and parent control constructs so that they had a minimum of -4.5 and a maximum of 4.5 with a middle score of zero and still ten scale points. Next, this new *child control* score was subtracted from the new *parent control* score. This resulted in the *perceived control* construct where a score near zero indicated a balance between the child's and the parent's control (both either high or low), a positive score indicated high *perceived control* with high *parent control* and low *child control* and a negative score indicated low *perceived control* with low *parent control* and high *child control*. *Perceived control* was normally distributed in both groups. Instead of assessing group differences on the WAQ-A scales with an overall MANOVA, each scale was tested individually with either *t*-tests or Mann-Whitney U-tests. Again, a more stringent significance level of .01 was used to adjust for the increased chance of Type I error when conducting a large number of tests, rather than a Bonferroni adjustment, as this increases the chance of Type II error (Field, 2005; Perneger, 1998). The results are shown in Table 7.6.

No difference was found between parents of children with an LD and parents of TD children in how much of a problem they thought the behaviour in the vignette was but parents in the LD group saw the cause for misbehaviour as significantly more stable, confirming Hypothesis 3.1a. Parents of children with an LD assigned less control, responsibility, blame and intent towards the child for misbehaviour than parents of TD children, confirming Hypothesis 3.1b. In contrast to Hypothesis 3.1c,

the two groups did not differ in the amount of control and responsibility they assigned to themselves for their child's misbehaviour. However, on *perceived control* the LD group scored near zero and the TD group scored negative and this difference between the two groups was significant. This indicated that while in the LD group there was a balance between the amount of control attributed to the child and to the parent, in the TD group parents viewed themselves as having less control than the child. This is probably due to the fact that parents of children with an LD viewed their child as having less control than parents of TD children.

Table 7.6

Group Differences on the Written Analogue Questionnaire-Adapted using Means (M), Standard Deviations (SD), Medians (Mdn) Test Statistics and Effect Sizes (r).

	LD(n = 1)	51)	TD $(n = 6)$	59)		
	$M\left(SD\right)$	Mdn	$M\left(SD\right)$	Mdn	Test statistic	r
Problem	4.92 (2.01)		5.20 (1.76)		t(118) = -0.83	0.08
Stability	7.90 (2.20)	8.67	6.29 (2.26)	7.00	$U = 986.50^{**}$	-0.38
Child control	1.86 (0.43)		2.36 (0.47)		$t(118) = -5.89^{**}$	0.48
Child resp.	4.76 (2.31)	5.00	7.34 (1.77)	7.67	$U = 678.00^{**}$	-0.52
Blame	3.99 (2.01)	4.33	6.11 (2.22)	6.67	$U = 799.00^{**}$	-0.47
Intent	3.69 (2.07)	4.00	4.84 (1.90)	5.00	$U = 1197.00^*$	-0.27
Parent control	1.92 (0.48)		1.82 (0.44)		t(118) = 1.23	0.11
Parent resp.	4.30 (2.14)		4.98 (2.03)		t(118) = -1.77	0.16
Perc. control	0.23 (2.59)		-2.20 (3.01)		$t(118) = 4.64^{**}$	0.39
Anger	3.57 (1.91)	3.50	4.47 (2.21)	4.33	U = 1348.00	-0.20

Note: Child resp. = *child responsibility*; Parent resp. = *parent responsibility*; Perc. control = *perceived control.* * p < .01; ** p < .001.

No significant difference on *anger* was found between parents in the LD group and parents in the TD group (Table 7.6). Emotion items other than *anger* were severely positively skewed, due to a build-up of responses on the lowest scores, that is most parents indicated not or only slightly experiencing the emotions. These four items were dichotomised, with those participants scoring 1 being assigned a score of 1 and participants scoring higher than 1 being assigned a score of 2. Chi-square

analyses are shown in Table 7.7. There was a significant association between group and emotions for *hopelessness*, $\chi^2(1) = 11.50$, p = .001. Cramer's statistic (V = .31, p = .001) represented a medium association between group and hopelessness. The odds ratio showed that parents of children with an LD were 3.8 times more likely than TD parents to experience feelings of hopelessness in response to their child's misbehaviour.

Table 7.7

	LD	TD	Total			LD	TD	Total
No	26	26	52	Guilt	No	17	27	44
Yes	25	43	68		Yes	34	42	76
Total	51	69	120		Total	51	69	120
No	12	27	39	Hopelessness*	No	13	39	52
Yes	39	42	81		Yes	38	30	68
Total	51	69	120		Total	51	69	120
	Yes Total No Yes	Yes 25 Total 51 No 12 Yes 39	No2626Yes2543Total5169No1227Yes3942	Yes254368Total5169120No122739Yes394281	No 26 26 52 Guilt Yes 25 43 68	No 26 26 52 Guilt No Yes 25 43 68 Yes Total 51 69 120 Total No 12 27 39 Hopelessness* No Yes 39 42 81 Yes Yes	No 26 26 52 Guilt No 17 Yes 25 43 68 Yes 34 Total 51 69 120 Total 51 No 12 27 39 Hopelessness* No 13 Yes 39 42 81 Yes 38	No 26 26 52 Guilt No 17 27 Yes 25 43 68 Yes 34 42 Total 51 69 120 Total 51 69 No 12 27 39 Hopelessness* No 13 39 Yes 39 42 81 Yes 38 30

Contingency Table for Group versus Emotions.

 $p^* < .01.$

Content analysis was used to categorise the answers to the open question in the WAQ for each scenario ('When your child behaved like this, what did you think was the main cause? Please specify') into themes. Miles and Huberman (1994) described inductive content analysis, where recurring themes within participants' responses are identified and organised into meaningful categories. Answers to the open questions were entered into a file in NVivo and an initial start list of codes was developed while reviewing the answers multiple times. In line with recommendations by Miles and Huberman (1994) a) codes were assigned from the start list to the responses; b) the start list of codes was revised as needed; c) the coding scheme was applied to all responses; d) accurate records of coding were maintained throughout the process. The final themes and subthemes are displayed in Table 7.8. The themes were then added as variable into SPSS and whether or not each theme was referred to by each participant was entered (0 or 1 respectively).

Chi-square tests were carried out to assess the presence of the themes in the two groups. The 'learning disability' cause was not included in this as none of the parents of TD children has used this cause. Significant effects were found for 'on purpose', 'child can't help it', and 'situation'. Contingencies for these three tests are presented in Table 7.9. Parents in the LD group were significantly more likely to attribute child misbehaviour to a 'child can't help it' cause than parents in the TD group, $\chi^2(1) = 20.33$, p < .001. Cramer's statistic (V = .41, p < .001) represented a medium to large association between group and the use of the 'child can't help it' cause. The odds ratio shows that parents of children with an LD were 6.64 times more likely than TD parents to attribute their child's misbehaviour to the 'child can't help it' cause.

Table 7.8

Themes and Subthemes for Causes of Child Misbehaviour.

Parent cause: Lack of routine, parent behaviour
Child cause: Personality, child does not like it, not important, frustration
On purpose: Attention seeking, not listening/behaving, child does not want it
Attention: Attention span, focus on something else, impatience
Child can't help it: inability, inability to wait, lack of communication skills, lack of understanding, sensory issues
Learning disability
Characteristic of any child
Situation: Circumstances, tiredness, boredom, fear

Parents in the LD group were significantly less likely to attribute child misbehaviour to an 'on purpose' cause than parents in the TD group, $\chi^2(1) = 4.61$, p = .03. Cramer's statistic (V = .20, p = .03) represented a small to medium association between group and the use of the 'on purpose' cause. The odds ratio shows that parents of children with an LD were 2.25 times less likely than TD parents to attribute their child's misbehaviour to the 'on purpose' cause.

Parents in the LD group were significantly less likely to attribute child misbehaviour to a 'situation' cause than parents in the TD group, $\chi^2(1) = 4.10$, p =.04. Cramer's statistic (V = .19, p = .04) represented a small to medium association between group and the use of the 'situation' cause. The odds ratio shows that parents of children with an LD were 2.52 times less likely than TD parents to attribute their child's misbehaviour to the 'situation' cause.

Table 7.9

		LD	TD	Total
Child can't help it	Cause not used	24	59	83
	Cause used	27	10	37
	Total	51	69	120
On purpose	Cause not used	33	31	64
	Cause used	18	38	56
	Total	51	69	120
Situation	Cause not used	43	47	90
	Cause used	8	22	30
	Total	51	69	120

Contingency Table for Group versus Use of Causes for Child Misbehaviour.

7.3.4 Aim 3.2 – Predicting parenting strategies from cognitions.

7.3.4.1 *Correlational analyses.* Table 7.10 shows the correlation coefficients between the WAQ-A and PS scales for each group. Pearson's *r* was used where both variables were normally distributed or transformed and Spearman's ρ was used where this was not the case. Again, a more stringent significance level of .01 was used to adjust for the increased chance of Type I error when conducting a large number of tests, rather than a Bonferroni adjustment, as this increases the chance of Type II error (Field, 2005; Perneger, 1998). No relationships were found between
stability, perceived control, intent and *parent control* and the PS scales in both groups and between *influence of LD* and the PS scales in the LD group. In both groups, a relationship was found between *anger* and *overreactivity*, indicating that parents who felt angrier used more overreactive strategies.

Table 7.10

Correlations between Written Analogue Questionnaire-Adapted and Parenting Scale using Pearson's r(r) and Spearman's rho (ρ).

	0		
	Group	PS laxness (log)	PS overreactivity (sqrt)
Problem	LD	<i>r</i> = .16	$r = .15_{*}$
	TD	r = .22	$r = .38^{*}$
Stability	LD	$\rho = .10$	$\rho =01$
	TD	$\rho = .03$	$\rho = .12$
Parent control	LD	r = .11	r = .29
	TD	r = .02	r = .06
Parent responsibility	LD	<i>r</i> =27	<i>r</i> =15
	TD	<i>r</i> = .15	<i>r</i> =01
Perceived control	LD	r = .10	<i>r</i> =01
	TD	r = .22	r = .17
Child control	LD	<i>r</i> =04	r = .32
	TD	$r =34^*$	r =24
Child responsibility	LD	$\rho =39^*$	$\rho = .02$
	TD	$\rho =21$	ρ =06
Blame	LD	$\rho =29$	$\rho = .12$
	TD	$\rho = .02$	$\rho = .21$
Intent	LD	$\rho =11$	$\rho = .09$
	TD	$\rho = .16$	$\rho = .30$
Influence of LD	LD	$\rho = .10$	$\rho =15$
Anger	LD	$\rho = .11$	$\rho = .51^{**}$
	TD	$\rho = .22$	$\rho = .43^{**}$
Embarrassment/shame	LD	r = .07	r = .22
	TD	r = .14	<i>r</i> = .27
Pity/sympathy	LD	r = .10	r = .14
	TD	$r = .34^{*}$	$r = .24^{*}$
Guilt	LD	<i>r</i> =09	r = .04
	TD	<i>r</i> = .22	r = .24
Hopelessness	LD	r = .20	r = .07
	TD	<i>r</i> = .31	$r = .46^*$

Note: two-tailed; LD n = 51, TD n = 69.

 $p^* < .01; p^* < .001.$

Some relationships found in the TD group were not present or weaker in the LD group. In the TD group, the more parents viewed the behaviour as a problem, the more they indicated using overreactive strategies, but this was not found for the LD group. In addition, *pity/sympathy* was significantly and positively correlated to *laxness* in the TD group, but not in the LD group. *Pity/sympathy* and *hopelessness* were significantly and positively correlated to *overreactivity* in the TD group only.

Conversely, some relationships found in the LD group were not present or weaker in the TD group. In the LD group, for *child responsibility*, there was a significant negative correlation with *laxness*, but for the TD group this was only borderline significant. Finally, some correlations were negative in one group and positive in the other. For *child control*, there was a positive relationship with *overreactivity* in the LD group while there was a significant negative correlation with *laxness* and a negative correlation with *overreactivity* in the TD group. Similarly, for *blame*, there was a negative correlation with *laxness* in the LD group, while there was a positive correlation with *overreactivity* in the TD group.

To determine whether there was a curvilinear relationship of *child control* or *intent* with *overreactivity* or *laxness*, scatterplots were examined. The plots for both groups combined or separate did not show curvilinear relationships.

7.3.4.2 Group interactions. Because correlational analyses showed that relationships between cognitions and parenting strategies differed within each group, interactions for all WAQ-A items with *group* were examined. The continuous variables were centred before the interaction terms were calculated (Tabachnick & Fidell, 2013). Multiple linear regressions were carried out with *laxness* or *overreact* as the dependent variable and one of the WAQ-A items (mean-centred), *group*, and

the interaction term between the WAQ-A item and *group* as a predictors. Two significant interactions were found and simple slope analysis with further regressions was then carried out to specify these interaction effects (Aiken & West, 1991). First of all, *child control* was a moderator in the relationship between *group* and *PS overreactive* (see Table 7.11 and *Figure 7.1*).

Table 7.11

Regression for Interaction between Group and Child Control on Parenting Scale

Overreactivity.

	В	SE B	β
Constant	27.21	0.83	
Group	1.56	0.83	.19
Child control	0.20	0.39	.05
Interaction	-1.19	0.39	27***

Note: $R^2 = .13$ (p < .01); group coded as LD = 1, TD = 2; B = beta; SE B = standard error of beta; β = standardised beta.

 $p^{**} < .01.$





Slope analysis revealed that there was a significant positive relationship between *group* and *PS overreactive* at low levels of *child control*. Parents in both groups used the same amount of overreactive strategies when attributing medium or high levels of control to the child but parents in the LD group used fewer overreactive strategies than parents in the TD group when they attributed low levels of control to their child.

Second of all, *parent responsibility* was a moderator in the relationship between *group* and *PS laxness* (see Table 7.12 and Figure 7.2). Simple slope analysis revealed that there was a significant negative relationship between *group* and *PS laxness* at low levels of *parent responsibility*. Parents in both groups used the same amount of lax strategies when attributing medium or high levels of responsibility to themselves but parents in the LD group used more lax strategies than parents in the TD group when they attributed low levels of responsibility to themselves.

Table 7.12

Regression for the Interaction between Group and Parent Responsibility on PS

Laxness.

	В	SE B	β
Constant	1.42	0.02	
Group	-0.02	0.02	11
Blame	-0.01	0.01	06
Interaction	0.02	0.01	.21*

Note: $R^2 = .059$ (*ns*); group coded as LD = 1, TD = 2; B = beta; SE B = standard error of beta; β = standardised beta. *p < .05.



Figure 7.2 Interaction between group and parent responsibility on PS laxness.

7.3.4.3 Multiple linear regression WAQ-A to PS scales. Multiple linear regression was carried out to determine if parents' causal attributions and cognitions predicted their use of ineffective strategies. Predictors that were expected to relate to each other were grouped together in separate regressions rather than combining all predictors together in the same regression (Field, 2005). The WAQ-A predictors were grouped according to their focus, that is, 'problem' (*problem* and *stability*), 'parent' (*parent control, parent responsibility, perceived control, anger* and the interaction between *parent responsibility* and *group*) or 'child' (*child control, child responsibility, blame, intent* and the interaction between *child control* and *group*) and three separate regressions were carried out for each outcome of *PS laxness* and *PS overreactive*.

7.3.4.3.1 Problem variables predicting lax parenting strategies. The first model aimed to predict lax parenting strategies, using *PS laxness* (log transformed) as the dependent variable. Three independent variables were included in the model. The WAQ-A constructs *problem* and *stability* were entered in one block and *group* was included as a control variable. Data were found to meet the assumptions for multiple regression. Inspection of the eigenvalues showed possible multicollinearity between *group* and *stability*. However, this did not raise any concerns because the largest inter-item correlation was -.34 and did not exceed .9 (Field, 2005), the largest VIF was 1.27 and did not exceed 10, the mean VIF was 1.19 and was not substantially greater than 1 (Bowerman & O'Connell, 1990) and the lowest tolerance was .79 and was not below .2 (Field, 2005). The assumption of independent errors was met with a Durbin-Watson statistic of 1.84 (smaller than 1 and greater than 3 is problematic (Field, 2005)). Although four cases with a standardised residual greater

than 2 were found, further inspection showed that these were not cases of concern with acceptable values of Cook's distance, leverage, Mahalanobis and DFBeta (Field, 2005). Covariance ratios (CVR) were slightly below the lower limit cut-off (1 - [3(k + 1)/n] < CVR < 1 + [3(k + 1)/n]; with *k* as the number of predictors and *n* the sample size (Field, 2005)), but given the other diagnostics, this was no cause for concern. Homoscedasticity and linearity were both examined and confirmed through inspection of the residual plot. Through inspection of histograms and normal probability plots, errors were seen to be normally distributed.

 R^2 was .05 and nonsignificant, indicating that problem variables did not predict parents' use of lax strategies. All predictors in the model were nonsignificant (see Table 7.13).

Table 7.13

Multiple Regression of Written Analogue Questionnaire-Adapted Problem Variables on PS Laxness.

	В	SE B	β
Constant	1.41	0.08	
Group	-0.05	0.03	14
Problem	0.02	0.01	.19
Stability	0.00	0.01	.00

Note: $R^2 = .05$ (p > .05); group coded as LD = 1, TD = 2; B = beta; SE B = standard error of beta; β = standardised beta.

7.3.4.3.2 Problem variables predicting overreactive parenting strategies. The

second model aimed to predict overreactive parenting strategies, using *PS overreact* (square root transformed) as the dependent variable. Three independent variables were included in the model. The WAQ-A constructs *problem* and *stability* were entered in one block and *group* was included as a control variable.

Data were found to meet the assumptions for multiple regression. As the same predictors were used as in the previous regression, the multicollinearity diagnostics were the same and raised no concerns. As in the previous regression, the assumption of independent errors was met with a Durbin-Watson statistic of 2.03. Although five cases with a standardised residual greater than 2 were found and covariance ratios were slightly below the cut-off, as in the previous regression this was no cause for concern as acceptable values of Cook's distance, leverage, Mahalanobis and DFBeta were found. As in the previous regression, homoscedasticity and linearity were confirmed and errors were seen to be normally distributed.

 R^2 was significant and had a value of .13, indicating that problem variables predicted parents' use of overreactive strategies. Both *problem* and *group* were significant positive predictors, meaning that parents in the TD group and parents who viewed the misbehaviour as more of a problem, were more likely to react with overreactive strategies (see Table 7.14).

Table 7.14

Multiple Regression of Written Analogue Questionnaire-Adapted Problem Variables on PS Overreactivity.

	В	SE B	β
Constant	3.87	0.39	
Group	0.39	0.16	.24*
Problem	0.11	0.04	.25**
Stability	0.00	0.03	.01

Note: $R^2 = .13$ (p < .01); group coded as LD = 1, TD = 2; B = beta; SE B = standard error of beta; β = standardised beta. *p < .05; **p < .01.

7.3.4.3.3 Child variables predicting lax parenting strategies. The third model

aimed to predict lax parenting strategies, using PS laxness (log transformed) as the

dependent variable. Five independent variables were included in the model. The WAQ-A constructs *child control, child responsibility, blame* and *intent* were entered in one block and *group* was included as a control variable.

Data were found to meet the assumptions for multiple regression. Eigenvalues showed signs of multicollinearity between *group* and *child control*. However, as before this was no cause for concern as the largest inter-item correlation was .75, the largest VIF was 3.27, the mean VIF was 2.11 and the lowest tolerance was .31. The assumption of independent errors was met with a Durbin Watson statistic of 1.75. Although two cases with standardised residuals greater than 2 were found and two cases with standardised residuals greater than 2.5, and covariance ratios were slightly below the cut-off, as before this was of no concern as acceptable values of Cook's distance, leverage, Mahalanobis and DFBeta were found. As before, homoscedasticity and linearity were confirmed and errors were seen to be normally distributed. R^2 was significant and had a value of .15, indicating that child variables predicted parents' use of lax strategies (Table 7.15).

Table 7.15

Multiple Regression of Written Analogue Questionnaire-Adapted Child Variables on PS Laxness.

	В	SE B	β
Constant	1.55	0.08	
Group	0.01	0.04	.02
Child control	-0.03	0.03	
Child responsibility	-0.03	0.01	48**
Blame	0.01	0.01	.10
Intent	0.02	0.01	.24*

Note: $R^2 = .15$ (p < .01); group coded as LD = 1, TD = 2; B = beta; SE B = standard error of beta; β = standardised beta. *p < .05; **p < .01. *Child responsibility* was a negative predictor while *intent* was a positive predictor, meaning that parents who viewed their child as being less responsible and who view the child as acting with more intent, were more likely to respond to misbehaviour with lax strategies.

7.3.4.3.4 Child variables predicting overreactive parenting strategies. The fourth model aimed to predict overreactive parenting strategies, using *PS* overreactivity (square root transformed) as the dependent variable. Six independent variables were included in the model. The WAQ-A constructs *child control, child* responsibility, blame, intent and the interaction between group and *child control* were entered in one block and group was included as a control variable.

Data were found to meet the assumptions for multiple regression. Eigenvalues showed signs of multicollinearity between *child responsibility* and *child control*. However, as before this was no cause for concern as the largest inter-item correlation was .75, the largest VIF was 3.27, the mean VIF was 1.96 and the lowest tolerance was .31. The assumption of independent errors was met with a Durbin Watson statistic of 2.06. Although two cases with a standardised residual greater than 2 were found as before this was of no concern as acceptable values of Cook's distance, leverage, Mahalanobis, DFBeta and covariance ratios were found. As before, homoscedasticity and linearity were confirmed and errors were seen to be normally distributed.

 R^2 was significant and had a value of .24, indicating that child variables also predicted parents' use of overreactive strategies. *Child responsibility* was a negative predictor while *blame* and *group* were positive predictors, meaning that parents who viewed their child as being less responsible and who viewed the child as acting with

more intent and who were in the TD group, were more likely to respond to child misbehaviour with overreactive strategies (see Table 7.16). In addition, the interaction between group and child control was a significant positive predictor, meaning that *child control* affected *overreactivity* positively in the LD group and negatively in the TD group.

Table 7.16

Multiple Regression of Written Analogue Questionnaire-Adapted Child Variables on

	В	SE B	β
Constant	4.29	0.39	
Group	0.41	0.17	$.25^{*}$
Child control	0.15	0.16	.09
Child responsibility	-0.15	0.05	45**
Blame	0.13	0.05	.38**
Intent	0.05	0.05	.13
Interaction group x child control	-0.24	0.07	27**

PS Overreactivity.

Note: $R^2 = .24$ (p < .001); group coded as LD = 1, TD = 2; B = beta; SE B = standard error of beta; $\beta =$ standardised beta. $p^* < .05; p^* < .01.$

7.3.4.3.5 Parent variables predicting lax parenting strategies. The fifth model aimed to predict lax parenting strategies, using *PS laxness* (log transformed) as the dependent variable. Six independent variables were included in the model. The WAQ-A constructs parent responsibility, parent control, perceived control, anger and the interaction between group and parent responsibility were entered in one block and group was included as a control variable.

Data were found to meet the assumptions for multiple regression. Inspection of the eigenvalues showed possible multicollinearity between parent control and perceived control. However, as before this did not raise any concerns because their correlation was .71, the largest VIF was 2.82, the mean VIF was 1.64 and the lowest tolerance was .35. The assumption of independent errors was met with a Durbin

Watson statistic of 2.42. Although three cases with a standardised residual greater than 2 were found, one case greater than 2.5 and one greater than 3, and two covariance ratios were slightly below the cut-off, as before further inspection showed that there were no cases of concern with acceptable values of Cook's distance, leverage, Mahalanobis and DFBeta. As before, homoscedasticity and linearity were confirmed and errors were seen to be normally distributed.

 R^2 was significant and had a value of .16, indicating that parent variables predicted parents' use of lax strategies. *Anger, perceived control* and the interaction were significant positive predictors, meaning that parents who felt angrier and who perceived their control as higher than the child's were more likely to react with overreactive strategies. In the LD group, parents who felt more responsible reacted with less lax strategies while in the TD group, parents who felt more responsible reacted with more lax strategies (see Table 7.17).

Table 7.17

Multiple Regression of Written Analogue Questionnaire-Adapted Parent Variables on PS Laxness.

	В	SE B	β
Constant	1.49	0.10	
Group	-0.01	0.04	04
Parent responsibility	-0.01	0.01	06
Parent control	-0.05	0.05	15
Perceived control	0.02	0.01	.34*
Anger	0.02	0.01	$.26^{**}$
Interaction group x parent responsibility	0.03	0.01	$.20^{*}$

Note: $R^2 = .11$ (p < .05); group coded as LD = 1, TD = 2; B = beta; SE B = standard error of beta; β = standardised beta.

 $p^* < .05; p^* < .01.$

7.3.4.3.6 Parent variables predicting overreactive parenting strategies. The

sixth model aimed to predict overreactive parenting strategies, using PS

overreactivity (square root transformed) as the dependent variable. Five independent

variables were included in the model. The WAQ-A constructs *parent responsibility*, *parent control*, *perceived control* and *anger* were entered in one block and *group* was included as a control variable.

Data were found to meet the assumptions for multiple regression. Again, eigenvalues showed possible signs of multicollinearity between *parent control* and *perceived control*. However, as before this did not raise any concerns because the largest inter-item correlation was .71, the largest VIF was 2.79, the mean VIF was 1.74 and the lowest tolerance was .36. The assumption of independent errors was met with a Durbin Watson statistic of 2.08. Although two cases with a standardised residual greater than 2 were found and covariance ratios were slightly below the cutoff, as before this was of no concern as acceptable values of Cook's distance, leverage, Mahalanobis and DFBeta were found. As before, homoscedasticity and linearity were confirmed and errors were seen to be normally distributed. R^2 was significant and had a value of .35 (see Table 7.18).

Table 7.18

Multiple Regression of Written Analogue Questionnaire-Adapted Parent Variables

on PS Overreactivity.

	В	SE B	β
Constant	3.02	0.42	
Group	0.30	0.15	$.18^{*}$
Parent responsibility	-0.05	0.03	12
Parent control	0.51	0.20	$.30^{*}$
Perceived control	0.00	0.03	.01
Anger	0.20	0.03	$.52^{***}$

Note: $R^2 = .35$ (p < .001); group coded as LD = 1, TD = 2; B = beta; SE B = standard error of beta; β = standardised beta.

 $p^* < .05; p^* < .001.$

The parent variables also predicted parents' use of overreactive strategies.

Group, anger and parent control were significant positive predictors, meaning that

parents in the TD group and parents who felt angrier and who saw themselves as having more control were more likely to react with overreactive strategies.

7.3.5 Aim 3.3 – Predicting child behaviour from parenting strategies.

7.3.5.1 *Correlational analyses.* Spearman's ρ was calculated for correlations between PS and CBCL scales (Table 7.19). The more stringent significance level of .01 was used to adjust for the increased chance of Type I error when conducting a large number of tests, rather than a Bonferroni adjustment, as this increases the chance of Type II error (Field, 2005; Perneger, 1998).

Table 7.19

Correlations between Parenting Scale and Child Behavior Checklist using Spearman's Rho (ρ).

	Group	PS laxness (log)	PS overreactivity (sqrt)
Anxious/depressed	LD	.23	.13
	TD	08	.15
Withdrawn/depressed	LD	.11	.07
	TD	.04	.17
Social problems	LD	.25	.14
	TD	.06	.36*
Thought problems	LD	.23	.11
Attention problems	LD	.22	04
	TD	.16	.31*
Rule-breaking behavior	LD	.10	.09
	TD	.11	.27
Aggressive behavior	LD	.11	.09
	TD	.18	$.48^{*}$
Internalising score	LD	.19	.10
	TD	05	.18
Externalising score	LD	.11	.10
-	TD	.17	.45*
Total score	LD	.21	.10
	TD	.11	.38*

Note: one-tailed; LD n = 50, TD n = 69. *p < .01.

In the LD group, none of the CBCL scales were related to parenting

strategies. In the TD group, no significant correlations between PS laxness and the

CBCL scales were found. However, *social problems, attention problems, aggressive behaviour* and the *externalising* and *total scores* were significantly and positively related to *PS overreactivity*.

7.3.5.2 Logistic regression. The CBCL scale scores were too severely skewed to carry out a linear regression. The scales were therefore split based on the 50% lowest and 50% highest scores and a logistic regression was performed with group, PS laxness (log transformed) and PS overreactivity (square root transformed) as predictors. As large and significant group differences on the CBCL were found (see Section 7.3.2.2), group was entered in the first block and in the second block PS laxness and PS overreactivity were entered to assess if they contributed to behaviour problems beyond the effect of group. For all regressions, there were a number of cases exceeding the expected values for leverage, but because all other residual values were within the limits, it was concluded that there were no cases having undue influence on the logistic regression model (Field, 2005).

Table 7.20 displays the results of the logistic regressions. For *anxious/depressed* and *internalizing*, neither *group* nor ineffective parenting strategies were significant predictors. For *withdrawn/depressed*, *social problems*, *attention problems* and *rule breaking behavior*, *group* was a significant predictor and *PS laxness* and *PS overreactivity* did not explain any variance after controlling for *group*. Parents in the LD group were more likely to view their child as displaying these behaviours than parents in the TD group. For *aggressive behavior*, and for *externalising* and *total problems*, as *aggressive behaviour* is part of these latter two scales, *group* was again a significant predictor but *PS overreactivity* explained a significant amount of variance in behaviour problems after controlling for *group*.

Logistic Regression Predicting Child Behavior Checklist from Parenting Scale.

		D	2				050/	CI C	1
		R^2			ת			CI for e	-
		<u>C&S</u>	NK	0 1 1	<u>B</u>	SE B	Lower	-	Upper
AD	B 1	.00	.00	Constant	-0.12	0.24	0.50	0.89	0.16
	M - 1-	1.2(1		Group	0.03	0.37	0.50	1.04	2.16
	Mode				0.22	1 (0		1 27	
	B2	.03	.03	Constant	0.32	1.60	0.50	1.37	2 05
				Group	0.26	0.40	0.59	1.30	2.85
				PS OR PS Lax	0.04	0.03	0.99	1.04	1.10
	Mada	$1 x^2 (2)$	n - 2		-1.17	1.25	0.03	0.31	3.60
WD		<u>1χ (3</u> .12		$\frac{94; Block \gamma}{Constant}$	***			0.26	
WD	B 1	.12	.16	Constant	-1.02 1.51 ^{***}	0.28	2.07	0.36	0.04
	Mada	$1 \cdot 2^{2}$ (1) = 14	Group 5.17 ^{***}	1.51	0.40	2.07	4.53	9.94
	B2	ιχ (1 .14	.19	Constant	-2.73	1.76		0.07	
	$\mathbf{D}\mathcal{L}$.14	.19	Group	-2.73 1.69 ^{***}	0.44	2.28	5.43	12.92
				PS OR	0.04	0.44	0.99	1.04	12.92
				PS Lax	0.42	1.33	0.99	1.51	20.65
	Mode	$1 v^2 (3)$	(3) - 19	3.21 ^{***} ; Blo	$ck \sqrt{2}(2)$ -	- 3 03	0.11	1.51	20.05
SP	B1	.35	<u>, , , , , , , , , , , , , , , , , , , </u>	Constant	-1.26^{***}	0.29		0.28	
51	DI	.55	. – /	Group	3.08***	0.29	8.12	21.71	58.02
	Mode	$1 \gamma^2 (1)$	$) = 5^{2}$	1.29 ^{****}	5.00	0.50	0.12	21.71	50.02
	B2	.36	.48	Constant	-2.50	2.06		0.08	
				Group	3.29 ^{***}	0.57	8.90	26.96	81.65
				PS OR	0.04	0.03	0.97	1.04	1.11
				PS Lax	0.09	1.57	0.05	1.09	23.60
	Mode	$1\chi^2$ (3	(3) = 53	3.00 ^{***} ; Blo	$ck \chi^2(2) =$				
AP	B1	.23	.31	Constant	-0.88**	0.27		0.42	
				Group	2.26^{***}	0.44	4.03	9.60	22.85
	Mode	$1 \chi^2 (1$) = 31	1.12 ^{***}					
	B2	.24	.33	Constant	-2.48	1.85		0.08	
				Group	2.40^{***}	0.49	4.24	11.03	28.66
				PS OR	0.03	0.03	0.97	1.03	1.09
				PS Lax	0.53	1.41	0.11	1.70	27.17
		$1\chi^{2}(3$		2.91 ^{***} ; Blo	$ck \chi^{2}(2) =$	= 1.79			
RBB	B1	.11	.15	Constant	-0.42	0.25		0.66	
		2		Group	1.46^{***}	0.41	1.95	4.32	9.59
	Mode	$1 \chi^2 (1$	l) = 14	Group 4.06 ^{****}					
	B2	.13	.18	Constant	-1.25	1.70		0.29	
				Group	1.69***	0.45	2.23	5.40	13.08
				PS OR	0.04	0.03	0.99	1.04	1.10
		2		PS Lax	-0.27	1.30	0.06	0.76	9.80
	Mode	$1\chi^2$ (3	3) = 16	5.74 ^{**} ; Bloc	$2k \chi^2(2) =$	2.67			

(continued)

		R^2	2				95%	CI for e	xp b
	(C&S	NK		В	SE B	Lower	exp b	Upper
AB	B1	.13	.18	Constant	-0.74**	0.26		0.48	
				Group	1.59***	0.40	2.21	4.88	10.75
	Mode	$1 \chi^2 (1$) = 16	5.75***					
	B2	.20	.27	Constant	-2.85	1.79		0.06	
				Group	2.09***	0.49	3.12	8.07	20.89
				PS OR	0.08**	0.03	1.03	1.09	1.15
				PS Lax	-0.20	1.34	0.06	0.82	11.39
	Mode	$1\chi^{2}(3$	(3) = 26	5.51 ^{***} ; Blo	$ck \chi^2 (2) =$	= 9.76 ^{**}			
Int	B1	.02	.02	Constant	-0.12	0.24		0.89	
				Group	0.52	0.38	0.81	1.69	3.54
	Mode			94					
	B2	.05	.06	Constant	0.49	1.62		1.63	
				Group	0.79	0.41	0.98	2.21	4.98
				PS OR	0.05	0.03	1.00	1.05	1.11
				PS Lax	-1.40	1.26	0.02	0.25	2.91
		$1\chi^{2}(3$	/	59; Block χ	$y^2(2) = 3.6$				
Ext	B1	.17	.22	Constant	-0.67***	0.26		0.51	
		2		Group	1.82^{***}	0.42	2.73	6.20	14.08
	Mode	$1\chi^{2}(1$) = 21	1.32***					
	B2				216			0.00	
	$\mathbf{D} \boldsymbol{\angle}$.21	.29	Constant	-2.46	1.80		0.09	
	D2	.21	.29	Group	2.26^{***}	1.80 0.50	3.63	0.09 9.59	25.32
	D2	.21	.29	Group PS OR	$2.26^{***} \\ 0.07^{*}$	0.50 0.03	1.01	9.59 1.08	1.14
		.21		Group PS OR PS Lax	2.26 ^{****} 0.07 [*] -0.20	0.50 0.03 1.36		9.59	
	Mode	.21	3) = 28	Group PS OR	2.26^{***} 0.07 [*] -0.20 ck χ^2 (2) =	0.50 0.03 1.36 = 7.10 [*]	1.01	9.59 1.08 0.82	1.14
Tot		.21		Group PS OR PS Lax 3.42 ^{***} ; Blo Constant	2.26^{***} 0.07^{*} -0.20 $\frac{ck \chi^{2} (2)}{-0.89^{**}}$	$0.50 \\ 0.03 \\ 1.36 \\ = 7.10^{*} \\ 0.27$	1.01 0.06	9.59 1.08 0.82 0.42	1.14 11.67
Tot	Mode B1	.21 $\frac{1 \chi^2 (3)}{.23}$	3) = 28 .31	Group PS OR PS Lax 3.42 ^{***} ; Blo Constant Group	2.26^{***} 0.07 [*] -0.20 ck χ^2 (2) =	0.50 0.03 1.36 = 7.10 [*]	1.01	9.59 1.08 0.82	1.14
Tot	Mode B1	.21 $\frac{1 \chi^2 (3)}{.23}$ $1 \chi^2 (1)$	3) = 28 .31 3(1) = 31	Group PS OR PS Lax 3.42 ^{***} ; Blo Constant Group 1.12 ^{****}	2.26^{***} 0.07^{*} -0.20 $\frac{ck \chi^{2} (2)}{-0.89^{**}}$	$0.50 \\ 0.03 \\ 1.36 \\ = 7.10^{*} \\ 0.27$	1.01 0.06	9.59 1.08 0.82 0.42 9.60	1.14 11.67
Tot	Mode B1	.21 $\frac{1 \chi^2 (3)}{.23}$	3) = 28 .31	Group PS OR PS Lax 3.42 ^{***} ; Blo Constant	2.26^{***} 0.07 [*] -0.20 ck χ^2 (2) = -0.89 ^{**} 2.26 ^{***}	$0.50 \\ 0.03 \\ 1.36 \\ = 7.10^{*} \\ 0.27 \\ 0.44 \\ 1.90$	1.01 0.06	9.59 1.08 0.82 0.42 9.60 0.04	1.14 11.67
Tot	Mode B1 Mode	.21 $\frac{1 \chi^2 (3)}{.23}$ $1 \chi^2 (1)$	3) = 28 .31 3(1) = 31	Group PS OR PS Lax 3.42***; Blo Constant Group 1.12*** Constant Group	2.26^{***} 0.07 -0.20 ck χ^2 (2) = -0.89 2.26 *** -3.28 2.64 ***	$0.50 \\ 0.03 \\ 1.36 \\ = 7.10^{*} \\ 0.27 \\ 0.44 \\ 1.90 \\ 0.52 \\ 0.52$	1.01 0.06 4.03 5.04	9.59 1.08 0.82 0.42 9.60 0.04 13.97	1.14 11.67 22.85 38.73
Tot	Mode B1 Mode	.21 $\frac{1 \chi^2 (3)}{.23}$ $1 \chi^2 (1)$	3) = 28 .31 3(1) = 31	Group PS OR PS Lax 3.42 ^{***} ; Blo Constant Group 1.12 ^{***} Constant Group PS OR	2.26^{***} 0.07 -0.20 ck χ^2 (2) = -0.89 2.26 *** -3.28 2.64 *** 0.06	$\begin{array}{c} 0.50\\ 0.03\\ 1.36\\ \hline 7.10^{*}\\ 0.27\\ 0.44\\ 1.90\\ 0.52\\ 0.03\\ \end{array}$	1.01 0.06 4.03	9.59 1.08 0.82 0.42 9.60 0.04 13.97 1.07	1.14 11.67 22.85 38.73 1.13
Tot	Mode B1 Mode B2	.21 $\frac{1 \chi^2 (3)}{.23}$ $1 \chi^2 (1)$.27	3) = 28 .31 .) = 31 .36	Group PS OR PS Lax 3.42***; Blo Constant Group 1.12*** Constant Group	2.26^{***} 0.07^{*} -0.20 $ck \chi^{2} (2) =$ -0.89^{**} 2.26^{***} -3.28 2.64^{***} 0.06^{*} 0.43	$\begin{array}{c} 0.50\\ 0.03\\ 1.36\\ \hline 7.10^{*}\\ 0.27\\ 0.44\\ 1.90\\ 0.52\\ 0.03\\ 1.42\\ \end{array}$	1.01 0.06 4.03 5.04	9.59 1.08 0.82 0.42 9.60 0.04 13.97	1.14 11.67 22.85 38.73

Note: group coded as LD = 1, TD = 2; C&S = Cox & Snell; NK = Nagelkerke; AD = anxious/depressed; WD = withdrawn/depressed; SP = social problems; AP = attention problems; RBB = rule breaking behavior; AB = aggressive behavior; Int = internalizing; Ext = externalizing; Tot = total problems. *p < .05; **p < .01; **** p < .001.

7.3.6 Aim 3.4 – WAQ-A interrelationships.

7.3.6.1 The relationship between child control and parent responsibility.

The correlation between child control and parent responsibility was negative

and only borderline significant (r = -.14, p = .07). This was based on the whole

sample, so it was decided to assess the relationship for each group separately. For the

LD group, the correlation was close to zero and nonsignificant (r = -.01, p = .47). For the TD group however, the correlation was negative and significant (r = -.23, p =.03), indicating that parents who see their child as having high levels of control of their misbehaviour feel less responsible themselves for their child's misbehaviour.

7.3.6.2 The sequence of child causal attributions. The inter-correlations for attributions of child control, intent, child responsibility, blame and anger are displayed in Table 7.21. For the LD group, the proposed interrelations of child control affecting intent, intent affecting child responsibility and child responsibility affecting both blame and anger held, but for the TD group, the relationship between child control and intent was not found.

Table 7.21

Inter-Correlations for Attributions on the Written Analogue Questionnaire-Adapted.

	Child control	Intent	Child responsibility	Blame	Anger
Child control		.27*			
Intent	05		$.68^{**}$		
Child responsibility		.38**		$.78^{**}$.39**
Blame			.62**		
Anger			.29**		

Note: Correlations LD group above diagonal and TD group below; Pearson's *r*, one-tailed. ${}^{*}p < .05; {}^{**}p < .01.$

7.3.7 Explorative LD group-only analyses. Contrary to expectations, the WAQ-A question on how much the child's LD influenced the behaviour in the scenario did not relate to any of the parenting strategies (see Section 7.3.4.1). Because it was only posed to parents in the LD group it has so far not been further analysed in the comparison of the LD with the TD group. It was thought that this construct could affect the relationship between parental causal attributions and cognitions and parenting strategies. All possible interactions between WAQ-A

constructs and *influence of LD* on *PS laxness* and *PS overreactivity* were checked. The continuous variables were centred before the interaction terms were calculated (Tabachnick & Fidell, 2013). Regressions were carried out with *laxness* or *overreact* as the dependent variable and one of the WAQ-A items (mean-centred), *influence of LD*, and the interaction term between the WAQ-A item and *influence of LD* as predictors. This confirmed an interaction between *influence of LD* and *blame* on *overreactivity* which is discussed below. Following this, *influence of LD* was further examined.

7.3.7.1 The interaction between Influence of LD and Blame. Influence of

LD was found to moderate the relationship between *blame* and *PS overreactivity* (Table 7.22 and Figure 7.3). Simple slope analysis (Aiken & West, 1991) revealed a significant positive relationship between *blame* and *PS overreactivity* at high levels of *influence of LD*, i.e. parents who viewed their child's LD as having a high influence on misbehaviour use less overreactive strategies when they viewed their child as less to blame for their behaviour and use more overreactive strategies when they view their child as more to blame for their behaviour. However, for parents who viewed their child's LD as having a moderate or low influence on their behaviour, the amount of blame had no impact on overreactive strategies.

Table 7.22

	В	SE B	β
Constant	24.45	1.22	
Influence LD	-0.44	0.82	08
Blame	0.47	0.62	.11
Interaction	0.79	0.37	$.29^{*}$

Regression for Interaction between Blame and Influence of LD on PS Overreactivity.

Note: $R^2 = .12$ (*ns*); group coded as LD = 1, TD = 2; B = beta; SE B = standard error of beta; β = standardised beta.

 $p^* < .05.$



Figure 7.3 Interaction between blame and influence of LD on PS overreactivity.

7.3.7.2 Impact on Influence of LD. The above suggests that the influence of LD is a key factor in the relationship between blame and parenting strategies. However, the reliability of this scale was only .55 (see Section 7.2.3.1). A repeated measures analysis assessed whether this was because parents utilised different attributions on this question for each of the three behaviour scenarios. The three influence of LD variables' distributions were non-normal and no transformation was able to improve this. Nonparametric analyses were therefore carried out with the original untransformed items. Mauchly's test indicated that the assumption of sphericity was met, $\chi^2(2) = 2.94$, p = .23. Although the means slightly differed between scenarios (A: M = 7.98, SD = 2.05; B: M = 8.22, SD = 1.80; C: M = 7.52, SD = 2.49), the results showed that the degree to which parents viewed their child's LD as having an influence was not significantly affected by the scenario, F(2, 100) =1.97, p = .15, $\omega^2 = .009$. The inter-correlations between the three items were assessed and these were all strong, positive and significant ($\rho_{AB} = .47$, p < .001; $\rho_{AC} = .43$, p < .001.001; $\rho_{BC} = .53$, p < .001), indicating that the items measured related concepts even though Cronbach's alpha was low.

Influence of LD was examined further by assessing its relationship with parents' indication of the severity of the child's disability, the child's diagnosis, child behaviour problems and parent demographic factors. Parents in the LD group used only three of the five categories of severity of disability; severe delay, moderate delay and mild delay. Mild delay only occurred three times and this category was collapsed with moderate delay, resulting in 28 participants in the severe delay group and 22 participants in the moderate-mild delay group. Although the severe delay group scored consistently higher on *influence of LD* (Table 7.23), Mann-Whitney *U*tests pointed out that they did not differ significantly from the mild-moderate delay group on any of the three scenarios (A: U = 230.00, p = .12, r = -.22; B: U = 218.50, p = .07, r = -.26; C: U = 277.00, p = .53, r = -.09).

Table 7.23

Means (M) and Standard Deviations (SD) on Influence of LD per Delay Group.

	Severe delay	Mild-moderate delay
	(n = 28) M (SD)	(n = 22) M (SD)
Scenario A	8.36 (2.04)	7.63 (1.99)
Scenario B	8.64 (1.62)	7.78 (1.93)
Scenario C	7.57 (2.69)	7.48 (2.34)

Data from parents of children with genetic syndromes other than Down syndrome were all grouped together in the category 'genetic syndrome' to avoid groups consisting of only one data point. The five diagnostic groups were LD-nos, autism, Down syndrome, genetic syndrome and cerebral palsy. Means and standard deviations are displayed in Table 7.24. A Kruskal-Wallis test showed that there were no significant differences between groups on the extent to which they viewed their child's LD as having an influence on any of the three scenarios (A: H(4) = 3.53, p =.47, r = .00; B: H(4) = 2.98, p = .56, r = .00; C: H(4) = 6.00, p = .20, r = .17)

Table 7.24

	LD-nos	autism	Down syndrome	genetic syndrome	cerebral palsy
	(<i>n</i> = 13)	(<i>n</i> = 17)	(<i>n</i> = 12)	(<i>n</i> = 5)	(<i>n</i> = 4)
	$M\left(SD\right)$	$M\left(SD\right)$	M(SD)	M(SD)	M(SD)
Α	8.23 (1.48)	8.23 (1.64)	7.17 (2.62)	9.20 (1.30)	7.00 (3.56)
В	7.77 (1.87)	8.78 (1.08)	7.67 (2.43)	8.40 (2.30)	8.75 (0.96)
С	6.62 (2.99)	8.04 (1.86)	8.50 (1.62)	8.00 (2.12)	4.75 (3.78)

Means (M) and Standard Deviations (SD) on Influence of LD per Syndrome Group.

The relationship between *influence of LD* and child behaviour problems was assessed using Spearman's ρ . Again, a more stringent significance level of .01 was used to adjust for the increased chance of Type I error when conducting a large number of tests, rather than a Bonferroni adjustment as this increases the chance of type II error (Field, 2005; Perneger, 1998). Significant positive associations between *influence of LD* and child behaviour problems were only found for scenario A. The stronger the parent rating of the influence the LD had over child misbehaviour, the more they viewed their child as having anxious and depressed behaviour ($\rho = .45$, p = .001), social problems ($\rho = .38$, p = .007) and overall internalising behaviour ($\rho = .36$, p = .01).

The effect of the parents' number of children, marital status, level of education, job status and income on the degree to which parents view their child's LD as having an influence on all the three scenarios were assessed using Mann-Whitney and Kruskal-Wallis tests (Table 7.25). No significant differences were found.

Table 7.25

			Scenario A	Scenario B	Scenario C
		п	M(SD)	M(SD)	M(SD)
Number of	1	7	8.57 (3.95)	9.00 (1.92)	8.71 (1.89)
children	2	28	7.93 (1.96)	7.97 (1.93)	7.41 (2.08)
	>2	14	7.71 (2.40)	8.21 (1.53)	7.36 (3.10)
	Test statistic		<i>H</i> (2)=0.93	H(2)=2.74	H(2)=2.62
	Effect size r		.00	.13	.12
Marital status	Married/cohabiting	38	7.79 (2.15)	8.14 (1.73)	7.49 (1.73)
	Single	13	8.54 (1.71)	8.46 (2.07)	7.62 (3.04)
	Test statistic		<i>U</i> =194.00	<i>U</i> =206.00	<i>U</i> =219.50
	Effect size r		17	13	09
Level of	Primary/secondary	11	8.45 (1.75)	8.27 (1.85)	7.73 (2.72)
education	College, Highers	7	7.71 (2.98)	9.00 (1.29)	7.29 (2.93)
	HE, BA	18	7.94 (2.21)	8.23 (1.35)	7.87 (2.06)
	Postgrad	8	6.63 (1.19)	7.13 (2.48)	6.88 (2.64)
	Test statistic		H(3) = 6.61	<i>H</i> (3)=3.29	H(3) = 1.04
	Effect size r		.27	.08	.00
Job status	Employed	28	7.82 (2.11)	8.01 (1.85)	7.34 (2.25)
	Unemployed	23	8.17 (2.01)	8.48 (1.76)	7.74 (2.80)
	Test statistic		<i>U</i> =290.00	<i>U</i> =270.00	<i>U</i> =261.50
	Effect size r		09	14	16
Income	Up to 15,000	19	8.00 (2.08)	8.47 (1.65)	7.79 (2.25)
	Up to 30,000	14	8.57 (1.09)	8.51 (1.28)	6.61 (2.94)
	Up to 60,000	15	7.00 (2.48)	7.67 (2.09)	7.80 (2.34)
	Test statistic		H(2)=3.28	H(2)=1.81	H(2)=1.70
	Effect size r		.17	.00	.00

Means (M) and Standard Deviations (SD) of Influence of LD on Demographics.

Finally, the relationship between *influence of LD* and parenting strategies was

assessed using Spearman's p. No significant correlations were found (Table 7.26).

Table 7.26

Correlations between Influence of LD and Parenting Strategies.

	Influence of LD			
	Scenario A	Scenario B	Scenario C	
PS laxness	.23	.03	02	
PS overreactivity	05	09	15	

Note: Spearman's ρ , two-tailed; n = 50.

7.4 Discussion Study 3

The results demonstrated that parents of children with an LD held a stronger positive perceptual bias regarding attributions for child misbehaviour than parents of TD children. They viewed their children as less in control, less responsible, less to blame and acting with less intent. At the same time, parents in both groups viewed their role as a parent similarly, attributing to themselves similar levels of control and responsibility for child misbehaviour.

The causal attributions held by parents were found to predict parenting strategies. Relationships between parents' responsibility and lax strategies and between the child's control and overreactive strategies were negative and positive respectively among parents of children with an LD but positive and negative among parents of TD children. In addition, lax and overreactive strategies were each predicted by different sets constructs. Parents' report of child behaviour problems in TD children were predicted by parenting strategies, but this was not the case for children with an LD. The interrelationships between the causal attributions and judgements seemed to hold as specified by Weiner (1995), except for attributions of child control not being related to judgements of the child's intent among parents of TD children.

Finally, viewing the influence of the child's LD over misbehaviour as medium or low can protect parents from overreacting when they feel the child is to blame. Parents who viewed their children as having fewer internalising behaviour problems were more likely to view the influence of LD as low. The following sections will discuss these results in more detail.

7.4.1 Aim 3.1: Positive perceptual bias in parents of children with an LD. No unexpected demographic differences between parents of children with an LD and parents of TD children were found and therefore differences between the groups are not due to dissimilar backgrounds. The only differences between the groups were on those variables that were related to the LD, namely child gender, type of school attended by the child and estimate of development (see Chapter 1). In addition, parents of children with an LD were found to have a lower income, in line with the literature indicating that many mothers of children with an LD disrupt their careers and do not return to work (Baker et al., 1997; Curran et al., 2001; Olsson & Hwang, 2003) (see Section 3.2.2.1). Consistent with previous research, parents in the LD group rated their children as having more behaviour problems than parents in the TD group (see Section 2.1). In spite of this, parents in the two groups reported using lax strategies to a similar extent and parents in the LD group reported using only slightly fewer overreactive strategies than parents in the TD group. Although prior research suggests that parents of children with an LD adapt their strategies to the child's skills, this refers more to the parents' communicative and interactive behaviour with the child than to the ineffective strategies measured in the current study (see Section 3.2.2.3).

Parents of children with an LD viewed misbehaviour as equally problematic as, and the cause of misbehaviour as more stable than, parents of TD children, confirming the first hypothesis for Aim 3.1. This is also in line with Armstrong and Dagnan (2011) who found that disability was positively related to the attribution of stability. The second hypothesis for Aim 3.1 was also confirmed. Parents of children with an LD viewed the cause of misbehaviour as less under the child's control and

viewed the child as less responsible, acting with less intent and less to blame than parents of TD children. This confirms Chavira et al.'s (2000) findings and those of Whittingham et al. (2008) who found that parents of children with an LD held a positive perceptual bias in terms of responsibility and control, which according to these results would be stronger in parents of children with an LD than parents of TD children. The results were also in line with Walker et al. (1995) who found that children with a diagnosed illness were seen as misbehaving less intentionally and were held less responsible than well children, and with Fincham and Roberts (1985) who found that actors who were viewed as having lower mental capacities were assigned less blame than actors who were viewed as more capable.

Similarly, parents' answers to the open questions showed that parents of children with an LD were less likely than parents of TD children to attribute their child's behaviour to intentional causes and more likely to causes the child did not have control over. In addition, parents of children with an LD were less likely to attribute misbehaviour to situational causes, possibly because they view these as having a lesser impact than parents of TD children.

The results correspond to the psychosocial model of disability-related child behaviour problems, where problematic behaviours are seen as unavoidable and fixed parts of the disability (see Section 3.1). The finding that parents of children with an LD viewed the causes of misbehaviour as more stable and less controllable by the child and held their child less responsible for it than parents of TD children, suggests that they viewed the behaviour as an unavoidable part of the disability (Armstrong & Dagnan, 2011; Chavira et al., 2000; Whittingham et al., 2008). On the one hand, parents of children with an LD held a stronger positive perceptual bias

than parents of TD children which is helpful as this means they continue to view their child in a positive light. But on the other hand, they viewed behaviour as a fixed part of the disability, which places them at risk for viewing the child's misbehaviour as unavoidable and consequently accepting it as part of the LD. This was confirmed by the results on parents' emotions where in comparison to parents of TD children, parents of children with an LD feel more hopeless, which reflects the fixed and unavoidable view on behaviour problems.

Finally, the third hypothesis for Aim 3.1 was not confirmed. Parents in the LD group viewed themselves as similarly in control of and responsible for child misbehaviour as the TD group. This is in contrast to the literature on the control attribution and responsibility judgement of parents of children with ADHD, who saw themselves as having less control and responsibility for child misbehaviour than parents of TD children (Baden & Howe, 1992; Johnston & Freeman, 1997; Sobol et al., 1989). Possibly this relates to the overall development of the child which for children with ADHD is similar to TD children but not for children with an LD. This could stimulate parents of children with an LD to take control and responsibility, as parents of TD children have been found to do with younger children (Gretarsson & Gelfand, 1988). Moreover, Study 2 found that the LD itself motivated parents to take responsibility for the child's behaviour and learning; this effect might not be present for parents of children with ADHD. In addition, parents in the LD group had a balance on perceived control, that is relatively equal levels of child and parent control, while the TD group mostly had low perceived control, that is seeing themselves as having less control than the child. This would put parents of children with an LD less at risk for harsh and coercive parenting than parents of TD children

(Bugental et al., 1989; Bugental & Happaney, 2004) which is in line with the slight difference in the use of overreactive strategies found in the current study.

The current study shows a positive picture of parents of children with an LD, who feel similarly in control of and responsible for their child's behaviour as parents of TD children, and who hold a positive perceptual bias of their child. However, the cognitions that identify a positive perceptual bias also indicate a fixed and uncontrollable view on behaviour problems. The following sections will discuss the impact of these cognitions on parenting strategies.

7.4.2 Aim 3.2: The impact of causal attributions and cognitions on parenting strategies. The impact of the WAQ-A's behaviour-, child- and parent-focussed attributions are discussed separately in the next three sections.

7.4.2.1 Behaviour-focused factors. The first hypothesis for Aim 3.2 was not confirmed. *Stability* did not predict use of ineffective strategies by parents of children with an LD and parents of TD children as prior research had found for both parents of TD children and parents of children with ADHD (Chen et al., 2008; Johnston et al., 2009; Johnston & Leung, 2001; Wilson et al., 2006a). However, in the current study, *stability* was included in the regression together with *problem*. It could be that these two constructs are linked; whether or not stability predicts ineffective strategies, is linked to whether the behaviour is actually perceived as problematic. How much of a problem the behaviour was felt to be by parents was not included in the stability of misbehaviour was not predictive of overreactive strategies when how much of a problem the behaviour was included. It seems that it is not simply the

perception of the stability of behaviour that predicts ineffective strategies, but the perception of how problematic the behaviour is.

7.4.2.2 Child-focused factors. The second hypothesis for Aim 3.2 was partially confirmed. Attributions for the child's control, responsibility, intent and blame all predicted parents' use of ineffective strategies. As expected, parents' use of ineffective overreactive strategies was predicted positively by *blame*, which is in line with Dix et al.'s (1989) findings. The hypothesised curvilinear relationship between *intent* and parenting strategies was not found, but instead a direct positive relationship with lax strategies was found. Parents who viewed their child as acting with more intent reacted with more lax strategies, in line with Baden and Howe's (1992) study. Both cognitions of blame and intent are unsupportive for effective parenting.

However, attributions for the child's responsibility were negatively related to parents' use of ineffective lax and overreactive strategies, rather than positively as was hypothesised. This could be due to the operationalization of the responsibility construct in previous studies (Bolton et al., 2003; Chavira et al., 2000; Slep & O'Leary, 1998; Snarr et al., 2009; Williford et al., 2009) where responsibility was an aggregated construct composed of locus, control, intent or blame (see Section 4.2.2). When using aggregated scales with a mix of constructs, the overall construct can have a different meaning than when using direct single item scales, as was used in the current study. A negative rather than positive relationship can be explained by the interpretation of the word 'responsibility'. In comparison to 'blame' and 'intent', 'responsibility' could have a more positive connotation related to trusting that children know what they are doing, and having the morality to know what is wrong

and right, leading to the parent using more positive strategies rather than overreacting or being lax when facing noncompliance. This interpretation of the child's responsibility was also found in Study 2, where children with an LD were held responsible if they were viewed as understanding the situation (see Section 6.3.2.3). So contrary to *blame* and *intent*, viewing the child as responsible is helpful for effective parenting.

In addition, no curvilinear relationship for the attribution of child control was found, but an interaction with group on overreactive strategies. This interaction showed that while parents in the LD and TD group who attributed medium or high levels of control to the child used similar levels of overreactive strategies, when viewing the child as having low levels of control, parents in the LD group used significantly less overreactive strategies than parents in the TD group. In line with this, the correlations showed that there was a positive relationship between attributions of the child control and overreactive strategies in the LD group, but a negative relationship in the TD group. For the LD group specifically, it seems unsupportive for effective parenting to view the child as being in control, because these parents use more overreactive strategies, while for the TD group it is actually supportive as these parents use less overreactive strategies.

The results for the TD group seem to be in contrast to previous studies that found a positive relationship between attributions of child control and negative parental emotions (Bugental et al., 1990; Dix et al., 1986; Johnston & Patenaude, 1994). However, Dix et al. (1986) found the attribution of child control to be positively related to how important parents thought it was to respond to child misbehaviour, which is in line with the negative relationship between attributions for

child control and ineffective strategies found in the present study. For the TD group, seeing the child as having low control is possibly related to viewing the child as less capable of learning positive behaviour, as suggested by Woolfson (2005), therefore inducing more ineffective strategies.

The positive relationship between attributions of child control and overreactive strategies in the LD group is consistent with Whittingham et al.'s (2006) findings where parents viewing their child as having less control rated the usability of parenting strategies higher. If a child is viewed as having a low level of control in general then perception of an increase in control for misbehaviour could be experienced as stressful by parents and induce overreactive strategies. The level of control over misbehaviour should be seen in a different context for LD and TD groups with regard to the amount of control children have in daily life. An increase or decrease in control has a different meaning and a different effect on parenting strategies in both groups. As discussed in Section 4.2, both high and low levels of child control can be unsupportive for effective parenting. The current results show that low levels of child control are particularly unsupportive for parents of TD children as parents might then see the child as less capable to learn positive behaviour. At the same time, high levels of child control are particularly unsupportive for parents of children with an LD as this is discrepant from the general view on the child and therefore stressful for the parent to deal with. This would explain the contradictory results found in past research as discussed in Section 4.2.

7.4.2.3 *Parent-focused factors.* The third hypothesis for Aim 3.2 was partially confirmed as *parent control* and *parent responsibility* both predicted parents' use of ineffective strategies. Overreactive strategies were positively

predicted by *parent control*, rather than negatively and in addition, *anger* contributed positively to parents' use of overreactive strategies. Baden and Howe (1992), Sobol et al. (1989) and Harrison and Sofronoff (2002), all found that an increase in attributions of parent control for parents of TD children and children with ADHD was related to higher expectancies for parenting strategies to work and for the child to comply and lower stress and depression. It was therefore expected that in the present study an increase in parents' control would also be related to less overreactive strategies. However, the current study found that an increase in parents' control for parents of children with an LD and parents of TD children was related to an increase in overreactive strategies. It would seem that the results for expectations and emotions as an outcome measure used in previous studies cannot simply be applied to parents' report of ineffective strategies as an outcome measure in the current study. Feeling more in control over child misbehaviour or feeling that one should be in control can still induce overreactive strategies, possibly through feelings of stress, while expecting that strategies will work and experiencing less negative emotions. The results for parents' perceived control are in line with this. Perceived control positively predicted ineffective strategies, such that parents of children with an LD and parents of TD children who see themselves as more in control than their child use more lax strategies.

Lax strategies were positively predicted by anger, but there was an interaction between parents' responsibility and group, rather than parents' responsibility predicting lax strategies positively. The interaction showed that when parents viewed themselves as having medium or high levels of responsibility, there was no difference in the amount of lax strategies between the LD and TD groups. When

parents viewed themselves as having low levels of responsibility however, the LD group used significantly more lax strategies than the TD group. So specifically for the LD group, low levels of parent responsibility did not support effective parenting. This was not found for the TD group.

This negative relationship for the LD group is in line with what was proposed by Gretarsson and Gelfand (1988) as discussed in Section 4.2. How responsible parents feel for problematic child behaviour specifically may decrease when viewing the child as 'constitutionally impaired' but this can also decrease their attempts at improving child behaviour, in other words, they may make greater use of ineffective or lax strategies. This does not apply to the TD group, as these children overall are not seen as difficult. Feeling responsible for a child with an LD and problematic behaviour who is also viewed as having low control could mean that parents take action and therefore make less use of lax strategies. This was also found in Study 2 where parents of children with an LD found it particularly important to take responsibility for their child's learning (see Section 6.3.2.6). Feeling responsible while the child is in control, as for parents of TD children, does not induce the same increase in effective parenting as feeling responsible while the child is not in control. These result highlight the importance of separating constructs of control and responsibility as for parents of children with an LD, the perception of their own control is unsupportive while the perception of their own responsibility is supportive for effective parenting.

7.4.3 Aim 3.3: The impact of parenting strategies on child behaviour

problems. Among parents of TD children, a relationship was found between parents' report of their use of overreactive strategies and their report of behaviour problems in

their child, with those reporting more overreactive strategies also reporting more behaviour problems. Among parents of children with an LD however, no such relationship was found. Logistic regression analyses showed that in predicting child behaviour problems, group was the strongest predictor, with overreactive strategies only adding to this relationship for aggressive behaviour. Due to the higher rate of behaviour problems in the LD group, the group status on its own seems to be the strongest predictor of behaviour problems for this group, and parenting strategies do not add to this. This is not to say that parenting strategies do not make a difference for this group of children. It could be that strategies other than overreactivity or laxness have an impact on behaviour problems in the LD group, such as minimisation reactions, punitive reactions, and distress reactions (Paczkowski & Baker, 2007). Another explanation would be that the CBCL does not measure behaviour problems in the LD group as reliably as in the TD group, as it was developed for TD populations (see Section 7.2.3.2).

7.4.4 Aim **3.4**: The interrelationships of parental causal attributions and cognitions. It was suggested in Section 4.2 that viewing a difficult child as having no control may relieve parents from responsibility. However, in the LD group, no relationship was found between the amount of parent controls think the child has over behaviour and the responsibility they take themselves for the child's behaviour. Possibly, the child's control does not affect parents' own levels of responsibility in this group because they view the child as having such low control in the first place. Other factors than the child's control could affect parents' responsibility in the LD group. As found in Study 2 (see Section 6.3.2.6) and as mentioned above in Section

7.4.2.3, parents of children with an LD seem motivated to take responsibility for their child's learning because of the LD.

For the TD group, contrary to expectation, there was a negative relationship between *child control* and *parent responsibility*, such that parents who view their child as having less control, take more responsibility. This is in line with the negative relationship that was found between *child control* and ineffective strategies and the positive relationship between *parent responsibility* and ineffective strategies. TD children are generally seen as in control, so an increase in this means that the parent can step down and take less responsibility. A decrease in parent responsibility then, in combination with higher control in the child, could signify a certain trust of the parent in the child and probably a reduction in stress which therefore is related to a decrease in ineffective strategies.

The relationships between the attributions and cognitions as proposed by Weiner (1995) seem to hold when looking at correlations between attributions for child control, intent, responsibility, blame and anger for both groups. However, no relationship between attributions of child control and intent was found in the TD group. Possibly, in the TD group, both the child's control and the child's intent are enough to independently base a responsibility judgement on. In the LD group however, these are related to each other because both are needed to make a responsibility judgement; a child with an LD might be in control of the behaviour, but the effect might be unintentional due to a lack of understanding. This confirms that Shaver's theory (1985) applies to parents of children with LD, that is, a person must be viewed as having awareness or knowledge of the direct consequences of the

behaviour and as having understanding of the moral implications involved in order to be held responsible (Section 4.2.1).

7.4.5 The influence of the child's LD over misbehaviour. An interaction between influence of LD and blame was found on PS overreact. For parents who viewed the influence of the LD as medium or low, blame did not affect their strategies, but for those who viewed the influence of the LD as high, a judgement of blame increased overreactive strategies. The explanation for this interaction could be similar to the positive relationship between the attribution for child control and overreactive strategies for parents of children with an LD, where an increase in control for a child who generally has low control is stressful. Similarly, when parents view the LD as having a high influence over behaviour, they will mostly not hold their child to blame. An increase in blame then is inconsistent and possibly stressful, and therefore related to more ineffective strategies. Blame only predicts ineffective strategies when it does not fit with the overall view of the child. Previous research has not looked at the combination of cognitions and attributions that this study has. The current study has shown that it is important to consider a wider range of cognitions than the classic three attributions of locus, stability and control to uncover interactions as these.

No effect of scenario on *influence of LD* was found, indicating that the influence of the LD was characteristic of the parent and/or the child and not the behaviour portrayed in the scenario. Further analyses showed that the influence of the LD over misbehaviour is viewed as higher for children who are rated as having more internalising problems. While the direction of effects cannot be untangled in the current study, it does indicate that for parents who view their child as having

more internalising problems particularly, a blaming view on the child for misbehaviour can lead to overreactive strategies.

7.4.6 Limitations. One of the limitations of the current study was that parents' causal attributions were only measured for misbehaviour and not for positive behaviour. The degree of the positive perceptual bias for misbehaviour in the LD group can therefore only be assessed in comparison to the TD group rather than in comparison to positive behaviour. However, the positive perceptual bias for misbehaviour in the TD group is well established in the literature (Cote & Azar, 1997; Dix et al., 1986; Freeman et al., 1997; Gretarsson & Gelfand, 1988; Mills & Rubin, 1990; Saltmarsh et al., 2005; Sobol et al., 1989), so the finding of weaker attributions of control, responsibility, blame and intent in the LD group than the TD group show that parents of children with an LD do hold a positive perceptual bias and that this is stronger than among parents of TD children.

Another limitation was the study sample. The response rate of parents to an invitation to take part in the study was 10%. Teachers at special education schools suggested that the questionnaire was too long and too complex for certain parents to take part. This meant that parents who had difficulty with written text, for whichever reason, were excluded from the study. Parents' time constrains were also likely to play a part. The demographics however did show a wide range of SES characteristics.

With regards to the measurement of parental attributions, criticisms have been expressed (Russell, 1982, in: Armstrong & Dagnan, 2011; Sobol et al., 1989). It remains unclear how parents actually interpret words as control, responsibility and intent which in the current study were directly proposed to parents. The 'fundamental
attribution researcher error' as identified by Russell (1982, in: Sobol et al., 1989) is when the researcher incorrectly assumes that respondents, or in this case parents, understand the attribution in the same way as the researcher intended it. In addition, the ecological validity of studies using vignettes has been questioned as the vignettes might not be familiar for parents due to the types of behaviour or the relatively mild nature of the misbehaviour displayed (Armstrong & Dagnan, 2011). Although the use of these direct items is easier to interpret than aggregated scales (as discussed in Section 4.2.2) and the vignettes were piloted, a design using indirect questions and no vignettes will be valuable to corroborate the results of the current study.

7.4.7 Conclusion. The present study found that parents of children with an LD do hold a positive perceptual bias for child misbehaviour, but that they are also at risk of viewing behaviour problems as a fixed and unavoidable part of the LD and consequently for accepting misbehaviour as part of the child's disability. The most supportive views on misbehaviour for effective parenting strategies for parents of children with an LD in particular perceived the behaviour as not being a problem, perceived the child as having low control, as acting with low intent, as not being to blame and as being high in responsibility. They also viewed the parent as having low control, low anger and being high in responsibility. How parenting strategies consequently affect child behaviour problems in children with an LD remains unclear. The current study did not find relationships between parenting strategies and child behaviour problems, possibly because of the use of the CBCL in the current study which has been developed for TD children. The current study has shown though that parents of children with an LD may attribute the causes of their child's behaviour differently from parents of TD children, and furthermore that these views

can impact upon parenting strategies in different ways for the two groups. While a view where the child is in control and the parents not responsible was supportive for parents of TD children, the opposite was true for parents of children with an LD.

Chapter 8 – Study 4: Unpacking Parental Causal Cognitions

8.1 Aims and Hypotheses

In Study 3 a negative relationship between parents' attributions of their own responsibility and their use of lax parenting strategies was found, while for parents of TD children a positive relationship was found. In addition, Study 2 found that parents referred to their responsibility in different ways. Study 4 therefore aimed to further unpack parental responsibility in parents of children with an LD, to see what might underlie this negative relationship for parents of children with an LD. In addition, Study 3 also found that causal attributions of child control, blame and intent positively predicted lax and overreactive strategies in parents of children with an LD. Study 4 aimed to assess how these attributions might relate to each other and work together. Secondly, the study aimed to assess relationships between the factors underlying these parental causal cognitions and parenting strategies to examine how supportive they were for effective parenting in parents of children with an LD. Study 4 focussed on parents of children with an LD specifically, and therefore, its third aim was to examine more closely the relationship between parenting strategies and child behaviour problems using a measure specifically designed for parents of children with an LD. Study 4 aims and hypotheses were as follows:

Aim 4.1: To explore the underlying structure of parental causal child cognitions and parental responsibility in an LD sample. Due to the exploratory nature of this aim, a hypothesis was not formulated. However, underlying factors were expected for causal child cognitions as Study 3 showed the individual importance of attributions of child control, blame and intent. Underlying factors were also expected for parental responsibility as

Study 2 showed that parents held themselves responsible for child misbehaviour in different ways.

- Aim 4.2: To measure the relationship of parental causal child cognitions and parental responsibility with parenting strategies in an LD sample.

Hypothesis 4.2: There is a positive relationship between child causal factors and ineffective parenting strategies and a negative relationship between parent responsibility cognitions and ineffective parenting strategies.

Aim 4.3: To measure parent perceptions of child behaviour problems using a questionnaire specifically for parents of children with an LD and to examine the relationship with parenting strategies.

Hypothesis 4.3: A positive relationship between ineffective parenting strategies and child behaviour problems was predicted.

8.2 Method

8.2.1 Participants. Forty-five parents of children with an LD aged 6 to 12 were recruited. Of these, 34 were recruited through special education and mainstream primary schools and 11 online through charities. The suitability of the sample size for the proposed analysis is discussed in Section 8.3.3. Schools were located in the local authorities of Aberdeen City, Angus, East Renfrewshire, Falkirk, Fife, Highland, Moray and West Lothian. Advertisements with a link to the online questionnaire were placed in newsletters of Capability Scotland and Enable Scotland and were also distributed through a parent mailing list of Contact a Family Scotland. Inclusion and exclusion criteria were the same as for Study 1 and Study 3 (see Section 5.2.1.2).

8.2.2 Design. The design of the study was correlational (Bryman, 2008; Zechmeister et al., 2001).

8.2.3 Measures.

8.2.3.1 Parent Cognition Scale (PCS). The PCS (Snarr et al., 2009) was employed to measure parental causal cognitions. Parents were asked to think of their child's misbehaviour in the past two months and to rate 30 causes on a 6-point Likert scale from 'always true' (1) to 'never true' (6). All causes/items were based on actual parent responses as expressed in a thought listing procedure. Ten causes that were rated as having a locus in the child and as being high on control, voluntariness, intent and negativity of intent were selected to compose the 'dysfunctional childresponsible' scale. Ten parent attributions that were rated as having a locus in the parent and as being high on stability and globality were selected to compose the 'dysfunctional parent-causal scale'. Five further attributions that had a locus in the child and were uncontrollable and/or unintentional and five that had a locus in the parent and were unstable, specific and situational were included as distractor items. A factor analysis including the two main scales indicated that one item in the 'dysfunctional child-responsible' factor and three items in the 'dysfunctional parentcausal' factor were performing poorly and these were excluded. The resulting two scales had good reliability for mothers ($\alpha = .90$ and $\alpha = .81$, respectively) and fathers ($\alpha = .88$ and $\alpha = .85$, respectively) (Snarr et al., 2009).

Inspection of all 30 items (Table 8.1) showed that the 10 items in the 'dysfunctional parent-causal' scale and the 5 parent-locused distractor items all place responsibility for the child's behaviour with the parent. In the current study, all 15 child items and all 15 parent items were used to measure causal cognitions relating to

the child and the parent. The PCS can be found in the questionnaire booklet in

Appendix I1.

Table 8.1

	Dysfunctional	Functional
Child- locused	 My child won't listen. My child thinks that he/she is the boss. My child is headstrong. My child wants what he/she wants when he/she wants it. My child purposely tries to get me angry. My child tries to get my goat or push my buttons. My child wants things his/her way. My child is very demanding. My child likes to see how far he/she can push me. My child refuses to do what I think he/she should do. 	 4. My child cannot understand the rules. 10. My child is in a stage. 15. My child feels like there is no time for him/her. 19. It's difficult for my child to do what I want. 28. My child tires easily.
Parent- locused	 3. I'm not structured enough with my child 6. I don't know how to handle my child. 7. I don't give my child enough attention. 9. It's hard for me to set limits. 13. I handle my child in a non-confident way. 16. I'm not patient. 20. I can't control my child. 22. I'm not able to be clear. 27. I don't do the right thing. 29. I have a hard time really listening to my child. 	 I was not as firm as I usually am. I was tired at the time. I couldn't respond quickly enough at the time. I handled things in an unusual way. I was busy with something at the time.

8.2.3.2 Parenting Scale (PS). The PS (Arnold et al., 1993) was used to

measure parental report of their use of ineffective strategies, namely laxness,

overreactivity and verbosity. See Section 7.2.3.3 for further details of the PS. Table

8.2 displays the reliability for the scales in the current sample. All three scales were retained as a value of Cronbach's alpha of .7 or higher is considered acceptable in early stages of research (Field, 2005; Nunnally, 1978) and this can be .6 in exploratory research (Hair et al., 2010). The PS can be found in Appendix I2. Table 8.2

Reliability of the Parenting Scale.

Scale	Cronbach's α	
Laxness	.80	
Overreactivity	.87	
Verbosity	.67	

8.2.3.3 Nisonger Child Behavior Rating Form (NCBRF). The NCBRF (Aman, Tasse, Rojahn, & Hammer, 1996) assesses problem behaviours and social competence specifically in children with an LD. The Problem Behavior section consists of six scales: *conduct problem* ($\alpha = .93$), *insecure/anxious* ($\alpha = .89$), *hyperactive* ($\alpha = .90$), *self-injury/stereotypic* ($\alpha = .81$), *self-isolated/ritualistic* ($\alpha = .77$) and *overly sensitive* ($\alpha = .80$) (Aman et al., 1996). Items are scored on four-point Likert-type scales ranging from 'did not occur or was not a problem' (0) to 'occurred a lot or was a severe problem' (3). Respondents think of the child's behaviour as it was over the last month. The social competence section was not used. Table 8.3 displays the reliability in the current sample. All scales were considered reliable with alphas over .7 (Field, 2005; Nunnally, 1978). The NCBRF can be found in Appendix 13.

Table 8.3

Scale	Cronbach's α
Conduct problem	.93
Insecure/anxious	.94
Hyperactive	.90
Self-Injury/stereotypic	.80
Self-Isolated/ritualistic	.85
Overly sensitive	.74

Reliability of the Nisonger Child Behavior Rating Form.

8.2.3.4 Demographic factors. The same demographic sheet as was used in Study 1 and Study 3 was used again in Study 4. This included questions on child age, child gender, child diagnoses, type of school child attends, number of children in the family, ethnic background, level of education, marital status, occupation, income. Two questions were added asking the parent to estimate how challenging their child's behaviour and how delayed their child's development was on a scale from one to ten. The demographic sheet can be found in Appendix I4.

8.2.4 Procedure. After ethical permission was granted by the School of Psychological Sciences and Health Ethics Committee and approval was gained from local authorities, individual schools were approached. Parents received an information sheet (Appendix J), consent form (Appendix K) and the questionnaires (Appendix I) in their child's school bag and returned completed questionnaires to their child's school where they were collected. Contact details of the researcher were provided for parents. For the online questionnaire, parents found the link in newsletters and could complete the questionnaire online. Informed consent was gained from all parents. The order of the questionnaires was randomised. Completion of the questionnaires took 15 to 20 minutes. The debriefing sheet was included on the final page of the questionnaire and can be found in Appendix I5. Participants could

enter a prize draw and had a chance to win one of 35 M&S vouchers worth £5 or one £15 M&S voucher.

8.2.5 Analyses. Data were analysed using SPSS. Cleaning up the data involved checking for missing data, computing sum scores for the PS and NCBRF, checking for outliers and assessing the normality of the data. Preliminary analyses consisted of computing descriptives and reliabilities of the scales. For Aim 4.1, an exploratory factor analysis (EFA) was carried out to examine the underlying structure of the PCS. After constructing and inspecting scatterplots, correlations were calculated between the PCS and the PS for Aim 4.2. Similarly for Aim 4.3 after constructing and inspecting scatterplots, correlations were calculated between the PS and the NCBRF.

8.3 Results Study 4

8.3.1 Preparation of the data.

8.3.1.1 Inclusion and exclusion criteria. Data were collected from 45 parents of children with an LD. One participant was excluded due to large amounts of missing data (see next section). The final sample then consisted of 44 participants.

8.3.1.2 Missing data. Missing data was due to participants missing questions or parts of questionnaires. None of the variables or remaining participants had more than 10% missing data. When less than 10% of the data on any given variable and any participant is missing, any imputation technique to replace missing data can be employed without biasing the results (Field, 2005; Tabachnick & Fidell, 2007). Mean substitution (Field, 2005; Tabachnick & Fidell, 2013) was employed to replace missing data.

8.3.1.3 Outliers. For all variables, *z*-scores were calculated and those exceeding +/- 3.29 were considered outliers (Field, 2005; Tabachnick & Fidell, 2013). In the individual items, seven outliers were found, originating from four cases. These were replaced with a score equal to a *z*-score of 3.29 (Field, 2005; Tabachnick & Fidell, 2013).

8.3.1.4 Normality. Skewness and kurtosis values were calculated for all scale scores of the NCBRF and the PS. These were converted to z-scores and absolute values greater than 1.96 were considered to indicate a skewed or peaked/flat distribution (Field, 2005; Tabachnick & Fidell, 2013). In addition to this, Kolmogorov-Smirnov and Shapiro-Wilk tests were carried out to assess the overall shape of the distribution. The distribution was significantly different from normal for all scales of the NCBRF. The *hyperactive* scale however deviated from normality only based on the Shapiro-Wilks test. Inspection of the frequency table, normal Q-Q plot and box plot indicated that the deviation was minimal. All other scales did not deviate significantly from normal after a square root transformation, except for selfinjury/stereotypical, which then only deviated from normality based on the Shapiro-Wilks test. Again, inspection of the frequency table, normal Q-Q plot and box plot indicated that the deviation was minimal after the square root transformation. For all further analyses, the *hyperactivity* scale was used untransformed and square root transformations were used for all other scales of the NCBRF. The distributions of all PS scales were normal, except for the *overreactivity* scale which was significantly normal after a log transformation. For all further analyses, *overreactivity* was used log-transformed and the other PS scales were untransformed.

8.3.2 Demographics and descriptives of the sample. Demographics of the sample are displayed in Table 8.4. The group consisted of parents of 18 children with autism or ASD, 6 children with Down syndrome, 6 children with cerebral palsy, 1 child with foetal alcohol syndrome, 1 child with Lennox Gastaut, 1 child with microcephaly, 1 child with Angelman syndrome, 1 child with chromosome 5 deletion, 1 child with Retts syndrome, 1 child with temporal lobe sclerosis, 1 child with perisylvian syndrome and 6 children with an LD that was not otherwise specified.

Table 8.4

Child age <i>M</i> (<i>SD</i> ; range)	9.03 (2.23; 5.01-12.58)	
Child gender <i>n</i> (%)	Boy	29 (65.9)
	Girl	13 (29.5)
	Not specified	2 (4.5)
School <i>n</i> (%)	Mainstream	11 (25.0)
	Specialist	33 (75.0)
Children in family <i>n</i> (%)	1	9 (20.5)
	2	18 (40.9)
	3	10 (22.7)
	>3	7 (15.9)
Relation to child n (%)	Mother	40 (90.9)
	Father	3 (6.8)
	Carer	1 (2.3)
Ethnic background <i>n</i> (%)	White	42 (95.5)
	Other ethnic group	2 (4.5)
Age of respondent <i>M</i> (<i>SD</i> ; range)	40.86 (6.51; 26-55)	
Level of education <i>n</i> (%)	Primary/secondary	12 (27.3)
	Highers/college	12 (27.3)
	Degree/diploma	14 (31.8)
	Postgraduate	3 (6.8)
	Not specified	3 (6.8)
Marital status <i>n</i> (%)	Never married	1 (2.3)
	Cohabiting	6 (13.6)
	Currently married	30 (68.2)
	Separated	5 (11.4)
	Divorced	1 (2.3)
	Widowed	1 (2.3)

Demographics of Study 4 Sample with Means (M) and Standard Deviations (SD).

(continued)

Occupation <i>n</i> (%)	Paid employment	17 (38.6)
1	Self employed	3 (6.8)
	Home maker	16 (36.4)
	Retired	1 (2.3)
	Unemployed	5 (11.4)
	Other	2 (4.5)
Income <i>n</i> (%)	Up to 10,000	4 (9.1)
	Up to 15,000	4 (9.1)
	Up to 20,000	9 (20.5)
	Up to 30,000	11 (25.0)
	Up to 45,000	8 (18.2)
	Up to 60,000	7 (15.9)
	Not specified	1 (2.3)

The descriptives of the PS, NCBRF and two questions regarding parents' estimate of how challenging the child's behaviour was and how delayed the child's development was can be found in Table 8.5.

Table 8.5

Means (M), Standard Deviations (SD), and Minimum and Maximum Scores for the Parenting Scale, Nisonger Child Behavior Rating Form, and Behaviour and

Scale	<i>n</i> items	Minimum	Maximum	M (SD)
Parenting Scale				
Laxness	11	11	52	29.20 (9.41)
Overreactivity	10	10	49	24.23 (9.27)
Verbosity	7	12	39	23.09 (6.70)
Total	30	42	137	83.22 (21.11)
Nisonger Child Behavio	or Rating	Form		
Conduct problem	16	2	45	17.02 (11.54)
Insecure/anxious	15	0	40	9.80 (10.56)
Hyperactive	9	4	26	16.93 (6.51)
Self-Injury/stereotypic	7	0	17	5.11 (4.85)
Self-isolated/ritualistic	8	0	20	7.64 (5.78)
Overly sensitive	5	1	14	7.14 (3.51)
Challenging behaviour	1	2	10	7.05 (2.22)
Delayed development	1	3	10	7.82 (1.67)

Development Estimates.

On the PS, parents on average scored on the lower end of the scales, indicating a low use of ineffective strategies. On the NCBRF, parents on average scored on the lower half of the scale, indicating the behaviour occurred occasionally or was a mild problem. On the last two questions parents mostly rated their children as having challenging behaviour and delayed development.

8.3.3 The underlying structure of the PCS. Traditionally, large samples are used for factor analysis as correlation coefficients are less reliable when estimated from small samples (Field, 2005; Tabachnick & Fidell, 2013). However, if factors possess at least four variables with loadings greater than .60, they can be interpreted regardless of the sample size used (Guadagnoli & Velicer, 1988). If there are strong correlations and few factors, a smaller sample size is acceptable (Tabachnick & Fidell, 2013). In addition, Mundfrom, Shaw and Ke (2005) recommended a sample size between 40 and 60 when the ratio of variables to factors is 7 or 8 and there are two factors. In recent years, almost one-sixth of studies using factor analysis reported sample sizes with participant to item ratios of two or less (Costello & Osborne, 2005). The ratio of variables to factors in the current study for each analysis was 7.5 when expecting two factors (15/2) and the ratio of participants to items was three (45/15). Following these guidelines, a sample of 44 was adequate.

However, EFA is a large sample procedure and when using small samples, three problems in the data can emerge for which a larger sample would be necessary to determine if the factor structure or individual items are valid (Costello & Osborne, 2005). First of all, when communality is less than .40, an item may not be related to other items or this suggests an additional factor. Second, the factor structure may be less valid when items have factor loadings of .32 or higher on two or more factors.

Finally, factors with less than three items are weak and unstable. These three issues were checked in Sections 8.3.3.1.2 and 8.3.3.2.2.

Two exploratory factor analyses (EFA) were carried out for the 15 child items and 15 parent items. EFA was the appropriate method to examine the underlying structure of the PCS rather than principal components analysis (PCA) or confirmatory factor analysis (CFA). The goal of EFA is to identify a set of latent constructs by modelling the structure of correlations among original variables (Fabrigar, Wegener, MacCallum, & Strahan, 1999; Field, 2005). To do so, the model assumes that each variable is a linear function of one or more common factors and one unique factor (Fabrigar et al., 1999). The common factors account for the correlations among the measured variables and the unique factors influence only one variable and do not account for the correlations between variables (Fabrigar et al., 1999; Tabachnick & Fidell, 2013). PCA, on the other hand, explains variance rather than correlations in the measured variables and does not separate unique from common variance (Fabrigar et al., 1999; Tabachnick & Fidell, 2013). The goal of PCA is data reduction rather than identifying a set of latent constructs underlying variables (Costello & Osborne, 2005; Fabrigar et al., 1999; Tabachnick & Fidell, 2013). In addition, the PCS has been used only once previously with a sample of parents of TD children and therefore a data-driven EFA was more appropriate than CFA which needs a substantial basis from which to specify an a priori model (Fabrigar et al., 1999; Tabachnick & Fidell, 2013). The EFA was carried out with maximum likelihood (ML) extraction and direct oblimin rotation. ML is the preferred method of factor extraction and has the advantage that it allows for the computation of indices for the fit of the model (Costello & Osborne, 2005; Fabrigar

et al., 1999). It also carries the assumption of multivariate normality (Costello & Osborne, 2005; Fabrigar et al., 1999), which was confirmed for the current data through normal distributions and linearity (Tabachnick & Fidell, 2013) (see Sections 8.3.3.1.1 and 8.3.3.2.1 below). Oblique rotation should be used when factors are correlated, as is mostly the case in psychological research (Costello & Osborne, 2005; Fabrigar et al., 1999; Field, 2005; Tabachnick & Fidell, 2013). The PCS factors were expected to be correlated and therefore oblique direct oblimin rotation was used (Field, 2005).

8.3.3.1 Underlying structure of child causes.

8.3.3.1.1 Checking assumptions for the child-EFA. The data met the assumptions for factor analysis. Single items should be normally distributed for factor analysis (Fabrigar et al., 1999; Field, 2005; Tabachnick & Fidell, 2013). Although all 15 items were significantly non-normal according to Kolmogorov-Smirnov and Shapiro-Wilk tests, the *z*-scores for skewness and kurtosis only flagged up significant positive skewness for item 14 and 15. The skewness however did not exceed 2 and was therefore not severe enough to violate the assumption of normally distributed data (Fabrigar et al., 1999). The assumption of linearity was examined and confirmed through scatterplots of all pairs of variables (Tabachnick & Fidell, 2013). Multivariate normality was also expected as the data were normally distributed and linear (Tabachnick & Fidell, 2013). Univariate outliers were checked and removed in Section 8.3.1.3 (Tabachnick & Fidell, 2013). Multivariate outliers (Tabachnick & Fidell, 2013) in the data were assessed by checking the Mahalanobis distances for all participants by regressing the items onto the participant identifier (Pallant, 2007). With 10 degrees of freedom and an alpha of .001 the critical value

from the chi-square distribution was 29.59. As the maximum Mahalanobis distance found in the sample was 25.06, there were no multivariate outliers.

8.3.3.1.2 Results of the child-EFA. Inspection of the correlation matrix revealed that items 10 and 28 did not correlate with any of the other items and that items 4 and 15 correlated with only two and three other items respectively. These four items also did not correlate with each other. Further inspection of the outcomes revealed a Heywood case for item 19, that is a communality estimated to be at 1 or greater than 1 (Fabrigar et al., 1999). These five items were removed and the analysis was run again.

In the correlation matrix, the highest correlation between items was .80, and therefore singularity was not an issue (Field, 2005; Tabachnick & Fidell, 2013). The determinant of the correlation matrix was .002, which was greater than the .00001 cut off (Field, 2005), therefore multicollinearity was not a problem (Tabachnick & Fidell, 2013). Factor analysis was appropriate for the data. First of all, most correlations in correlation matrix were above .30 and most were significant (Tabachnick & Fidell, 2013). The KMO was .86 and in the anti-image correlation matrix all KMO values for individual items were larger than .80. KMO's of at least .60 are required for good EFA and values above .80 are considered great (Field, 2005; Tabachnick & Fidell, 2013). Bartlett's test of sphericity χ^2 (45) = 247.41, *p* < .001 indicated that the R-matrix was not an identity matrix and that therefore correlations between items were sufficiently large for factor analysis (Field, 2005). The average communality was .61 and none were equal to or exceeding 1, signifying that there was enough data (Tabachnick & Fidell, 2013). However, the communality

of item 5 was .36 and therefore just below .40. A larger sample size would be needed to determine the validity of this item (Costello & Osborne, 2005).

Two components had Eigenvalues over Kaiser's criterion of 1 (Field, 2005; Tabachnick & Fidell, 2013) and in combination explained 67.99% of the variance. The scree plot showed inflexion at two factors so also indicated the selection of two factors (Field, 2005; Tabachnick & Fidell, 2013). Factors can be unreliable if only one or two items load onto it (Tabachnick & Fidell, 2013) but the first factor had seven and the second factor had three items. This also showed a larger sample size was not needed to determine the validity of the factor (Costello & Osborne, 2005). In addition, no outliers among variables were found. Outliers among variables are variables that load onto factors extracted later which are only defined by one or two items (Tabachnick & Fidell, 2013). These were not found as the factor extracted last had three items that loaded strongly on the factor. The goodness-of-fit test was nonsignificant (χ^2 (26) = 22.66, p = .65), indicating that the correlation matrix predicted by the model did not differ from correlation matrix found in the sample, therefore the two factor model was a good fit to the data (Field, 2005). In the reproduced correlations matrix, 24% of the residuals were greater than .05, which was below the cut-off of 50% (Field, 2005), indicating that there was little difference between correlations based on the model and correlations based on the sample.

The correlation matrix indicated that highly correlated items loaded onto the same factors, showing the adequacy of the oblique rotation method that was used (Tabachnick & Fidell, 2013). Whether the rotation was correct can also be confirmed through the presence of simple structure in the pattern matrix, where each factor is defined by a subset of variables with large loadings compared to the other variables

and where each variable loads highly on only a subset of the factors (Fabrigar et al., 1999; Tabachnick & Fidell, 2013). When only interpreting loadings of .32 or higher (Field, 2005; Tabachnick & Fidell, 2013), simple structure was present in the pattern matrix (see Table 8.6). Again, this also shows a larger sample size was not needed to determine the validity of the factor (Costello & Osborne, 2005). The factor plot showed clusters of items towards the end of the axes, again confirming the structure (Tabachnick & Fidell, 2013). Factor scores were calculated using the regression approach (Tabachnick & Fidell, 2013) and saved in the data file for further analysis. Table 8.6 shows the pattern matrix with factor loadings after rotation. The correlation between the two factors was r = -.54. Because the items loaded negatively onto the second factor, the interpretation of this correlation is that the stronger participants agreed with items on the first factor, the stronger they also agreed with items on the second factor. Both factors had good internal consistency with a Cronbach's alpha of .88 for the first and .89 for the second (Field, 2005; Nunnally, 1978).

Table 8.6

	Factor 1	Factor 2
Item	Loading	Loading
Factor 1: Child self-focus		
18. My child wants things his/her way.	.89	02
8. My child is headstrong.	.81	04
11. My child wants what he/she wants when he/she wants it.	.78	00
30. My child refuses to do what I think he/she should do.	.75	.16
5. My child thinks that he/she is the boss.	.48	19
2. My child won't listen.	.48	30
23. My child is very demanding.	.46	31
	Cronbach	's $\alpha = .88$
Factor 2: Child intentional opposition		
17. My child tries to get my goat or push my buttons.	06	94
14. My child purposely tries to get me angry.	.01	87
25. My child likes to see how far he/she can push me.	.12	73
	Cronbach	's $\alpha = .89$

Pattern Matrix for the Child-Exploratory Factor Analysis.

8.3.3.1.3 Interpretation of causal child factors. The first factor extracted from the child causal items contained seven items. Three of these attributed difficult child behaviour to characteristics of the child as being headstrong, not listening and demanding (items 8, 2 and 23). A further two items attributed difficult child behaviour to the child wanting certain things (items 18 and 11). In combination with the two final items, these causes all pointed towards the child's self-focus and a lack of awareness of others and of rules. However, together these causes were not under the child's control, responsibility or intent. In contrast, the second factor combined three items that attributed difficult child behaviour towards the child's desire to push the parent. The combination of these items reflected an intentional opposition towards the parent that is under the child's control and responsibility. A parent interpreting this as the cause of child behaviour might feel personally attacked by the child and view it as hostile, while attributing behaviour towards the first factor is due to a child's typical lack of consideration or understanding and not personal or hostile.

8.3.3.2 Underlying structure of parent causes.

8.3.3.2.1 Checking assumptions for the parent-EFA. The data met the assumptions for factor analysis. Single items should be normally distributed for factor analysis (Fabrigar et al., 1999; Field, 2005; Tabachnick & Fidell, 2013). All 15 items were significantly non-normal according to Kolmogorov-Smirnov and Shapiro-Wilk tests, but the *z*-scores for skewness and kurtosis only flagged up significant positive skewness for items 3, 6, 13, 16, 20 and 29 and both positive skewness and positive kurtosis for items 22 and 24. However, the highest skewness value was 1.27 and the highest kurtosis value was 1.91 and did not exceed the cut-offs of respectively 2 and 7 for violating the assumption of normally distributed data

(Fabrigar et al., 1999). The assumption of linearity was examined and confirmed through scatterplots of all pairs of variables (Tabachnick & Fidell, 2013). Multivariate normality was also expected as the data was normally distributed and linear (Tabachnick & Fidell, 2013). Univariate outliers were checked and removed in Section 8.3.1.3 (Tabachnick & Fidell, 2013). Multivariate outliers (Tabachnick & Fidell, 2013) in the data were assessed by checking the Mahalanobis distances for all participants by regressing the items onto the participant identifier (Pallant, 2007). With 13 degrees of freedom and an alpha of .001 the critical value from the chisquare distribution is 34.53. As the maximum Mahalanobis distance found in the sample was 30.40, there were no multivariate outliers.

8.3.3.2.2 Results of the parent-EFA. Inspection of the correlation matrix revealed that item 24 did not correlate with any of the other items. Further inspection of the results revealed a Heywood case for item 20, that is a communality estimated to be at 1 or greater than 1 (Fabrigar et al., 1999). These two items were removed and the analysis was run again. In the correlation matrix, the highest correlation between items was .65, and therefore singularity was not an issue (Field, 2005; Tabachnick & Fidell, 2013). The determinant of the correlation matrix was .002, which is greater than the .00001 cut off (Field, 2005) and therefore multicollinearity was not a problem (Tabachnick & Fidell, 2013). Factor analysis was appropriate for the data. First of all, most correlations in the correlation matrix were above .30 and most were significant (Tabachnick & Fidell, 2013). The KMO was .74 and in the anti-image correlation matrix eight KMO values for individual items were greater than .70 and the other five were greater than .60. KMO's of at least .60 are required for good EFA and values above .70 are considered good (Field, 2005; Tabachnick & Fidell, 2013).

Bartlett's test of sphericity χ^2 (78) = 236.60, *p* < .001 indicated that the R-matrix was not an identity matrix and that therefore correlations between items were sufficiently large for factor analysis (Field, 2005). The average communality was .53 and none were equal to or exceeding 1, signifying that there was enough data (Tabachnick & Fidell, 2013). However, the communality of item 12 was .38 and therefore just below .40. A larger sample size would be needed to determine the validity of this item (Costello & Osborne, 2005).

Three components had Eigenvalues over Kaiser's criterion of 1 (Field, 2005; Tabachnick & Fidell, 2013) and in combination explained 63.93% of the variance. The scree plot showed inflexion at three factors so also indicated the selection of three factors (Field, 2005; Tabachnick & Fidell, 2013). Factors can be unreliable if only one or two items load onto it (Tabachnick & Fidell, 2013) but the first two factors had five and the third factor had three items. This shows a larger sample size was not needed to determine the validity of the factor (Costello & Osborne, 2005). In addition, no outliers among variables were found. Outliers among variables are variables that load onto factors extracted later which are only defined by one or two items (Tabachnick & Fidell, 2013). These were not found as the factor extracted last had three items that loaded strongly on the factor. The goodness-of-fit test was nonsignificant (χ^2 (42) = 42.58, p = .45), indicating that the correlation matrix predicted by the model does not differ from correlation matrix found in the sample, therefore the three factor model was a good fit to the data (Field, 2005). In the reproduced correlation matrix, 38% of the residuals were greater than .05, which was below the cut-off of 50% (Field, 2005), indicating that there was little difference between correlations based on the model and correlations based on the sample.

The correlation matrix showed that highly correlated items loaded onto the same factors, showing the adequacy of the used rotation (Tabachnick & Fidell, 2013). However, simple structure was not present in the pattern matrix. Six items loaded higher than .32 on a second factor and this involved two of the three factors (see Table 8.7) A larger sample size would be needed to determine the validity of the items and the factors (Costello & Osborne, 2005). In addition, the factor plot did not show clusters of items towards the end of the axes. The analysis was re-run with an orthogonal varimax rotation, but this was not adequate as the pattern matrix resembled a simple structure to a lesser extent than with the oblique rotation and the factor plot showed an even tighter single cluster of items (Tabachnick & Fidell, 2013). Factor interpretation was based on the original oblique rotation. Factor scores were calculated using the regression approach (Tabachnick & Fidell, 2013) and saved in the data file for further analysis. The first and second factors had good internal consistency with a Cronbach's alpha of .80 and while the third factor had low internal consistency with a Cronbach's alpha of .69 (Field, 2005; Nunnally, 1978) (Table 8.7). Inter-correlations of the three factors can be found in Table 8.8.

Table 8.7

	Factor 1	Factor 2	Factor 3
Item	Loading	Loading	Loading
Factor 1: Parental helplessness			
22. I'm not able to be clear.	.65	.27	05
21. I couldn't respond quickly enough at the time.	.65	02	02
29. I have a hard time really listening to my child.	.61	07	.24
26. I was busy with something at the time.	.55	23	.48
27. I don't do the right thing.	.50	.12	.41
		Cronbach	's $\alpha = .80$
Factor 2: Parental permissiveness			
3. I'm not structured enough with my child.	.04	.66	00
1. I was not as firm as I usually am.	09	.64	.04
9. It's hard for me to set limits.	.50	.61	08
6. I don't know how to handle my child.	.09	.52	.34
13. I handle my child in a non-confident way.	.46	.49	04
		Cronbach	's $\alpha = .80$
Factor 3: Not affording time/attention			
7. I don't give my child enough attention.	.08	09	.76
16. I'm not patient.	.21	.08	.65
12. I was tired at the time.	24	.32	.50
		Cronbach	's $\alpha = .69$

Pattern Matrix for the Parent-Exploratory Factor Analysis.

Table 8.8

Correlations between Parent Factors.

	Parental	Parental	
	helplessness	permissiveness	
Parental permissiveness	.31*	-	
Not affording time/attention	.42**	.27`	
<i>Note:</i> $n = 44$; Pearson's <i>r</i> , one-tailed.			

*p < .05; **p < .01; `.05 < p < .10.

8.3.3.2.1 Interpretation of causal parent factors. The first extracted factor had five items. All items related causes for child behaviour to the parent not being able or the parent having difficulty. Item 26 and 27 had cross-loadings on the third factor, but did fit in with this interpretation of the factor. The combination of these

items did not give a sense of parental control but rather a feeling of helplessness;

child behaviour was caused by the parent not responding correctly and not able to do anything about it. Items 9 and 13 had cross-loadings on this factor and also fitted in with this idea helplessness.

The second extracted factor also had five items. Each item was about the parent failing to take control in terms of structure (item 3), being firm (item 1), setting limits (item 9) and handling the child (items 6 and 13), in other words, being permissive. The parent was not in control when they should be and therefore was responsible. Items 9, 6 and 13 also had cross-loadings on another factor, but fitted in well with this interpretation.

The final factor had three items that caused child difficult behaviour through the parent not being able to afford time or attention to the child. Item 16 and 12 seemed to say that it is not within the parent's control. Items 26, 27 and 6 had crossloadings on this factor, but only item 26 fitted in with the interpretation and also did not place the cause within the parent's control. The absence of a simple structure created difficulties for drawing conclusions as to which item belonged to which factor. However, even with some items cross-loading on two factors, the overall interpretation of three factors relating to parental helplessness, parental permissiveness and an inability to afford attention, seemed to hold.

8.3.3.3 The relationship between child and parent causes. Table 8.9 displays the correlations between the child and the parent factors. If a child is misbehaving because they focus only on themselves, it is likely that parents feel helpless and that they will be permissive and that these are also seen as causes for the misbehaviour. However, no relationship was found between the child misbehaving because the parent does not afford time or attention to the child, and the child's focus on

him/herself. No relationship was found between viewing the child as being intentionally oppositional and the parents' helplessness as a cause, and the parents' lack of time or attention. In addition, the more parents viewed the child as being intentionally oppositional, the more they were permissive.

Table 8.9

	Parental	Parental	Not affording
	helplessness	permissiveness	time/attention
Child self-focus	.32*	.50**	.19
Child intentional opposition	15	45**	19

Note: n = 44; Pearson's r, one-tailed.

 $p^* < .05; p^* < .01.$

8.3.4 The relationship between parental causal cognitions and parenting

strategies. Pearson's r was calculated between the PCS scales and the PS scales to

assess the relationship between parental causal cognitions and ineffective parenting

strategies. Again, a more stringent significance level of .01 was used to adjust for the

increased chance of Type I error when conducting a large number of tests, rather than

a Bonferroni adjustment as this increases the chance of type II error (Field, 2005;

Perneger, 1998). The correlations are displayed in Table 8.10.

Table 8.10

Correlations using Pearson's r between Parent Cognition Scale, and Parenting

Scale and Parents' Estimate of Behaviour and Development.

	Lax	OR (log)	VB	CB	DD
Child's focus on self	.25	.28	.27	.59**	28
Child's intentional opposition	30	54**	53**	47*	.38
Parental helplessness	$.45^{*}$.31	.03	.27	.01
Parental permissiveness	.53**	$.48^{*}$.35	$.45^{*}$	10
Not affording time/attention	.19	.42*	18	.28	10

Note: n = 44; Pearson's r, one-tailed; Lax = *PS laxness*; OR (log) = *PS overreactivity* (log transformed); VB = *PS verbosity*; CB = parent estimate of challenging behaviour; DD = parent estimate of developmental delay.

p < .01; p < .001.

No significant relationships were found between *child self-focus* and parenting strategies. However, the more parents attributed child misbehaviour towards *child intentional opposition*, the more they reported using ineffective overreactive and verbose strategies. In addition, the more parents attributed child misbehaviour to any of the two child causal factors, the more challenging they viewed their child's behaviour.

The correlations between the parent causal factors and ineffective strategies overall showed that the more parents attributed child misbehaviour towards themselves, the more they reported using ineffective strategies. The relationships were strongest for *parental permissiveness*. *Parental helplessness* was related to more *laxness*. *Not affording time/attention* was related to more *overreactivity*, but no relationship with *laxness* or *verbosity* was found. The parent causal factors were positively related to parents' interpretation of how challenging the child's behaviour was, but only significantly for *parental permissiveness*.

8.3.5 The relationship between parenting strategies and child behaviour problems. Pearson correlations were calculated to assess the relationship between parenting strategies and child behaviour (see Table 8.11). *Overreactivity* and *verbosity* were related to *conduct problems, insecure/anxious, hyperactive* and *overly sensitive*. No relationship was found between *laxness* and child behaviour and between *self-injury/stereotypic* and *self-isolated/ritualistic* behaviour and strategies.

Table 8.11

Correlations using Pearson's r between Parenting Scale and Nisonger Child

Behavior Rating Form.

	Laxness	Overreactivity (log)	Verbosity
Conduct problems (sqrt)	.22	.41***	$.28^{*}$
Insecure/anxious (sqrt)	.09	$.30^{*}$.34*
Hyperactive	.06	.33*	$.27^{*}$
Self-injury/stereotypic (sqrt)	.08	.03	02
Self-isolated/ritualistic (sqrt)	14	11	20
Overly sensitive (sqrt)	.09	$.30^{*}$.39**

Note: n = 44; Pearson's *r*, one-tailed.

 $p^* < .05; p^* < .01.$

8.4 Discussion Study 4

8.4.1 Aim 4.1: The underlying structure of parental causal cognitions.

Parental causal cognitions relating to the child's control and intent for misbehaviour were grouped together into a 'child intentional opposition' and a 'child self-focus' factor. This structure divided cognitions on the child intentionally misbehaving from cognitions where misbehaviour was caused by a child's unintentional characteristics and selfish desires. The 'self-focus' factor overlapped with 'personality' causal cognitions found in Study 2 (see Section 6.3.1.7). The personality cause viewed child misbehaviour as 'just' part of the child or 'just' something they liked to do, which was similar to the content of the items composing the self-focus factor, that is, references to the child's characteristics and desires. In both cases, the child was not seen as in control, as acting intentionally, as to blame or as responsible, but rather that the noncompliant behaviour was part of the child. The 'intentional opposition' factor then overlapped with the 'pushing boundaries' cause that was found in Study 2 (see Section 6.3.1.6). Both viewed child misbehaviour as intentional and under the child's control, but the 'intentional opposition' factor was more hostile and directed

towards the parent. These studies have found that parents of children with an LD do not only view their child's behaviour as caused by unintentional child-factors, but that intentional child causes are also relevant. How that impacts on strategies will be discussed in the next section on aim 4.2.

Parental causal cognitions relating to the parent's responsibility for misbehaviour were grouped together into a 'helplessness', a 'permissiveness' and a 'not affording time/attention' factor. All these factors held the parent responsible for child misbehaviour, but while the first was due to the parent's uncontrollable inability, the second was due to the parent failing to take control. This reflected the different types of parental responsibility found in Study 2 (see Section 6.3.2.6). Study 2 found responsibility in a negative sense, where parents viewed it as their fault that the child misbehaved, but also found responsibility in a positive sense where parents were consciously setting rules for the child to teach them appropriate behaviour. The first overlapped with the 'helplessness' factor and the second with the 'permissiveness' factor. The third factor related to the parent being unable to afford attention or time to the child, because of both personal parent characteristics and circumstances. As with the first factor, it did not seem the parent was in control over this. These results indicate that parent cognitions on their responsibility for child behaviour are complex, which cannot be uncovered by directly asking parents to rate their responsibility on a scale. The current study and Study 2 have uncovered this complexity and future research should take these different interpretations of responsibility into account.

Positive relationships were found between the child and parent causal cognitions. This indicated that even when parents viewed the cause of child

misbehaviour within the child, they still took responsibility for misbehaviour themselves. This also meant that when behaviour was not attributed to the child, the parent took less responsibility. Himelstein et al. (1991) found a similar result where parents of children who attended special education attributed child outcomes to environmental influences and downplayed their own responsibility. No relationship was found though for not affording time/attention with the child factors. This can be explained, because parents' lack of time or attention is more likely to be influenced by other parental or external causes than by child characteristics. In addition, no relationship was found between *child intentional opposition* and *parental* helplessness and not affording time/attention. This removes any mitigating circumstances, namely to the parent's inability and lack of time, for child misbehaviour and underlines the child's intentionality and responsibility (Heider, 1958; Shaver, 1985; Weiner, 1995). Finally, parents who viewed the child as being intentionally oppositional also viewed their own permissiveness as a cause, possibly because they felt out of control while knowing they should be taking control. These relationships between child and parent factors make intuitive sense and reinforce the interpretation of the factor structure.

8.4.2 Aim 4.2: The relationship between parental causal cognitions and parenting strategies. Strong relationships were found between attributing misbehaviour to the child's intentional opposition and the three ineffective strategies. This is in line with the results from Study 3 where child intentionality positively predicted ineffective parenting strategies. It also extends Baden and Howe's results (1992) where parents who judged misbehaviour as more intentional used less strategies to effectively manage the child's behaviour to parents of children with an

LD. The current study found no significant relationships between the child's selffocus as an uncontrollable and unintentional cause for misbehaviour and ineffective strategies. Dix et al. (1989) found that mothers became more upset with children who understood their misbehaviour and with misbehaviour that required greater competence. When inspecting the factor structure (Table 8.6), misbehaviour attributed to *child-self focus* does not require the amount of knowledge and competence that behaviour attributed to *child intentional opposition* requires, resulting in a relationship with ineffective strategies for *child intentional opposition*, but not for *child-self focus*. These results show that parents do not only distinguish between intentional and unintentional child causes of misbehaviour, but these causal cognitions also relate to strategies in different ways. While both causal cognitions are related to more challenging child behaviour, only *child intentional opposition* is positively related to ineffective strategies. This shows that parents of children with an LD react to behaviour differently depending on the child's intentionality.

Next, the more parents attributed child misbehaviour towards themselves, the more they reported using ineffective strategies. This seemed opposite to the results found in Study 3 where *parent responsibility* negatively predicted ineffective strategies. The explanation for this discrepancy should be sought in the meaning of the responsibility constructs in the two studies. While in Study 3 parents were directly asked to rate their responsibility for child misbehaviour, in Study 4 they were asked to rate causes that placed responsibility at the parent, but that were actually about failing to execute this responsibility, causing the relationship with strategies to go in the other direction. This was similar to Gretarsson and Gelfand (1988) who found that parents' reduced feelings of responsibility also reduced their

attempts at improving child behaviour. Parent responsibility is shown to be an important factor in relation to ineffective strategies in parents of children with an LD in the current study and its different aspects should be taken into account in child behaviour interventions.

8.4.3 Aim 4.3: The relationship between parenting strategies and child behaviour problems. In contrast to Study 3, Study 4 found clear, positive relationships between ineffective parenting strategies and child behaviour problems among parents of children with an LD (see Section 7.3.5). This resembled the pattern found for parents of TD children in Study 3 where relationships were found for *overreactivity* but not for *laxness*. In addition, no relationship was found for both *overreactivity* and *verbosity* with self-injurious/stereotypic behaviour and self-isolated/ritualistic behaviour. As discussed in Section 2.2, while conduct problems, insecure or anxious behaviour and hyperactive behaviour are commonly found in both children with an LD and TD children, self-injurious/stereotypic behaviour and self-isolated/ritualistic behaviour are less frequently found in TD children (Wallander et al., 2003). A different cause might underlie these kinds of behaviours and therefore a different set of strategies than those measured by the PS might affect them.

The results found here are in line with the literature discussed in Section 3.3 where positive and negative parenting was related to child behaviour (Dyches et al., 2012; Paczkowski & Baker, 2007). The NCBRF was specifically designed for parents of children with an LD, while the CBCL was designed based on parents of TD children. The reason for the discrepancy between the results of Study 3 and Study 4 then could be due to the CBCL not accurately reflecting the behaviour issues

parents experienced in their children with an LD. This is highlighted by the fact that no relationships were found for self-injurious/stereotypic behaviour and selfisolated/ritualistic behaviour, while all other behaviour types were related to strategies. The CBCL does not distinguish these types of behaviours and may not therefore be as suitable as the NCBRF for parents of children with an LD.

8.4.4 Limitations. Two limitations of the study are related to the sample. First of all, the sample size was on the lower boundaries for conducting EFA. This was not a problem for the analysis performed on the child items of the PCS. As previously discussed in Sections 8.3.3.1.1 and 8.3.3.1.2, all diagnostics showed that factor analysis was appropriate for the data, the two factor model was a good fit and the rotation was appropriate. In addition, both factors had three or more items, there were no cross-loadings of items between the factors and only one communality was slightly below .40, showing that a larger sample was not necessary to show the validity of the items or the factors (Costello & Osborne, 2005). The sample size might have been an issue for the analysis performed on the parent items of the EFA though. Although all diagnostics showed that factor analysis was appropriate for the data, the three factor model was a good fit, all factors had three or more items and only one communality was slightly below .40, after rotation, simple structure was not present in the factor structure and the factor plot did not show clear clusters of items towards the end of the axes (see Sections 8.3.3.2.1 and 8.3.3.2.2). A larger sample would be needed to confirm the validity of the factor structure found, but considering all other diagnostics a careful, non-generalising interpretation can still be made, especially when the interpretation of the parent factors overlapped with the results of Study 2, confirming their validity to some extent. The second limitation related to the

sample size was the low 13% response rate. The same issues as discussed in Section 7.4.6 for Study 3 were relevant but again the sample held a wide range of demographic characteristics.

8.4.5 Conclusions. Study 4 offers further insight into causal cognitions on child behaviour held by parents of children with an LD and what specific thoughts put them at risk for ineffective parenting strategies. First of all, viewing child misbehaviour as caused by the child's negative intent directed towards the parent was strongly related to ineffective strategies. These cognitions are important to be tackled prior to teaching parents more effective strategies. In addition, the results of the current study suggest that parents' sense of responsibility for their child's behaviour can have both a negative and a positive connotation. Although both are similarly related to use of ineffective strategies, one acknowledges that the parent knows they are supposed to take control, while the other is more helpless and the parent cannot do much to change. While the helpless cognitions should be tackled motivate parents to learn new strategies, the other cognitions can be used to help the parent actively take control.

Finally, behaviour problems in children with an LD show both overlap and discrepancies with behaviour problems of TD children. Using a measure for behaviour problems specifically for children with an LD, this study has shown that, just as in parents of TD children, parenting strategies are related to behaviour problems of children with an LD. However, some specific issues related to selfinjury and ritualistic behaviour might also be affected by more specific strategies.

Chapter 9 – Final Discussion

This chapter presents the final discussion of the thesis. The thesis aimed to examine how parents of children with an LD think about causes of their child's difficult behaviour in terms of causal attributions and how this compared to parents of TD children. Furthermore, the thesis aimed to examine how these cognitions relate to parenting strategies to identify those cognitions that are either helpful or unhelpful for successful parenting. Finally, the thesis examined the relationship between parenting strategies and child behaviour problems in parents of children with an LD and parents of TD children. The following will first discuss the results of the four studies in relation to these three strands and will then discuss their fit with previous research. The implications for theory will be presented. Following this, the methodological limitations will be discussed and finally next steps for this research and suggestions for future research will be given.

9.1 The Complexity of Causal Attributions of Parents of Children with an LD

Causal attributions of parents of children with an LD were found to be consistent with a positive perceptual bias which was stronger than for parents of TD children. At the same time though, this view was one where behaviour problems were a fixed part of the disability. Views on child causes will be discussed here separately from views on parent causes.

9.1.1 Views on the child's role in misbehaviour. Parents of children with an LD were found to view their child's behaviour as more stable than TD children, and this was similar to how parents of TD children viewed the behaviour of a child with an LD, namely, more stable than for a TD child. Although difficult behaviour was expressed as unpredictable and parents held the expectation that difficult behaviour

would become less frequent over time, overall it was viewed as stable and parents anticipated that problems could always arise. Together this reflected the perception of difficult behaviour as a stable part of an LD.

Parents of children with an LD were found to view their child as having less control over and less responsibility for misbehaviour than TD children, and this was similar to how parents of TD children viewed the behaviour of a child with an LD, namely, as less controllable by the child and assigning less responsibility to the child than for a TD child. Especially when the LD was viewed as causing the behaviour, parents of children with an LD did not view their child as having control or responsibility. On the one hand, this reflected the perception of difficult behaviour as an uncontrollable part of an LD, but on the other hand reflected a positive perceptual bias, where a child is not viewed as in control over or responsible for misbehaviour.

Similarly, parents of children with an LD were found to view their child as acting with less intent and being less to blame for misbehaviour than TD children, and this was similar to how parents of TD children viewed the behaviour of a child with an LD, namely, as acting with less intent and being less to blame than a TD child. When behaviour was viewed as caused by factors unrelated to the LD, such as attention seeking, parents were more likely to view their child as acting with intent. This did not necessarily lead to blame though, as the child could have a lack of understanding of the situation. These views again reflected the perception of difficult behaviour as a fixed part of the LD, but on the other hand reflected a positive perceptual bias, where a child was not viewed as misbehaving intentionally or as being to blame.

Taking this together, the results of all four studies reflected the complex and sometimes contrasting ways in which parents of children with an LD viewed their child's misbehaviour. The causal attributions of parents of children with an LD indicated that they viewed problematic behaviour as an unavoidable and fixed part of the disability, corresponding to the psychosocial model of disability-related child behaviour problems (Woolfson, 2004). At the same time though, these attributions indicated that parents of children with an LD had a stronger positive perceptual bias than parents of TD children. While the first view places parents at risk for viewing the child's misbehaviour as unavoidable and consequently accepting it as part of the LD, the second view is helpful as it enables parents to continue to view their child in a positive light.

The results of Study 2 offer some explanation on how these two seemingly contrasting views can be held by parents at the same time. Not all causes parents referred to in the interviews were related to the child's LD. For some behaviour, parents specifically stressed that they viewed it as caused by factors that were typical for any child, for example causes related to the child's limited attention span, to the child pushing the boundaries or to the child's personality. It seems important for parents to not only see their child as a child with an LD, but also to stress that they are like any other child. For other behaviours, parents identified a cause that was related the child's LD, such as expressions of frustration over limitations or of not understanding a situation. It appears that parents distinguished between behaviour caused by the LD and behaviour that is typical of any child. This could result in views of some behaviour as a fixed and unavoidable part of the LD alongside views of other types of behaviour that fit within a positive perceptual bias.
Contrasting views of child behaviour were again found in Study 4. Parental causal cognitions relating to the child's control and intent for misbehaviour were grouped together into a 'child intentional opposition' and a 'child self-focus' factor. This structure divided cognitions on the child intentionally misbehaving and having control from cognitions where misbehaviour was caused by a child's unintentional characteristics. This shows again that parents can hold contrasting cognitions at the same time for different types of behaviour. More importantly however and in line with Study 2, it shows that parents of children with an LD do not only view their child as misbehaving unintentionally, but can also see some misbehaviours carried out intentionally as for any child.

Individual parents also perceived their child's behaviour differently from each other. Study 1 showed that, on average, parents of children with an LD utilised the same medical model as parents of TD children in their beliefs for the behaviour of their child, where problematic behaviour is seen as part of the LD. However, it also appeared that a small subgroup of parents could be identified who held more affirmative views. These parents also attributed more control towards themselves for their child's misbehaviour, were more likely to classify their child as having a mild delay rather than a moderate or severe delay, and were more likely to have a child attending mainstream rather than special education. This indicated that parents of children with an LD can differ considerably in their views from each other. However, it remains unclear whether more affirmative views are related to having a child with a less severe delay or more affirmative views motivate the parent to describe their child as more able and make different choices for their child. Overall, the complexity with which parents of children with an LD view their child's behaviour seems to be

related to individual differences between parents and children. In addition, different views are held for different types of behaviour, dependent on how parents view the role of the LD in causing the behaviour.

9.1.2 Views on the parent's role in misbehaviour. Study 1 and Study 3 found that parents of children with an LD attributed similar levels of control for child misbehaviour to themselves as parents of TD children attributed towards parents of children with an LD and also towards themselves. Although in Study 2 parents indicated feeling less in control when behaviour was seen as caused by the LD, overall this this did not decrease their control attribution in comparison to parents of TD children.

All four studies highlighted the importance of parents' responsibility for the behaviour of children with an LD. Firstly, Study 1 showed that, while parents of TD children viewed the causes of misbehaviour in children with an LD quite differently from TD children, they did see the role of the parent in misbehaviour as similar for these two groups. While they excused the child with an LD for misbehaviour, they did not excuse their parent. This was reflected again in the results of Study 3 where the levels of responsibility parents attributed towards themselves did not differ between parents of children with an LD and parents of TD children.

The results of Study 2 then showed that because of the child's LD and the child's consequent difficulties with learning and development, parents felt more responsible for setting rules and more responsible for promoting their child's development. Although a self-blaming aspect of responsibility was also found, the former type seems to be especially relevant and motivating for parents of children with an LD. These two different types of responsibility were also reflected in the

results of Study 4. Parental causal cognitions relating to the parent's responsibility for misbehaviour were grouped together into a 'helplessness', a 'permissiveness' and a 'not affording time/attention' factor. The first was due to the parent's uncontrollable inability, which overlapped with the self-blaming aspect of responsibility found in Study 2. The second was due to the parent failing to take control, which reflected the motivational aspect found in Study 2 as it indicated that the parent can and knows how to take control. Taken together, parents of children with an LD and parents of TD children take control over and responsibility for their child's misbehaviour and being responsible seems particularly relevant for parents of children with an LD.

9.2 The Relationship between Causal Attributions and Parenting Strategies

The following will first discuss the relationships of the individual attributions with strategies as found across the studies. This will then be drawn together in order to comment on what beliefs appear to be most supportive of effective parenting for parents of children with an LD and parents of TD children.

The stability attribution was not found to predict parenting strategies. In the current study, the stability attribution was included in analyses together with how much of a problem parents perceived the behaviour to be. This latter construct did predict strategies. How problematic the behaviour is, was therefore found to be more important than stability in predicting ineffective strategies; it could be that stability only predicts ineffective strategies when the behaviour is perceived as a significant problem.

For the attribution of child control, Study 3 found an interaction with group when predicting overreactive strategies. While for parents of TD children, low levels of control attributed towards the child were related to overreactive strategies, for parents of children with an LD, high levels of control were related to overreactive strategies. Low levels of control in parents of TD children may be stressful because it decreases the possibility that the child will change. In parents of children with an LD, high levels of child control are stressful and therefore perhaps related to overreactive strategies because they are incompatible with the more widely accepted view of the child not having control.

The child's responsibility was a negative predictor of both overreactive and lax strategies. Study 2 found that the child's understanding was related to a responsibility judgement. This can explain the negative relationship with ineffective strategies. Child responsibility reflected that the child understood the behaviour or the consequences and therefore the parent was able to continue to react effectively.

As for the child's control in parents of children with an LD, Study 3 found that attributions of blame and intent did not carry the positive connotation of child responsibility, and predicted ineffective strategies positively. This was also confirmed in Study 4 where causes for child behaviour that were associated with the child's intentionality were strongly and positively related to ineffective strategies. This 'child intentional opposition' factor reflected an overall negative view of the child where the child was also rated as having more behaviour problems. The child's intent in this factor was highlighted as it was not related to parental failure to set rules or to spend time with the child as causes for misbehaviour. Moreover, it was related to parental helplessness as a cause for misbehaviour. The factor was similar to the 'pushing boundaries' cause found in Study 2 which was seen as unrelated to the LD, removing another possible mitigating factor. However, Study 2 found that

blame did not follow automatically from intent because the child's understanding and therefore responsibility was taken into account. Viewing the child as intentionally misbehaving was related to a range of other negative parent cognitions and ineffective strategies, and this negative connotation was only lifted when the child was viewed as not understanding the behaviour or the consequences.

In terms of attributions towards the parent, Study 3 found that parents who attributed more control towards themselves for misbehaviour reacted with more overreactive strategies. It could be stressful for a parent to feel like they are, or should be, in control of child behaviour, especially when the child experiences behaviour problems. Responsibility attributed towards the parent showed a more complex relationship with strategies, namely an interaction with the LD or TD group the parent belonged to. The interaction showed that specifically for parents of children with an LD, feeling responsible was related to less lax strategies, while this was not the case for parents of TD children. The difference in this relationship for parents of children with an LD and parents of TD children can be explained by the different types of responsibility found in Study 2 and Study 4. For parents of children with LD, the motivating type seems more salient due to the child's LD, which would lead to less lax strategies. For parents of TD children it could be that the self-blaming type is more prevalent meaning that feeling responsible might lead to more lax strategies. The results of the studies highlight that parent cognitions on their responsibility for the behaviour of their child with an LD are complex and that due to the child's LD their interpretation of being responsible is different than for parents of TD children.

By drawing these results together, helpful parental cognitions that predict lower levels of ineffective parenting strategies can be identified. For parents of children with an LD, views of misbehaviour as not a big problem, views of the child as having low control and low intent and assigning low levels of blame to the child, in addition to views of the parent as having low levels of control were predictive of less ineffective strategies. This reflects the effect of a positive perceptual bias, where parents can continue to perceive their child and themselves in a positive light when misbehaviour takes place. At the same time, assigning high levels of responsibility to the child and the parent were also predictive of less ineffective strategies. This then is more likely to reflect the effect of viewing misbehaviour as not just a fixed part of the child's LD, but in contrast, assigning some responsibility for the behaviour to the child and the parent so that the possibility for change and improvement becomes evident.

These helpful views were slightly different for parents of TD children. As for parents of children with an LD, views of misbehaviour as not a big problem, views of the child as having low intent and assigning low levels of blame to the child, in addition to views of the parent as having low levels of control were predictive of less ineffective strategies. Parent responsibility also fits into this effect of the positive perceptual bias where low parental responsibility predicted less ineffective strategies. Both child control and child responsibility however reflect the possibility for change in the TD child as these were related to less effective strategies. For parents of children with LD, seeing a possibility for change and improvement lies in the responsibility of the parent and the child, but for parents of TD children, it lies with the child only in their control and responsibility. It is likely that this reflects the

effect of the LD that forces parents of children with LD to take responsibility when the child is viewed as having a low level of control over behaviour.

9.3 The Relationship between Parenting Strategies and Child Behaviour Problems

With regard to parent behaviour, the current thesis has shown that parents of children with an LD adapted rules and expectations towards their child's development and needs to allow them to act as effective caregivers. Overall their ineffective lax and overreactive strategies did not differ from parents of TD children. Across Study 3 and Study 4, three interesting results relating to the relationship between parenting strategies and child behaviour problems were found. First of all, for parents of children with an LD, relationships between parenting strategies and child behaviour problems were only found when child behaviour problems were measured on the NCBRF. While the NCBRF was specifically designed for parents of children with an LD (Aman et al., 1996), the CBCL was designed based on parents of TD children (Achenbach & Rescorla, 2001). It could be that either the CBCL does not reflect behaviour problems in children with an LD accurately (Embregts, 2000), or that the types of behaviour reflected in the CBCL do not relate to parenting strategies for parents of children with an LD. The results of Study 2 showed that some parenting strategies are particularly motivated by the child's LD. Parents expressed a clear view of how their parenting behaviour might affect the child's behaviour. They found it was important to have clear rules that are consistently reiterated to consolidate understanding of appropriate behaviour. In addition, accommodating towards the child's developmental level and needs was important in order to avoid unnecessary problematic behaviour. These are two strategies that seem

related to the child's LD. The LD underscores the importance for parents to be clear and consistent while also adapting to the child's level and needs. The relationship between strategies and child behaviour could therefore be different for parents of children with an LD and parents of TD children based the type of parenting strategies and behaviour problems that are assessed.

Second of all, among parents of children with an LD, Study 4 showed that the relationship between strategies and behaviour was depended on the type of behaviour assessed. While conduct problems, insecure and anxious, hyperactive and overly sensitive behaviour were related to parenting strategies, self-injurious or stereotypic and self-isolated or ritualistic behaviour were not. The latter set of behaviour problems is more likely to be viewed by parents as related to the LD than the former set, which is more common in TD children. This could lead to them using different strategies for self-injurious and stereotypic and self-isolated/ritualistic behaviour.

Finally, results among parents of children with an LD and parents of TD children from Study 3 and Study 4 showed that overreactive strategies were consistently related to behaviour problems, but lax strategies were not. Taken together with the previous results discussed, this shows that the relationship between parenting strategies and child behaviour is not so much different for parents of children with an LD and parents of TD children, but is dependent on the type of strategies and behaviour measured.

9.4 Fit with Previous Research

Parents of children with an LD have been found to adapt towards their children's needs (Baker et al., 1997; Curran et al., 2001; Mencap, 2001; Olsson & Hwang, 2003; Tadema & Vlaskamp, 2010) and to adapt their parenting strategies

towards the child's skills and development (Guralnick et al., 2008; Keogh et al., 2000; Roskam & Schelstraete, 2007). The current study similarly found that parents of children with an LD accommodate towards their child in terms of expectations and strategies. In addition, even though these parents adapted their strategies towards their child, the study found that they were not more or less ineffective in their use of strategies in comparison parents of TD children. This is in line with prior research that found that parents of children with an LD had low levels of authoritativeness and high levels directiveness (Rutgers et al., 2007; Spiker et al., 2002; Woolfson & Grant, 2006). These parenting styles are generally not considered beneficial for TD children (Deater-Deckard, 1998; Spiker et al., 2002). However, for parents of children with an LD they represent an effective adaptation towards the child's skills and development (Marfo et al., 1998).

In line with this positive parenting experience, prior studies had found indications of a positive perceptual bias among parents of children with an LD, in terms of not holding their child responsible for difficult behaviour (Chavira et al., 2000) and viewing good behaviour as more stable and controllable than bad behaviour (Whittingham et al., 2008). However, other studies had found an impact of the child's LD on attributions. Parents viewed certain behaviour as directly caused by the LD (Keenan et al., 2007), and viewed behaviour typical for certain conditions as more stable and less controllable and held their child less responsible for it (Armstrong & Dagnan, 2011; Chavira et al., 2000; Whittingham et al., 2008). The current study confirmed that the LD has an impact on parental causal attributions, but also showed that this does not diminish parents' positive perceptual bias. The comparison of a wide range of individual causal attributions among parents of

children with an LD and parents of TD children showed that while the LD allowed for a view of difficult behaviour as fixed, parents still held a positive perceptual bias. This is essential as a positive perceptual bias enables parents to view their child in a positive light and to provide a high quality child-rearing environment (Daggett et al., 2000; Gretarsson & Gelfand, 1988).

In terms of what these views mean for parenting strategies, prior research had not been able to clearly untangle the relationship between causal attributions and parenting strategies for this group. Relationships between individual attributions and strategies in parents of children with an LD had been found in terms of parents' motivation for learning and using new strategies (Keenan et al., 2007; Whittingham et al., 2006) or by looking at an aggregated construct of attributions rather than individual attributions (Chavira et al., 2000). In contrast, the only study that had assessed individual attributions and parental report of actual strategies had found no relationship (Armstrong & Dagnan, 2011). However, the attributions were measured for specific and severe behaviour types, that is aggression, self-injury and stereotypy. The current study addressed this by measuring a range of individual attributions for more general child misbehaviour and parent report of ineffective strategies. On the one hand, this showed clear relationships between attributions and strategies in parents of children with an LD, confirming that, similar to parents of TD children, causal attributions play an important part in parenting. On the other hand, the interactions that were found, where the attributions predicted strategies in different ways for parents of children with an LD and parents of TD children, again flagged up that there are differences between parents of children with an LD and parents of TD

children, but that these are likely to be positive adaptations from parents of children with an LD.

Based on the literature, it was expected that parents of children with an LD would view themselves as less in control over and less responsible for child misbehaviour than parents of TD children, as had previously been found for parents of children with ADHD (Baden & Howe, 1992; Johnston & Freeman, 1997; Sobol et al., 1989). The current study found that this did not apply to parents of children with an LD as no difference in their levels of control and responsibility was found in comparison to parents of TD children. This again stresses the uniqueness of the parenting experience for parents of children with an LD that cannot be thought of as equivalent to parents of children with ADHD.

Taken together, the current research suggests that, as for parents of TD children, cognitions of parents of children with an LD predict parenting behaviour and that this parenting behaviour is related to child behaviour. Overall, this means that interventions to improve parent and child behaviour that are similar to those that work for parents of TD children, would work for parents of children with an LD. However, some adaptations need to be made to accommodate the specific experience of parents of children with an LD. Triple P and IYPT (2008a, 2008b; Roberts et al., 2006) have been usefully adapted for parents of children with an LD and have shown improvements in both parent and child behaviour. What the active components were, however, is unclear. The current research has shown that parent cognitions on the child's responsibility and control and on their own responsibility for misbehaviour are not only important predictors of parenting strategies, but also that the latter two relate to parenting strategies in a different way than for parents of TD children. This

indicates that such cognitions could be key in changing and improving the parenting experience and child behaviour for parents of children with an LD.

9.5 Implications for Theory

The design of the studies in this thesis was broadly based on three theories, Weiner's attributional theory (1979, 1980, 1985, 1995), Woolfson's (2004) psychosocial model of disability-related child behaviour problems and Sameroff and Fiese's (2000) transactional model of child development. The following will discuss the results in relation to these theories.

9.5.1 Attributional theory. Weiner's attributional theory predicts that people think about causes of behaviour in terms of locus, stability and control, and that this affects how they react towards behaviour (Weiner, 1979, 1980, 1985). Overall, the current study has confirmed that an attributional framework is also applicable to how parents think about their child's behaviour. This is in line with Drysdale et al. (2009) who found that mothers of children with an LD hold cognitions on their child's self-injurious behaviour that fit into an attributional framework, but the current study extended this to general child misbehaviour. In addition, the current study has shown that, as predicted by attributional theory, causal attributions also predict the reaction of parents of children with an LD towards the child's behaviour.

More specifically though, some deviations from attributional theory were found. First of all, the attribution of locus seemed not to be applicable for parents of children with an LD. For the sample as a whole, but especially for parents of children with an LD, the reliability of the measurement of this construct in Study 3 was very low. While this could be due to methodological limitations (see Section 9.6 below), in Study 2 parents of children with an LD did not naturally speak about their child's

behaviour in terms of the locus of the cause. Some attributions could be more or less relevant for certain groups with the internality or externality of a cause not being as relevant for parents if children with an LD. This could be the case when the internal LD is more salient than any external causes.

In addition to this, attributional theory (Weiner, 1985) predicts that when negative behaviour is seen as under a persons' control, people are likely to become angry and to impose punishment but when the cause of behaviour is seen as not under the control of the person, people are more inclined to feel pity or sympathy and to offer help instead of punishment. According to the current study, this applies to parents of children with an LD; parents used less ineffective strategies when they viewed their child as having low control over misbehaviour. For parents of TD children however, the opposite was found. These parents used more ineffective strategies when they viewed their child as having low control over misbehaviour. As proposed before (see Section 7.4.2.2 and Section 9.2), low levels of control in parents of TD children may be stressful because it decreases the possibility that the child will change. In parents of children with an LD, low levels of child control are not stressful as they are compatible with the more widely accepted view of the child not having control. In terms of attributional theory, this means that the amount of control is not a straightforward predictor of reactions but that the actor's expected level of control is taken into account when a reaction is determined.

In Weiner's later work, and in line with other attributional theorists, attributional theory also encompassed judgements of responsibility, intentionality and blame (Heider, 1958; Shaver, 1985; Weiner, 1995). The proposed relationships between the attributions and judgements were largely confirmed by the current study.

However, for parents of TD children, the relationship between the child's level of control and their intentionality was not found. Again this could be due to the child's expected level of control, which is relatively high for TD children, and therefore possibly not used by parents to judge the child's intentionality.

Taken together, attributional theory was confirmed for parents of children with an LD and parents of TD children. However, the current study did show that the attribution of locus might be less applicable for certain groups when there is a salient internal cause for behaviour and that the child's expected level of control is taken into account when parents react to behaviour and when the child's intentionality is judged.

9.5.2 The psychosocial model of disability-related child behaviour

problems. The second theory that informed the research design was the psychosocial model of disability-related child behaviour problems (Woolfson, 2004). As described in Section 3.1, societal beliefs influence parent beliefs on disability. Parent behaviours originate from these beliefs and, in turn, impact on child behaviour. There are two parts to this model. Societal beliefs and consequent parental beliefs can be unsupportive of effective parenting and the child learning appropriate rules of behaviour, that is when viewing behaviour problems as a fixed part of the disability, viewing the disability as a personal tragedy, or viewing disabled people as dependent and needing protection (Woolfson, 2004). The second part of this model recognises that to teach the child appropriate behaviour, parents need to reappraise their view of disability towards a more positive view, which might be different from the prevalent societal view (Woolfson, 2004).

The attributions and causal beliefs that were found among parents of children with an LD in the present study, confirmed that parents viewed difficult behaviour as a fixed part of the LD. In addition, the attributions reflecting this view were found to predict ineffective parenting strategies, confirming the psychosocial model. It was also found that some parents held more affirmative views of disability than the overall prevailing view among parents, again confirming the model. However, the present study also found that parents can hold non-supportive or fixed views of difficult behaviours at the same time as more affirmative views. It has become clear that parents do not view all of their child's difficult behaviour in the same way, but can have different views for different behaviours.

This also raises the question if a view of difficult behaviour as a fixed part of the disability is always non-supportive. As shown by Study 2, in a busy daily life parents can find it helpful to accommodate towards the child and adapt rules and expectations to avoid unnecessary drama. If this is the strategy for all behaviour, this is unlikely to be supportive. However, especially amongst an overall affirmative view and strategies that aim to teach the child rules of appropriate behaviour, it can sometimes be helpful for parents to choose their battles and let their choice be informed by beliefs of the LD as a cause for behaviour.

The present study overall has confirmed the psychosocial model for disability-related child behaviour problems for parents of children with an LD. The study adds to this though that parents can hold both non-supportive and affirmative views at the same time for different behaviour and especially among overall affirmative views, viewing some behaviour as a fixed part of the LD can be helpful for parents in managing day-to-day life.

9.5.3 Transactional model of child development. Finally, the results of the current study fit in with Sameroff and Fiese's (2000) transactional model of child development which broadly predicts relationships between parent cognitions, parent behaviour and child behaviour. The study found that parent cognitions predicted parent behaviour, but also found that how specific cognitions relate to parent behaviour can differ for groups of parents; parents of children with an LD and parents of TD children in this case. Similarly, it was found that parent behaviour predicted child behaviours. In addition, different groups, parenting strategies can affect different child behaviours. In addition, different child behaviours can be affected by different strategies. Therefore, as proposed by Sameroff and Fiese (2000), change in parent cognitions or parent behaviour will predict change in parent or child behaviour, but the current study adds that for different groups and for different child behaviour types, a different change in parent cognitions or parent behaviour.

9.6 Methodological Limitations and Implications

The studies have a number of methodological limitations which are related to sampling and measurement. The response rate for parents taking part in the study was very low for Study 1, Study 3 and Study 4. This resulted in a sample size that was on the lower boundary for some of the analyses, that is, the chi-square tests in Study1 and the exploratory factor analyses in Study 4. This could have resulted in a loss of power and some effects might not have been detected.

Reasons for the low response rate could be the distance between the researcher and the participants and the length of the questionnaire. Most parents were recruited through schools where parents received the invitation to take part and the questionnaire in their child's school bag. Therefore there was no direct contact between the researcher and parents, which made it difficult to motivate and remind parents to take part in the study. Although some school staff took on this role of reminding parents, most schools did not have the time or the resources to do this. In addition, the length of the questionnaire was expressed by some school staff as a boundary for some parents to participate. Due to the nature and content of the questionnaires, participation was dependent on parents' ability to read and understand written English language. Parents who had difficulty with this were therefore excluded from the study. In addition to this, only a small group of fathers took part in the studies. It is not clear what other factors might have affected participate. The implication from these two issues however is that results cannot be generalised to fathers or to parents who experience difficulty in reading and understanding written English.

The limitations related to measurement are the sensitivity of items and possible response biases. Sensitivity is related to Type II Error and is the likelihood that the items will in fact show an effect when there is one (Zechmeister et al., 2001), in this case the likelihood that a difference between groups was found on the attribution items when there was an effect and the likelihood that the attribution items were found to predict parenting strategies when relationships were present. Although items were piloted and showed acceptable reliability (see Section 7.2.3.1) there could be a measurement bias where a relatively abstract question on a questionnaire does not reflect the parent's experience of an attribution in a parenting situation accurately. In addition to this, social desirability could have been an issue

for parents completing the Parenting Scale. The developers of the questionnaire reported that mothers indicated that they often did not know which alternative was the 'correct' and which was the 'incorrect' response (Arnold et al., 1993). However, the current study did not ask parents to report on this.

Study 1, Study 2 and Study 3 employed vignettes to trigger parents' causal attributions. The ecological validity of studies using vignettes has been questioned as the vignettes might not be familiar for parents due to the types of behaviour or the relatively mild nature of the misbehaviour displayed (Armstrong & Dagnan, 2011). The vignettes used in the current studies however were piloted to make sure they would apply to most parents, both parents of children with an LD and parents of TD children. Nonetheless, for some parents the behaviour described could still be atypical for their child, leaving them to speculate on how they would think and act. An alternative method would be to ask parents to think of a recent situation in which their child misbehaved, to write this down, and to base their attributions on that scenario. However, this requires more input from the parent. In addition, parents could be describing situations that are very different from each other, for example mild or quite severe behaviour or occurring in a range of circumstances. Finally, due to social desirability parents could be describing situations that did not happen or describe them in a different way and still be left interpreting situations that did not happen. The strength of using pre-specified vignettes is that all parents base their answers on the same behaviour and that therefore parents' responses can be compared to each other. This also makes it clear to what behaviour types the results can be generalised.

The measurement of emotions unfortunately was not very strong in Study 3. Although the reliability of the scales was acceptable (see Section 7.2.3.1) and anger was normally distributed, the distribution of the other four scales was severely skewed. Due to this they had to be dichotomised and information might have been lost, for example on possible group differences on the different emotions (see Section 7.3.3). Parents mostly answered on the lower end of the scale, indicating that they did not feel very strongly on the emotions proposed. The selected emotions might not have been applicable for these parents or parents did not feel comfortable expressing or admitting their emotions in this way. Expressing anger towards a child might be felt as more socially acceptable than experiencing feelings of shame, guilt, pity or hopelessness. The implication is that no conclusions regarding these emotions in parents of children with an LD in comparison to parents of TD children can be drawn on the basis of these studies. Anger was a very strong predictor of parenting strategies and other emotions might play an equally important part.

The attribution of locus had to be excluded in Study 1 and Study 3 due to a low Cronbach's alpha. In addition, in Study 2, parents did not refer to causes of behaviour in terms of internality or externality (see Section 6.3.2). During the pilot for Study 1 and Study 3 (Section 5.2.5), parents indicated that the question measuring locus was rather long and confusing. They found it difficult to choose between the two extremes as they saw that behaviour could be caused by both something within the child and something in the situation. Dividing this question in two was considered, one part measuring internal locus and one measuring external locus. However, prior research employing these two scales found low reliability for both (Baden & Howe, 1992), while the original question had acceptable reliability

(Chen et al., 2008; Johnston et al., 2000; Johnston & Freeman, 1997; Johnston et al., 2009; Johnston et al., 2005) (see Section 5.2.3.1). It was therefore decided to use the original question. While the wording of the question could be the reason for the low reliability in the present study, it remains unclear why this led to an unreliable scale in the current study but not in prior research.

9.7 Future Research and Next Steps

As discussed in Section 9.4, causal attributions and beliefs could be key in changing and improving the parenting experience and child behaviour for parents of children with an LD. The limitations discussed above however point to a number of issues that need to be addressed by future research prior to assessing the value of these cognitions in an intervention study. A larger sample is needed to confirm the factor structure of parent cognitions related to child intent and parent responsibility as was found in Study 4 and the results of chi-square analyses related to group differences on emotions and causal beliefs in Study 3. To ensure a larger sample for a study with a similar methodology, more resources would have to be put towards recruitment. More direct contact between parents and the researcher is advisable to be able to motivate parents to take part. Assistance would need to be offered to parents who experience difficulty with completing paper questionnaires. A barrier when recruiting through special schools is that parents are not often present at the school, as children are picked up from home with a bus to go to school. In addition, schools can be quite protective of their parents and not comfortable with a researcher coming into the school. Both these issues highlight the need for establishing positive relationships with head teachers and school staff and effective liaison on when recruitment could take place, for example during parent coffee mornings.

To deal with measurement issues such as the sensitivity of items, response biases and the ecological validity of vignettes, it would be helpful to use a different methodology. An observational study for example would be labour intensive, but parent and child behaviour would not be dependent on parent report. In addition, attributions and cognitions would be based on actual events rather than on an imagined vignette, increasing the ecological validity. Although there are other biases related to observational studies, together with the current study it would increase the validity, reliability and generalisability of the results.

To capture the emotional component of parenting, parents' general emotional experiences could be assessed rather than asking for specific emotions. A recent study found that measures of emotion regulation, emotion expression and emotion experience of parents of TD children were related to parenting strategies (Lorber, 2012). These general measures could be less intrusive for parents to report on. A novel methodology for unobtrusively tracking emotional expressions is with an electronically activated recorder that tape-records for 30 seconds every 12 minutes (Mehl, Pennebaker, Crow, Dabbs, & Price, 2001; Mehl, Robbins, & Deters, 2012). Emotional expressions over the course of a day when together with the child can be gathered and related to measures of parent behaviour and child behaviour.

Prior research had found locus to be clearly related to parenting strategies in parents of TD children and parents of children with ADHD (Chen et al., 2008; Dix et al., 1986; Johnston et al., 2009; Johnston & Leung, 2001; Johnston & Patenaude, 1994; A. M. Smith & O'Leary, 1995; Wilson et al., 2006a). Whether this also applies to parents of children with an LD remains unclear. The wording of the question for locus should be further examined prior to being used in a questionnaire for parents of

children with an LD. Interviews with parents of children with an LD and parents of TD children could shed further light on any differences between these groups in ways of thinking about the locus of the cause for behaviour. This could explain why the question did not work as well for parents of children with an LD as parents of TD children in the current study.

The current thesis found that responsibility directed towards the parent consisted of two components. One was related to responsibility in a positive way that motivated parents to manage child behaviour effectively while the other component was related to self-blame for difficult child behaviour. The 'fundamental attribution researcher error' (Russell, 1982, in: Sobol et al., 1989) as described in Section 7.4.6 is when the researcher and the respondent interpret the measured attribution differently from each other. The thesis has shown that this is a likely error to occur when measuring parent responsibility. Future research needs take account of both the positive and the negative connotations of this construct.

Another measurement issue raised by the current research is related to the assessment of parenting strategies and child behaviour problems. Overall it was found that parenting strategies were related to child behaviour for both parents of children with an LD and parents of TD children and that the same strategies applied. However, specifically for children with an LD this was dependent on the method of measurement. It seems that methods of measurement designed for parents of TD children with an LD. Children with an LD may express symptoms for the same behaviour problems differently from TD children (Section 2.2.2). In addition, behaviour problems that are more specific for children with an LD, such as self-injury, can also be related to more specific

parenting behaviours such as positive and negative reinforcement (Lucyshyn et al., 2004; Passey & Feldman, 2004). Future research looking at relationships between parent and child behaviour should keep in mind this interplay between the parent and child behaviours that both parents of children with an LD and parents of TD children have in common as well as those that are specific and different.

The current study focused on parent cognitions in relation to child noncompliance and misbehaviour, that is negative child behaviour. Prior research has shown that causal attributions for positive child behaviour were also related to parenting strategies (Johnston & Leung, 2001) (see Section 4.1.3.2). Especially in the context of parent interventions, it could be important to focus not only on negative behaviour but also to investigate positive behaviour and its associated cognitions. Research assessing cognitions of parents of children with an LD on positive behaviour and their relationship with positive parenting strategies has not been conducted but would be a valuable addition.

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Appendices

Appendix A Adaptation of Vignettes

In the original WAQ, there are four vignettes for inattentive-impulsive behaviour (A, B, C, D), four vignettes for oppositional behaviour (E, F, G, H) and four for noncompliance (Q, R, S, T). In addition, there are four vignettes for prosocial (I, J, K, L) and four for compliance behaviour (M, N, O, P), which were not included in the current study. The remaining 12 original vignettes were all considered for adapting and finally six were selected for inclusion in the pilot.

Each vignette was adapted in two ways. First of all they were made suitable for both parents of children with an and parents of TD children to imagine themselves and their child in the situations. Second of all, the same vignette/situation was rewritten to represent a neighbour and their child with an LD or TD child. Below, the 12 original vignettes will be discussed one by one, in terms of whether or not they were deemed suitable for the adaptations, how they were adapted and why in this way, and finally which six adapted vignettes were selected for the pilot.

Inattentive-Impulsive Behaviour.

Vignette A. "Your child enters the kitchen just as you have finished sweeping the floor and getting the dust in a pile to pick up. The child doesn't wait for you to finish and heads straight to the fridge. As he rushes through the kitchen, the pile of dirt scatters across the floor."

Children might have motor problems that do not allow them to walk freely or to 'rush through' rooms. The key element of this vignette is that the child is 'rushing' and therefore not paying attention to the pile of dirt. Therefore, this vignette was not adapted and not included in the pilot. *Vignette B.* "Your child and the family are having breakfast. He wants some ketchup on his hashbrowns but the ketchup is very slow coming out of the bottle. Your child doesn't wait for it to run slowly, and as he carelessly shakes the bottle, the ketchup spurts out onto the toast on your plate."

The key element here again is that the child is not patient and not paying attention and consequently makes a mess. The specific situation however, is difficult to modify. Some children might, again, have motor problems and would therefore not be able to do such a thing carefully, but would always do them with gross careless-like movements. Therefore, this vignette was not adapted and not included in the pilot.

Vignette C. "Your child is going through the hall closet looking for his baseball mitt and ball. When he can't find them, he runs to where you are busy talking on the telephone. He keeps tapping you on the back and interrupting to ask you to help him find the mitt."

The child wants something and cannot wait for it and therefore interrupts the parent. The baseball mitt and ball is very specific so, in the adapted vignette, what the child is looking for was left unspecified. 'He runs to you' was also omitted, because some children might not run.

- Adapted vignette C for WAQ-A: "Your child is looking for a certain toy he wants to play with while you are busy talking on the telephone. When he can't find it, he tries to get your attention and keeps interrupting you to indicate that he wants you to help him find the toy."
- Adapted vignette C for WAQ-A-NV: "Your neighbour's child is looking for a certain toy he wants to play with while his mother is busy talking on the

telephone. When he can't find it, he tries to get his mother's attention and

keeps interrupting her to indicate that he wants her to help him find the toy"

Vignette D. "Your child and the family are sitting at the kitchen table. There is an outdoor field trip scheduled for that day and you are listening for the weather forecast on the radio. Just as the weather comes on, your child begins to talk loudly about a song he heard on the radio."

The key element is that the child is excited and cannot keep quiet and wait. Sitting around the table with the family and listening to the radio was adapted, for not many families would do this. Also, not all children are likely to talk about a song which was just on the radio, so this was changed to something more neutral.

- Adapted vignette D for WAQ-A: "You and your child are in the lounge. You are planning a family outing that day and together you are waiting for the weather forecast on the TV. Just as the weather comes on, your child begins to make a noise with a toy that he is playing with."
- Adapted vignette D for WAQ-A-NV: "Your neighbour and her child are in their lounge. They are planning a family outing that day and together they are waiting for the weather forecast on the TV. Just as the weather comes on, the child begins to make a noise with a toy that he is playing with."

Oppositional behaviour.

Vignette E. "Your child is playing with video games on the computer in the family room. When you call him for dinner, he does not answer. You go into the room and tell him to come to the table. Your child shakes his head, saying that he won't stop playing and doesn't want to eat dinner."

The main theme is that child is told to do something twice, the first time he ignores, the second time he plainly refuses. For adaptation, the family room is not something all families have, so this was dropped. Also, 'answer' and 'saying' were changed to 'respond' and 'indicating' because not all children are able to do so.

- Adapted vignette E for WAQ-A: "Your child is playing games on the computer. When you call him for dinner, he does not respond. You go to where he is playing and tell him to come to the table. Your child shakes his head, indicating that he won't stop playing and doesn't want to eat dinner."
- Adapted vignette E for WAQ-A-NV: "Your neighbour's child is playing games on their computer. When his mother calls him for dinner, he does not respond. She goes to where he is playing and tells him to come to the table. The child shakes his head, indicating that he won't stop playing and doesn't want to eat dinner."

Vignette F. "Your child is in his bedroom getting ready for school. As you walk past his room, you look in and see that he has not brushed his hair. You remind him to brush his hair and wash his face. The child refuses, telling you that his hair doesn't need to be brushed."

The child is again being asked to do something, but plainly refuses. Not all children are able to or are expected to brush their own hair in the morning, so it was left open for interpretation whether the child is supposed to do it himself or if the parent is going to do it.

Adapted vignette F WAQ-A: "Your child is getting ready for school. You
notice that his hair is not yet brushed. You remind him that his hair needs to
be brushed before going to school but he refuses and does not cooperate."

 Adapted vignette F WAQ-A-NV: "Your neighbour's child is getting ready for school. His mother notices that his hair is not yet brushed. She reminds him that his hair needs to be brushed before going to school but he refuses and does not cooperate."

Vignette G. "Your child is watching a show on TV. It is the child's bedtime, and there is another program you want to watch. Although the show is a repeat episode that your child has already seen, he tells you that he has to see the ending and insists on watching the entire program."

The point here again is that the child is refusing something the parent tells him to do. Only 'telling' was changed to 'indicating'.

- Adapted vignette G for WAQ-A: "Your child is watching a programme on TV. It is the child's bedtime, and there is another programme you want to watch. Although the show is a repeat episode that your child has already seen, he indicates that he has to see the ending and insists on watching the entire programme."
- Adapted vignette G for WAQ-A-NV: "Your neighbour's child is watching a programme on TV. It is the child's bedtime, and there is another programme his mother wants to watch. Although the show is a repeat episode that the child has already seen, he indicates that he has to see the ending and insists on watching the entire programme."

Vignette H. "Your child and you are bringing some firewood into the house. Ignoring your warning, the child insists on picking up several pieces of wood by himself. Even though the logs are too heavy, he won't let you help him and instead, drops some of the logs as he walks through the living room." The key element is the same again, mother has said something, but the child doesn't listen and does what he wants anyway. The situation is not easily adapted however, because not all children will be able to help their parents is these kinds of activities. The vignette was not adapted and not included in the pilot.

Noncompliance behaviour. In the following vignettes, the parent asks the child to do something, but the child simply ignores the parent. It is not as 'extreme' as the oppositional vignettes where the child explicitly refuses, but the child still does not do what he was asked to.

Vignette Q. "As you walk into the house after shopping for groceries, you see that your child's shoes and school books are lying in the middle of the hallway. You walk to the kitchen where your child is and tell him to pick up his belongings. He does not do it."

The story indicates that there is an expectation for some independence and initiative from the child, namely to not leave shoes and schoolbooks in the hallway. Not all children might be expected to do this. For that reason the vignette was not adapted and not included in the pilot.

Vignette R. "The kitchen table is set with plates and cutlery for lunch. The empty coffee cups and glasses for milk are on the kitchen counter. You tell your child, who is sitting at the table, to set the cups on the table. Your child does not get up from the table"

Not all children will be normally asked to carry breakable cups. The next vignette (S) is very similar in terms of asking to help out and the child refusing so might be a more imaginable thing to ask the child to do and more suitable to include.

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Vignette S. "You have just finished matching and folding your child's socks after doing the laundry. The clean socks are piled on the kitchen table. It is nearly time for lunch and you tell your child to take his pile up to his room. He does not take the socks to his room."

The only thing that needed change was 'up to his room' into 'to his room'.

- Adapted vignette S for WAQ-A: "You have just finished matching and folding socks after doing the laundry. The clean socks are piled on the kitchen table. It is nearly time for lunch and you tell your child to take his pile to his room. He does not take the socks to his room."
- Adapted vignette S for WAQ-A-NV: "Your neighbour has just finished matching and folding socks after doing the laundry. The clean socks are piled on the kitchen table. It is nearly time for lunch and she tells her child to take his pile to his room. He does not take the socks to his room."

Vignette T. "You have just put dinner on the table and your child is outside in the backyard rollerblading on the sidewalk. You open the back door, step out into the yard, and tell your child to come in for dinner. The child does not come into the house."

Rollerblading outside is not applicable to all children, so this was changed to 'playing in his room'. This story has become very similar to E. However, the important difference is that in E, the mother asks the child to come twice and finally indicates to refuse, whereas here the child just does not come, which is less serious, but still negative.

- Adapted vignette T for WAQ-A: "You have just put dinner on the table and your child is playing in his room. You go to the room and tell your child to come to the table for dinner. The child does not come to the table."
- Adapted vignette T for WAQ-A-NV: "Your neighbour has just put dinner on the table and her child is playing in his room. She go to the room and tells the child to come to the table for dinner. The child does not come to the table."

Vignettes selected for pilot. The vignettes suitable for inclusion in the pilot were C (inattentive-impulsive), D (inattentive-impulsive), E (oppositional), F (oppositional), G (oppositional), S (noncompliance) and T (noncompliance). Vignettes E and T are very similar. The main difference is that in E the child is told twice to do something and plainly refuses while in vignette T the child is told only once and ignores the request. Vignette E was dropped so two different instances of each type of negative behaviour would be included in the pilot. The final selected vignettes were:

- Inattentive-impulsive behaviour: C and D
- Oppositional behaviour: F and G
- Noncompliance behaviour: S and T



Questionnaire Booklet

Parent perceptions of child behaviour in parents of children with learning disabilities and typically developing children

Thank you for helping us with our study. In this booklet you will find 3 questionnaires (The Written Analogue Questionnaire, the Child Behaviour Checklist and the Parenting Scale) and a demographic sheet. Each questionnaire has some short instructions that we would like you to read carefully.

You can complete these questionnaires if your child is between the ages of 6 and 12 and has a learning disability (such as Down syndrome or developmental delays) as specified in the accompanying information sheet. If you have more than one child, please think only of the child to whom these criteria apply while completing these questionnaires.

We would also like to remind you to complete and sign the informed consent form, and if you would like to receive the £5 Marks and Spencer voucher as a token of our appreciation for your help, do not forget to provide your address! Once you have finished, please put this booklet and the forms in the provided envelope and bring it back to your child's school. All your information will be anonymous and will be stored safely. Your questionnaires will be kept separate from your consent and feedback/voucher form.

Thank you very much for helping us with our study. If you have any questions, please do not hesitate to contact us.

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Appendix B1 WAQ-A

Written Analogue Questionnaire

We would like you to read a number of scenarios describing child behaviours and answer questions about each of them. Before you begin, however, please read the following information.

Several of the questions reflect judgements people often make when looking for an explanation why a child behaved as he/she did. For example, suppose you are walking down the street one day and see a child fall down. In such a situation, you would probably wonder <u>why</u> this child fell down. Did he or she fall because of feeling faint or dizzy (something about the child), or was it because of something about the situation, perhaps there was a crack in the pavement. You might also wonder whether the child could help falling, for example, did he or she fall because of playing around and trying to walk backwards (cause was within the child's control), or was the action caused by something beyond the child's control. You could also make a judgement as to whether the reason for the fall was a one-time thing or something that will happen again in the future.

We realise that there can be many things which influence behaviour at the same time, and acknowledge that it can be difficult to make these type of judgements. Remember, there are no right or wrong answers, and if you have difficulty judging, just go with your first impression.

Please remember to read each scenario as if it were a new behaviour on a new day and try to vividly imagine you and your child in the scenario.

Scenario A: Your child is looking for a certain game/toy s/he wants to play with while you are busy talking on the telephone. When s/he can't find it, s/he tries to get your attention to indicate that s/he wants you to help him/her find the game/toy. You tell him/her to wait until you finish, but s/he ignores you and interrupts you again.

For each item, circle the number that best describes your opinion											
1. How much of a problem did you feel the behaviour was?											
not at all	1	2	3	4	5	6	7	8	9	10	very much
2. To what extent was your child's behaviour caused by something about him or her versus something about other people or the situation?											
something about the child	1	2	3	4	5	6	7	8	9	10	something about other people/the situation
3. To what extent was your child's behaviour caused by something within his or her control?											
completely within his or her control	1	2	3	4	5	6	7	8	9	10	not at all within his or her control
4. To what extent was your child's behaviour caused by something within YOUR control?											
completely within MY control	1	2	3	4	5	6	7	8	9	10	not at all within MY control
5. To what extent is the reason your child behaved as s/he did, something that is a one-time thing or something that is likely to happen again in the future?											
a one-time thing	1	2	3	4	5	6	7	8	9	10	will happen again in the future
6. Is your child responsible for the way in which s/he behaved?											
not at all responsible	1	2	3	4	5	6	7	8	9	10	very much responsible
7. To what extent were yo	u res	ponsi	ble fo	or you	ur chi	ild's	beha	viour	?		
not at all responsible	1	2	3	4	5	6	7	8	9	10	very much responsible
8. Is your child to blame for what s/he did?											
not at all to blame	1	2	3	4	5	6	7	8	9	10	very much to blame
9. Did your child behave this way on purpose?											
not at all	1	2	3	4	5	6	7	8	9	10	very much
10. How much, if at all, did your child's learning disability influence his/her behaviour?											
not at all	1	2	3	4	5	6	7	8	9	10	a whole lot
11. When your child behaved like this, what did you think was the main cause? Please specify:											

12. How did you feel when you saw your child act this way?

Angry	not at all	1	2	3	4	5	6	7	8	9	10	extremely
Embarrassed / Ashamed	not at all	1	2	3	4	5	6	7	8	9	10	extremely
Pity / Sympathy	not at all	1	2	3	4	5	6	7	8	9	10	extremely
Guilty	not at all	1	2	3	4	5	6	7	8	9	10	extremely
Hopeless	not at all	1	2	3	4	5	6	7	8	9	10	extremely
Scenario B: You and your child are in the lounge. You are planning a family outing that day and together you are waiting for the weather forecast on the TV. As the weather comes on, your child begins to make a noise with a toy/game s/he is playing with. You ask him/her to be quiet, but s/he ignores you and continues to make the noise.

For each item, circle the number that best describes your opinion												
1. How much of a problem did you feel the behaviour was?												
not at all	1	2	3	4	5	6	7	8	9	10	very much	
2. To what extent was you about other people or the				our c	ause	d by	som	ethin	g abo	out him c	or her versus something	
something about the child	1	2	3	4	5	6	7	8	9	10	something about other people/the situation	
3. To what extent was you	r chil	d's be	ehavi	our c	ause	d by	som	ethin	g wit	hin his o	r her control?	
completely within his or her control	1	2	3	4	5	6	7	8	9	10	not at all within his or her control	
4. To what extent was you	r chil	d's be	ehavi	our c	ause	d by	som	ethin	g wit	hin YOU	R control?	
completely within MY control	1	2	3	4	5	6	7	8	9	10	not at all within MY control	
5. To what extent is the re something that is likely to							he di	d, so	meth	ing that	is a one-time thing or	
a one-time thing	1	2	3	4	5	6	7	8	9	10	will happen again in the future	
6. Is your child responsibl	e for	the w	ay in	whic	ch s/h	e be	have	d?				
not at all responsible	1	2	3	4	5	6	7	8	9	10	very much responsible	
7. To what extent were you	ı resp	oonsi	ble fo	or you	ur chi	ld's l	beha	viour	?			
not at all responsible	1	2	3	4	5	6	7	8	9	10	very much responsible	
8. Is your child to blame for	or wh	at s/h	e did	?								
not at all to blame	1	2	3	4	5	6	7	8	9	10	very much to blame	
9. Did your child behave the second sec	nis wa	ay on	purp	ose?	•							
not at all	1	2	3	4	5	6	7	8	9	10	very much	
10. How much, if at all, did	l youi	r child	d's le	arnin	g dis	abilit	y infl	uenc	e his	/her beh	aviour?	
not at all	1	2	3	4	5	6	7	8	9	10	a whole lot	
11. When your child behave	/ed li	ke thi	s, wh	at di	d you	thin	k wa	s the	mair	n cause?	Please specify:	

12. How did you feel when you saw your child act this way?												
Angry	not at all	1	2	3	4	5	6	7	8	9	10	extremely
Embarrassed / Ashamed	not at all	1	2	3	4	5	6	7	8	9	10	extremely
Pity / Sympathy	not at all	1	2	3	4	5	6	7	8	9	10	extremely
Guilty	not at all	1	2	3	4	5	6	7	8	9	10	extremely
Hopeless	not at all	1	2	3	4	5	6	7	8	9	10	extremely

Scenario C: Your child is getting ready for school. You notice that his/her hair is not yet brushed. You remind him/her that his/her hair needs to be brushed before going to school but s/he does not cooperate.

For each item, circle the number that best describes your opinion													
1. How much of a problem did you feel the behaviour was?													
not at all	1	2	3	4	5	6	7	8	9	10	very much		
2. To what extent was your child's behaviour caused by something about him or her versus something about other people or the situation?													
something about the child	1	2	3	4	5	6	7	8	9	10	something about other people/the situation		
3. To what extent was you	r chile	d's be	ehavi	our c	ause	d by	some	ething	g wit	hin his (or her control?		
completely within his or her control	1	2	3	4	5	6	7	8	9	10	not at all within his or her control		
4. To what extent was you	r chile	d's be	ehavi	our c	ause	d by	some	ething	g wit	hin YOL	JR control?		
completely within MY control	1	2	3	4	5	6	7	8	9	10	not at all within MY control		
5. To what extent is the reasonething that is likely to							he di	d, soı	meth	ing that	is a one-time thing or		
a one-time thing	1	2	3	4	5	6	7	8	9	10	will happen again in the future		
6. Is your child responsible	e for t	the w	ay in	whic	:h s/h	e bel	have	d?					
not at all responsible	1	2	3	4	5	6	7	8	9	10	very much responsible		
7. To what extent were you	ı resp	onsi	ble fo	r you	ır chi	ld's l	behav	viour	?				
not at all responsible	1	2	3	4	5	6	7	8	9	10	very much responsible		
8. Is your child to blame for	or wha	at s/h	e did	?									
not at all to blame	1	2	3	4	5	6	7	8	9	10	very much to blame		
9. Did your child behave the	nis wa	ay on	purp	ose?	•								
not at all	1	2	3	4	5	6	7	8	9	10	very much		
10. How much, if at all, did	your	child	l's lea	arnin	g dis	abilit	y infl	uenc	e his	/her bel	haviour?		
not at all	1	2	3	4	5	6	7	8	9	10	a whole lot		
11. When your child behave	ed lik	ke thi	s, wh	at di	d you	ı thin	k was	s the	mair	n cause'	? Please specify:		

12. How did you feel when you saw your child act this way?

•					-							
Angry	not at all	1	2	3	4	5	6	7	8	9	10	extremely
Embarrassed / Ashamed	not at all	1	2	3	4	5	6	7	8	9	10	extremely
Pity / Sympathy	not at all	1	2	3	4	5	6	7	8	9	10	extremely
Guilty	not at all	1	2	3	4	5	6	7	8	9	10	extremely
Hopeless	not at all	1	2	3	4	5	6	7	8	9	10	extremely

Thank you for completing this questionnaire!

Appendix B2 WAQ-A-NV(LD)

The Written Analogue Questionnaire-Adapted

At the beginning of this questionnaire booklet you completed the Written Analogue Questionnaire. You read three scenarios while imagining you and your child, and you answered some questions for each of them.

The following questionnaire is very similar to the Written Analogue Questionnaire that you have already completed. Again, you will read three scenarios involving a parent and a child and answer some questions about each of them. However, this time we would like to ask you to imagine that the parent in the scenario is a neighbour and that the child is the neighbour's child.

The neighbour's child you will read about in the scenario is the same age as your child. If your child is a girl, this child is a girl; if your child is a boy, this child is also a boy. **THE CHILD YOU WILL READ ABOUT HAS A LEARNING DISABILITY**.

LEARNING DISABILITY: WHAT DOES THIS MEAN?

Children with learning disabilities develop slower than their peers. They can have problems with understanding and communication, and with life skills, such as self-care, health and safety.

They often find it difficult to learn new things, adapt to new situations and to cope independently. These are children who have general developmental delays or a specific condition such as Down syndrome or more severe brain injuries. Children with autism or cerebral palsy can also have learning disabilities.

Many children with learning disabilities go to a special school and spend no or only some time at a primary school.

Even if you don't know anyone with a learning disability, you can still complete this questionnaire. Please remember to read each scenario as if it were a new behaviour on a new day and try to vividly imagine the neighbour and the neighbour's child in the scenario. Remember that the neighbour's child is of the same gender and age as your child and that the child has a learning disability. **Scenario A:** Your neighbour's child is looking for a certain game/toy s/he wants to play with while his/her mother is busy talking on the telephone. When s/he can't find it, s/he tries to get his/her mother's attention to indicate that s/he wants her to help him/her find the toy. She tells him/her to wait until she finishes, but s/he ignores her and interrupts her again.

For	each ite	em, c	ircle	the n	umbe	er tha	t best	desc	ribes	your op	pinion		
1. How much of a problem do you feel this behaviour is?													
not at all	1	2	3	4	5	6	7	8	9	10	very much		
2. To what extent was the about other people or the			aviou	r cau	sed I	oy so	meth	ing a	bout	him or	her versus something		
something about the child	1	2	3	4	5	6	7	8	9	10	something about other people/the situation		
3. To what extent was the	child's	beha	aviou	r cau	sed l	oy so	meth	ing w	/ithin	his or	her control?		
completely within his or her control	1	2	3	4	5	6	7	8	9	10	not at all within his or her control		
4. To what extent was the	child's	beha	aviou	r cau	sed l	oy so	meth	ing w	/ithin	their p	arent's control?		
completely within parent's control	1	2	3	4	5	6	7	8	9	10	not at all within parent's control		
5. To what extent was the something that is likely to							ey did	l, sor	nethi	ng that	was a one-time thing or		
a one-time thing	1	2	3	4	5	6	7	8	9	10	will happen again in the future		
6. To what extent was the	child r	espo	nsibl	e for	the w	ay in	whic	h s/h	ne be	haved?	•		
not at all responsible	1	2	3	4	5	6	7	8	9	10	very much responsible		
7. To what extent was the	parent	resp	onsil	ole fo	r the	child	's be	havio	our?				
not at all responsible	1	2	3	4	5	6	7	8	9	10	very much responsible		
8. Was the child to blame	for what	at s/h	e did	?									
not at all to blame	1	2	3	4	5	6	7	8	9	10	very much to blame		
9. Did the child behave th	is way	on pı	irpos	e?									
not at all	1	2	3	4	5	6	7	8	9	10	very much		
10. How much, if at all, di	d the cl	nild's	learr	ning o	disab	ility i	nflue	nce t	heir l	pehavio	our?		
not at all	1	2	3	4	5	6	7	8	9	10	a whole lot		
11. What do you think wa	s the m	ain c	ause	of th	e chi	ld's b	ehav	iour?	Plea	ise spe	cify:		

12. How would	you feel about the child's behaviour?
---------------	---------------------------------------

Angry	not at all	1	2	3	4	5	6	7	8	9	10	extremely
Embarrassed / Ashamed	not at all	1	2	3	4	5	6	7	8	9	10	extremely
Pity / Sympathy	not at all	1	2	3	4	5	6	7	8	9	10	extremely
Guilty	not at all	1	2	3	4	5	6	7	8	9	10	extremely
Hopeless	not at all	1	2	3	4	5	6	7	8	9	10	extremely

Scenario B: Your neighbour and her child are in their lounge. They are planning a family outing that day and together they are waiting for the weather forecast on the TV. As the weather comes on, the child begins to make a noise with a toy/game s/he is playing with. Your neighbour asks him/her to be quiet, but s/he ignores her and continues to make the noise.

For each item, circle the number that best describes your opinion												
1. How much of a problem do you feel this behaviour is?												
not at all	1	2	3	4	5	6	7	8	9	10	very much	
2. To what extent was the about other people or the			aviou	r cau	ised I	oy so	meth	ing a	bout	him or	her versus something	
something about the child	1	2	3	4	5	6	7	8	9	10	something about other people/the situation	
3. To what extent was the	child's	beha	aviou	r cau	ised I	oy so	meth	ing w	/ithin	his or	her control?	
completely within his or her control	1	2	3	4	5	6	7	8	9	10	not at all within his or her control	
4. To what extent was the	child's	beha	aviou	r cau	ised I	oy so	meth	ing w	/ithin	their p	parent's control?	
completely within parent's control	1	2	3	4	5	6	7	8	9	10	not at all within parent's control	
5. To what extent was the something that is likely to							ey did	l, sor	nethi	ng tha	t was a one-time thing or	
a one-time thing	1	2	3	4	5	6	7	8	9	10	will happen again in the future	
6. To what extent was the	child r	espo	nsibl	e for	the w	ay in	whic	:h s/h	ne be	haved?	?	
not at all responsible	1	2	3	4	5	6	7	8	9	10	very much responsible	
7. To what extent was the	parent	resp	onsil	ole fo	or the	child	's be	havio	our?			
not at all responsible	1	2	3	4	5	6	7	8	9	10	very much responsible	
8. Was the child to blame	for what	at s/h	e did	?								
not at all to blame	1	2	3	4	5	6	7	8	9	10	very much to blame	
9. Did the child behave th	is way	on pı	urpos	e?								
not at all	1	2	3	4	5	6	7	8	9	10	very much	
10. How much, if at all, die	d the cl	nild's	learn	ning	disab	ility i	nflue	nce t	heir k	pehavio	our?	
not at all	1	2	3	4	5	6	7	8	9	10	a whole lot	
11. What do you think wa	s the m	ain c	ause	of th	e chi	ld's b	ehav	iour?	Plea	ise spe	ecify:	

12. How would you feel about the child's behaviour?

Angry	not at all	1	2	3	4	5	6	7	8	9	10	extremely
Embarrassed / Ashamed	not at all	1	2	3	4	5	6	7	8	9	10	extremely
Pity / Sympathy	not at all	1	2	3	4	5	6	7	8	9	10	extremely
Guilty	not at all	1	2	3	4	5	6	7	8	9	10	extremely
Hopeless	not at all	1	2	3	4	5	6	7	8	9	10	extremely

Scenario C: Your neighbour's child is getting ready for school. His/her mother notices that his/her hair is not yet brushed. She reminds him/her that his/her hair needs to be brushed before going to school but s/he does not cooperate

For each item, circle the number that best describes your opinion													
1. How much of a problem do you feel this behaviour is?													
not at all	1	2	3	4	5	6	7	8	9	10	very much		
2. To what extent was the about other people or the			aviou	r cau	sed k	oy so	methi	ng a	bout	him or	her versus something		
something about the child	1	2	3	4	5	6	7	8	9	10	something about other people/the situation		
3. To what extent was the	child's	beha	aviou	r cau	sed k	oy so	methi	ing w	ithin	his or	her control?		
completely within his or her control	1	2	3	4	5	6	7	8	9	10	not at all within his or her control		
4. To what extent was the	child's	beha	aviou	r cau	sed b	oy so	methi	ing w	ithin	their p	arent's control?		
completely within parent's control	1	2	3	4	5	6	7	8	9	10	not at all within parent's control		
5. To what extent was the something that is likely to							ey did	, son	nethi	ng that	was a one-time thing or		
a one-time thing	1	2	3	4	5	6	7	8	9	10	will happen again in the future		
6. To what extent was the	child r	espo	nsible	e for	the w	ay in	whic	h s/h	e be	haved?	,		
not at all responsible	1	2	3	4	5	6	7	8	9	10	very much responsible		
7. To what extent was the	parent	resp	onsik	ole fo	r the	child	's bel	havio	our?				
not at all responsible	1	2	3	4	5	6	7	8	9	10	very much responsible		
8. Was the child to blame	for wha	at s/h	e did	?									
not at all to blame	1	2	3	4	5	6	7	8	9	10	very much to blame		
9. Did the child behave th	is way	on pı	irpos	e?									
not at all	1	2	3	4	5	6	7	8	9	10	very much		
10. How much, if at all, die	the cl	nild's	learn	ing c	lisab	ility iı	nfluer	nce tl	neir k	pehavio	our?		
not at all	1	2	3	4	5	6	7	8	9	10	a whole lot		
11. What do you think was	s the m	ain c	ause	of th	e chi	d's b	ehavi	iour?	Plea	ise spe	cify:		

Angry	not at all	1	2	3	4	5	6	7	8	9	10	extremely
Embarrassed / Ashamed	not at all	1	2	3	4	5	6	7	8	9	10	extremely
Pity / Sympathy	not at all	1	2	3	4	5	6	7	8	9	10	extremely
Guilty	not at all	1	2	3	4	5	6	7	8	9	10	extremely
Hopeless	not at all	1	2	3	4	5	6	7	8	9	10	extremely

Thank you for completing this questionnaire!

Appendix B3 WAQ-A-NV(TD)

The Written Analogue Questionnaire-Adapted

At the beginning of this questionnaire booklet you completed the Written Analogue Questionnaire. You read three scenarios while imagining you and your child, and you answered some questions for each of them.

The following questionnaire is very similar to the Written Analogue Questionnaire that you have already completed. Again, you will read three scenarios involving a parent and a child and answer some questions about each of them. However, this time we would like to ask you to imagine that the parent in the scenario is a neighbour and that the child is the neighbour's child.

The neighbour's child you will read about in the scenario is the same age as your child. If your child is a girl, this child is a girl; if your child is a boy, this child is also a boy.

Please remember to read each scenario as if it were a new behaviour on a new day and try to vividly imagine the neighbour and the neighbour's child in the scenario. Remember that the neighbour's child is of the same gender and age as your child.

Scenario A: Your neighbour's child is looking for a certain game/toy s/he wants to play with while his/her mother is busy talking on the telephone. When s/he can't find it, s/he tries to get his/her mother's attention to indicate that s/he wants her to help him/her find the toy. She tells him/her to wait until she finishes, but s/he ignores her and interrupts her again.

For	each i	tem, c	circle	the n	umbe	r that	best o	descri	ibes j	/our op	inion
1. How much of a problem	do yo	u fee	l this	beha	aviou	r is?					
not at all	1	2	3	4	5	6	7	8	9	10	very much
2. To what extent was the about other people or the			aviou	r cau	ised I	by so	meth	ing a	bout	him or	her versus something
something about the child	1	2	3	4	5	6	7	8	9	10	something about other people/the situation
3. To what extent was the	child's	s beha	aviou	r cau	sed I	by so	meth	ing w	vithin	his or	her control?
completely within his or her control	1	2	3	4	5	6	7	8	9	10	not at all within his or her control
4. To what extent was the	child's	beha	aviou	r cau	sed I	by so	meth	ing w	vithin	their p	arent's control?
completely within parent's control	1	2	3	4	5	6	7	8	9	10	not at all within parent's control
5. To what extent was the something that is likely to							ey did	l, son	nethi	ng tha	t was a one-time thing or
a one-time thing	1	2	3	4	5	6	7	8	9	10	will happen again in the future
6. To what extent was the	child r	espo	nsible	e for	the w	/ay in	whic	h s/h	e be	haved?)
not at all responsible	1	2	3	4	5	6	7	8	9	10	very much responsible
7. To what extent was the	parent	resp	onsit	ole fo	r the	child	's be	havio	our?		
not at all responsible	1	2	3	4	5	6	7	8	9	10	very much responsible
8. Was the child to blame	for wh	at s/h	e did	?							
not at all to blame	1	2	3	4	5	6	7	8	9	10	very much to blame
9. Did the child behave thi	s way	on pı	urpos	ie?							
not at all	1	2	3	4	5	6	7	8	9	10	very much
10. What do you think was	the m	ain c	ause	of th	e chi	ld's b	ehav	iour?	Plea	ise spe	cify:

11. How would you feel ab	11. How would you feel about the child's behaviour?											
Angry	not at all	1	2	3	4	5	6	7	8	9	10	extremely
Embarrassed / Ashamed	not at all	1	2	3	4	5	6	7	8	9	10	extremely
Pity / Sympathy	not at all	1	2	3	4	5	6	7	8	9	10	extremely
Guilty	not at all	1	2	3	4	5	6	7	8	9	10	extremely
Hopeless	not at all	1	2	3	4	5	6	7	8	9	10	extremely

Scenario B: Your neighbour and her child are in their lounge. They are planning a family outing that day and together they are waiting for the weather forecast on the TV. As the weather comes on, the child begins to make a noise with a toy/game s/he is playing with. Your neighbour asks him/her to be quiet, but s/he ignores her and continues to make the noise.

For	^r each it	em, c	ircle	the n	umbe	r that	best o	descri	ibes y	/our op	inion
1. How much of a problem	n do yo	u fee	l this	beha	aviou	r is?					
not at all	1	2	3	4	5	6	7	8	9	10	very much
2. To what extent was the about other people or the			aviou	r cau	ised I	oy so	meth	ing a	bout	him or	her versus something
something about the child	1	2	3	4	5	6	7	8	9	10	something about other people/the situation
3. To what extent was the	child's	beha	aviou	r cau	sed l	oy so	meth	ing w	ithin	his or	her control?
completely within his or her control	1	2	3	4	5	6	7	8	9	10	not at all within his or her control
4. To what extent was the	child's	beha	aviou	r cau	sed l	oy so	meth	ing w	ithin	their p	parent's control?
completely within parent's control	1	2	3	4	5	6	7	8	9	10	not at all within parent's control
5. To what extent was the something that is likely to							ey did	l, son	nethi	ng tha	t was a one-time thing or
a one-time thing	1	2	3	4	5	6	7	8	9	10	will happen again in the future
6. To what extent was the	child re	espo	nsible	e for	the w	ay in	whic	h s/h	e be	haved	?
not at all responsible	1	2	3	4	5	6	7	8	9	10	very much responsible
7. To what extent was the	parent	resp	onsik	ole fo	r the	child	's be	havio	our?		
not at all responsible	1	2	3	4	5	6	7	8	9	10	very much responsible
8. Was the child to blame	for wha	at s/h	e did	?							
not at all to blame	1	2	3	4	5	6	7	8	9	10	very much to blame
9. Did the child behave th	is way o	on pı	irpos	e?							
not at all	1	2	3	4	5	6	7	8	9	10	very much
10. What do you think was	s the m	ain c	ause	of th	e chi	ld's b	ehav	iour?	Plea	ise spe	ecify:

11. How would you feel ab	out the child	's beha	viour	?								
Angry	not at all	1	2	3	4	5	6	7	8	9	10	extremely
Embarrassed / Ashamed	not at all	1	2	3	4	5	6	7	8	9	10	extremely
Pity / Sympathy	not at all	1	2	3	4	5	6	7	8	9	10	extremely
Guilty	not at all	1	2	3	4	5	6	7	8	9	10	extremely
Hopeless	not at all	1	2	3	4	5	6	7	8	9	10	extremely

Scenario C: Your neighbour's child is getting ready for school. His/her mother notices that his/her hair is not yet brushed. She reminds him/her that his/her hair needs to be brushed before going to school but s/he does not cooperate

For	each i	tem, c	ircle	the n	umbe	r that	best o	descr	ibes y	/our opii	nion
1. How much of a problem	do yo	u fee	l this	beha	aviou	r is?					
not at all	1	2	3	4	5	6	7	8	9	10	very much
2. To what extent was the about other people or the			aviou	r cau	sed l	oy so	methi	ing a	bout	him or	her versus something
something about the child	1	2	3	4	5	6	7	8	9	10	something about other people/the situation
3. To what extent was the	child's	s beha	aviou	r cau	sed l	oy so	methi	ing w	vithin	his or I	ner control?
completely within his or her control	1	2	3	4	5	6	7	8	9	10	not at all within his or her control
4. To what extent was the	child's	s beha	aviou	r cau	sed l	oy so	methi	ing w	vithin	their pa	arent's control?
completely within parent's control	1	2	3	4	5	6	7	8	9	10	not at all within parent's control
5. To what extent was the something that is likely to							ey did	l, son	nethi	ng that	was a one-time thing or
a one-time thing	1	2	3	4	5	6	7	8	9	10	will happen again in the future
6. To what extent was the	child r	espo	nsibl	e for	the w	ay in	whic	h s/h	e be	haved?	
not at all responsible	1	2	3	4	5	6	7	8	9	10	very much responsible
7. To what extent was the	parent	resp	onsil	ole fo	r the	child	's be	havio	our?		
not at all responsible	1	2	3	4	5	6	7	8	9	10	very much responsible
8. Was the child to blame f	or wh	at s/h	e did	?							
not at all to blame	1	2	3	4	5	6	7	8	9	10	very much to blame
9. Did the child behave thi	s way	on pı	urpos	e?							
not at all	1	2	3	4	5	6	7	8	9	10	very much
10. What do you think was	the m	ain c	ause	of th	e chi	ld's b	ehav	iour?	Plea	ise spec	cify:
11. How would you feel ab	out th	e chil	d's h	ehav	iour?						

TT. How would you feel ab	out the child S i	benav	/iour	ſ								
Angry	not at all	1	2	3	4	5	6	7	8	9	10	extremely
Embarrassed / Ashamed	not at all	1	2	3	4	5	6	7	8	9	10	extremely
Pity / Sympathy	not at all	1	2	3	4	5	6	7	8	9	10	extremely
Guilty	not at all	1	2	3	4	5	6	7	8	9	10	extremely
Hopeless	not at all	1	2	3	4	5	6	7	8	9	10	extremely

Thank you for completing this questionnaire!

Appendix B4 CBCL

Child Behaviour Checklist

Below is a list of items that describe children and youths. For each item that describes your child **now or within the past 6 months**, please circle the **2** if the item is **very true or often true** of your child. Circle the **1** if the item is **somewhat or sometimes true** of your child. If the item is **not true** of your child, circle the **0**. The checklist is designed to measure behaviour in all children and therefore covers a range of areas (e.g. self-harm, sexual activity etc.) and therefore some questions may not be appropriate for your child. Please try to answer all items as well as you can, even if some do not seem to apply to your child. Please think of the same child as you did in the previous questionnaire.

0 =	No	t True	e (as fa	ar as you know) 1 = Somewhat	or Som	etim	es Tr	ue	2 = Very True or Often True
0 0	1 1	2 2	1. 2.	Acts too young for his/her age Drinks alcohol without parents' approval (describe):	0 0	1 1	2 2	27. 28.	Easily jealous Breaks rules at home, school, or elsewhere
0	1	2	3. 4.	Argues a lot Fails to finish things he/she starts	0	1	2	29.	Fears certain animals, situations, or places, other than school (describe)
0	1	2	5.	There is very little he/she enjoys	0	1	2	30.	Fears going to school
Ō	1	2	6.	Bowel movements outside toilet	0	1	2	31.	Fears he/she might think or do something bad
0	1	2 2	7.	Bragging, boasting	0	1	2	32.	Feels he/she has to be perfect
0	1	2	8.	Can't concentrate, can't pay attention for long	0	1	2	33.	Feels or complains that no one love him/her
0	1	2	9.	Can't get his/her mind off certain thoughts; obsessions (describe):	0 0	1 1	2 2	34. 35.	Feels others are out to get him/her Feels worthless or inferior
0	1	2	10.	Can't sit still, restless, or hyperactive	0	1 1	2 2	36. 37.	Gets hurt a lot, accident-prone Gets in many fights
0	1 1	2 2	11. 12.	Clings to adults or too dependent Complains of loneliness	0	1 1	2 2	38. 39.	Gets teased a lot Hangs around with others who get i
0 0	1 1	2 2	13. 14.	Confused or seems to be in a fog Cries a lot		-			trouble
0 0	1 1	2 2	15. 16.	Cruel to animals Cruelty, bullying, or meanness to	0	1	2	40.	Hears sounds or voices that aren't there (describe):
				others	0	1	2	41.	Impulsive or acts without thinking
0	1	2	17.	Daydreams or gets lost in his/her thoughts	0	1	2	42.	Would rather be alone than with others
0	1	2	18.	Deliberately harms self or attempts suicide	0	1	2	43.	Lying or cheating
0	1	2	19.	Demands a lot of attention	0	1	2 2	44.	Bites fingernails
0	1	2	20.	Destroys his/her own things	_	-		45.	Nervous, high-strung, or tense
0	1	2	21.	Destroys things belonging to his/her family or others	0	1	2	46.	Nervous movements or twitching (describe):
0	1	2	22.	Disobedient at home					
0	1	2	23.	Disobedient at school	0	1	2	47.	Not liked by other kids
0	1	2	24.	Doesn't eat well	0	1	2	48.	Too tearful or anxious
0	1	2	25.	Doesn't get along with other kids	0	1 1	2 2	49. 50.	Feels too guilty Overeating
0	1	2	26.	Doesn't seem to feel guilty after	_				
				misbehaving	0	1	2	51.	Overweight

Be sure you answered all items. Then see next page

0 D	1 1	2 2	52. 53.	Physically attacks people Picks nose, skin, or other parts of	0	1	2	79.	Strange behaviour (describe):
				body (describe):	0	1	2	80.	Strange ideas (describe):
))	1 1	2 2	54. 55.	Plays with own sex parts in public Plays with own sex parts too much	0 0	1 1	2 2	81. 82.	Stubborn, sullen, or irritable Sudden changes in mood or feelings
)	1 1	2 2	56. 57.	Poor school work Poorly coordinated or clumsy	0 0	1 1	2 2	83. 84.	Sulks a lot Suspicious
)	1 1	2 2	58. 59.	Prefers being with older kids Prefers being with younger kids	0 0	1 1	2 2	85. 86.	Swearing or obscene language Talks about killing self
)	1 1	2 2	60. 61.	Refuses to talk Repeats certain acts over and over;	0	1	2	87.	Talks or walks in sleep (describe):
-	-	_	• • •	compulsions (describe):	0	1	2	88.	Talks too much
)	1	2	62.	Runs away from home	0 0	1 1	2 2	89. 90.	Teases a lot Temper tantrums or hot temper
)	1 1	2 2	63. 64.	Screams a lot Secretive, keeps things to self	0 0	1 1	2 2	91. 92.	Thinks about sex too much Threatens people
)	1	2	65.	Sees things that aren't there (describe):	0 0	1 1	2 2	93. 94.	Thumb-sucking Smokes, chews, or sniffs tobacco
)	1	2	66.	Self-conscious or easily embarrassed	0	1	2	95.	Trouble sleeping (describe):
D	1	2	67.	Sets fires	0	1	2	96.	Truancy, skips school
)	1	2	68.	Sexual problems (describe):	0	1	2	97.	Underactive, slow moving, or lacks energy
D	1	2	69.	Showing off or clowning	0	1	2	98.	Unhappy, sad, or depressed
))	1 1	2 2	70. 71.	Too shy or timid Sleeps less than most kids	0 0	1 1	2 2	99. 100.	Unusually loud Uses drugs for nonmedical purpose (<i>don't</i> include alcohol or tobacco)
D	1	2	72.	Sleeps more than most kids during day and/or night (describe):					(describe):
D	1	2	73.	Inattentive or easily distracted	0 0	1 1	2 2	101. 102.	Vandalism Wets self during the day
)	1	2	74.	Speech problem (describe):	0 0	1 1	2 2	103. 104.	Wets the bed Whining
D	1	2	75.	Stares blankly	0	1	2	104.	0
))	1 1	2 2	76. 77.	Steals at home Steals outside the home	0	1	2	105. 106.	Wishes to be of opposite sex Withdrawn, doesn't get involved wit others
D	1	2	78.	Stores up too many things he/she doesn't need (describe):	0	1	2	107. 108.	Worries Please write in any problems your child has that were not listed above:
					0	1	2		
					0	1 1	2 2		

Please be sure you answered all items.

Appendix B5 PS

Parenting Scale

Instructions: At one time or another, all children misbehave or do things that could be harmful, that are "wrong", or that parents don't like. Examples include:

hitting someone forgetting homework having a tantrum running into the street whining throwing food lying arguing back not picking up toys refusing to go to bed wanting a cookie before dinner coming home late

Parents have many different ways or styles of dealing with these types of problems. Below are items that describe some styles of parenting.

For each item, fill in the circle that best describes your style of parenting during the past two months with <u>the same child as before</u>.

SAMPLE ITEM:

At m	let my child decide how much to eat.	00•000	I decide how much my child eats.
1.	When my child misbehaves I do something right away	000000	I do something about it later
2.	Before I do something about a proble I give my child several reminders or warnings	m 000000	l use only one reminder or warning
3.	When I'm upset or under stress I am picky and on my child's back	000000	I am no more picky than usual
4.	When I tell my child not to do someth I say very little	ing 000000	l say a lot
5.	When my child pesters me I can ignore the pestering	00000	I can't ignore pestering
6.	When my child misbehaves I usually get into a long argument with my child	000000	I don't get into an argument
7.	I threaten to do things that I am sure I can carry out	000000	I know I won't actually do
8.	I am the kind of parent that set limits on what my child is allowed to do	000000	lets my child do whatever he/she wants
9.	When my child misbehaves I give my child a long lecture	00000	I keep my talks short and to the point
10.	When my child misbehaves I raise my voice or yell	000000	I speak to my child calmly
11.	If saying "No" doesn't work right awa I take some other kind of action	y 000000	I keep talking and try to get through to my child
12.	When I want my child to stop doing s I firmly tell my child to stop	omething 000000	I coax or beg my child to stop

13.	When my child is out of my sight I often don't know what my child is doing	000000	I always have a good idea of what my child is doing
14.	After there's been a problem with my I often hold a grudge	child 000000	things get back to normal quickly
15.	When we're not at home I handle my child the way I do at home	00000	I let my child get away with a lot more
16.	When my child does something I don' I do something about it every time it happens	't like 000000	l often let it go
17.	When there is a problem with my child things build up and I do things I don't mean to do	d 000000	things don't get out of hand
18.	When my child misbehaves, I spank, s never or rarely	slap, grab, or hit my child 0000000	most of the time
19.	When my child doesn't do what I ask. I often let it go or end up doing it myself	 000000	I take some other action
20.	When I give a fair threat or warning I often don't carry it out	000000	l always do what I said
21.	If saying "No" doesn't work I take some other kind of action	00000	I offer my child something nice so he/she will behave
22.	When my child misbehaves I handle it without getting upset	000000	I get so frustrated or angry that my child can see I'm upset
23.	When my child misbehaves I make my child tell me why he/she did it	00000	I say "No" or take some other action
24.	If my child misbehaves and then acts I handle the problem like I usually would	sorry 000000	I let it go that time
25.	When my child misbehaves I rarely use bad language or curse	00000	l almost always use bad language
26.	When I say my child can't do somethi I let my child do it anyway	ng 000000	I stick to what I said
27.	When I have to handle a problem I tell my child I'm sorry about it	000000	l don't say l'm sorry
28.	When my child does something I don?	't like, I insult my child, say m	nean things, or call my child
	names never or rarely	00000	most of the time
29.	If my child talks back or complains where the complaining and stick to what I said	nen I handle a problem 000000	l give my child a talk about not complaining
30.	If my child gets upset when I say "No" I back down and give in to my child	" 0000000	I stick to what I said
	- , , ,		

Thank you for completing this questionnaire!

Appendix B6 Demographics

Demographics

Finally, we would like to ask you some questions about your child and about you.

Child's	date of birth:		_ (day/month/year)
Sex of	child:	Boy [] Girl []	
Learnin Autism Down s Fragile	our child have a g Disability yndrome X syndrome al Palsy	ny of the following? [] [] [] [] []	Epilepsy [] ADHD [] Autism Spectrum Disorder [] A specific learning problem [] (please specify)
Please	write down any	other conditions, diag	noses or impairments your child has:
How di	d you first learn	about your child's co	nditions or diagnosis? (e.g. GP, educational psychologist)
severe	•	te your child's develop mild delay typical development	oment in comparison to any typical child of his/her age? [] advanced for age [] []
What ty	ype of school do	es your child attend?	(e.g. mainstream, specialist)
Does y	our child have a	ny brothers or sisters	? If yes, please state gender and ages.
Do you	personally know	w any children or adul	ts who have a learning disability? Yes [] No []
Are you	u the child's:		rer [] her [](please specify)
White	ould you descrit [] sian British []	be your ethnic backgro Black/African/Caribbo Mixed/multiple ethnic	ean/Black British [] Other ethnic group []
What is	s the highest lev	el of education you ha	ve completed?
	narried []	arital status? (please a Currently married Separated	ick only one that is most applicable) [] Divorced [] [] Widowed []
Paid en Self-em Non-pa Studen	nployment iployed id work, such as	volunteer/charity []	Unemployed (health reason) [] Unemployed (other reason) [] Other []
Which Up to:	category would £10.000 [] £15.000 []	best describe your tot £20.000 [] £30.000 []	

This was the final questionnaire. Thank you for completing all the questions!

If you have any worries regarding your child's behaviour, you can contact your GP or the following organisations for information or support:

Parentline Plus

"Parentline Plus is a national charity that works for, and with, parents. Parentline Plus works to offer help and support through an innovative range of free, flexible, responsive services shaped by parents for parents."

Web: http://www.parentlineplus.org.uk/

Telephone: 0808 800 2222 (Number available 24/7 and free from landlines and most mobiles)

Contact a Family

"Contact a Family provides support, advice and information for families with disabled children, no matter what their condition or disability." Web: http://www.cafamily.org.uk E-mail: helpline@cafamily.org.uk Telephone: 0808 808 3555 (Free helpline)

The following charities provide more information on learning disabilities:

ENABLE Scotland

"ENABLE Scotland is a dynamic charity run by its members. We campaign for a better life for children and adults with learning disabilities and support them and their families to live, work and take part in their communities."

Web: http://www.enable.org.uk/

Mencap

"Mencap is the voice of learning disability. Everything we do is about valuing and supporting people with a learning disability, and their families and carers. We work in partnership with people with a learning disability, and all our services support people to live life as they choose."

Web: http://www.mencap.org.uk/

Appendix C Participant Information Sheet Study 1 and Study 3



School of Psychological Sciences and Health University of Strathclyde Graham Hills Building 40 George Street Glasgow G1 1QE

Parent perceptions of child behaviour in parents of children with learning disabilities and typically developing children

Dear parent,

My name is Myrthe Jacobs, I am a doctoral researcher in psychology at the University of Strathclyde and am currently researching for my PhD degree under the supervision of Dr Lisa Woolfson. Our study looks at how parents think about behaviour in their children.

All children misbehave from time to time. This is a normal childhood experience. Some children however experience more of these difficult behaviours than others. We are interested in how parents of children with learning disabilities think about and react to their child's misbehaviour. This will help us understand how individual parents can be supported in dealing with various child behaviours.

We are looking for parents who would like to help us by completing three questionnaires. This will only take about 30 minutes and you can enter our prize draw for a £30 voucher to spend in a shop of your choice. All information will be anonymous. Please note that your child does not need to experience behaviour problems for you to be able to participate. We are looking for any parents who have a child within the ages of 6 and 12.

If you would like to help us, please read through the following pages, sign your consent on the consent form and complete the accompanying questionnaire booklet. Once finished you can take the form and questionnaire booklet back to your child's school where they will be collected. More information on the study can be found on the next pages.

If you have any further questions, please do not hesitate to contact me using the details below.

Yours sincerely,

Myrthe Jacobs

Researcher Contact Details: Email: <u>myrthe.jacobs@strath.ac.uk</u> Tel: 0141 548 4391



School of Psychological Sciences and Health University of Strathclyde Graham Hills Building 40 George Street Glasgow G1 1QE

Parent perceptions of child behaviour in parents of children with learning disabilities and typically developing children

Dear parent,

I am a doctoral researcher at the University of Strathclyde undertaking a study into behaviour problems in children with learning disabilities under the supervision of Dr. Lisa Woolfson. Currently we are looking for parents of children with learning disabilities and also for parents of typically developing children who would like to help us by completing some questionnaires.

What is the purpose of this study?

All children misbehave from time to time. This is a normal childhood experience. Some children however experience more of these difficult behaviours than others. We are interested in how parents think about and react to their child's misbehaviour. This will help us understand how individual parents can be supported in dealing with their child's misbehaviour, in particular parents of children with learning disabilities.

Additionally, as many children with learning disabilities are mainstreamed in regular schools, it is very likely that both parents and their (typically developing) children are in regular contact with children with learning disabilities. Therefore, we are also interested in studying how parents of typically developing children think about the behaviour of children with learning disabilities

Why have I been invited to take part?

We are looking for parents of children with learning disabilities between the ages of six and twelve. For learning disabilities, we mean children whose development, learning, understanding or communication does not match up to their actual age and who also have problems in independent life skills (such as self-care or social skills). For example, these are children who have developmental delays (with or without a known cause), children with genetic syndromes (such as Down syndrome or Fragile X syndrome) or children who have severe brain injuries. Some children with autism or cerebral palsy also have learning disabilities. If you would like to help us with our study, but are unsure if your child fits within this group, please do not hesitate to contact the researcher.

What will I do in the project?

We will ask parents who take part to complete three questionnaires. The first questionnaire will ask you about three described situations of misbehaviour of your child. The second questionnaire will ask you about your child's behaviour in general. The third questionnaire will ask you about how you respond to your child's behaviour in general. We will also ask you to complete some questions regarding background information about you and your child. It should take around 30 minutes to complete.

Together with these questionnaires you have also received a form to provide us with your contact details if you wish to receive feedback on the study's results and/or if you wish to enter our prize draw. Feedback will consist of a brief summary with the results of the overall study. The prize draw is for a £30 voucher to spend in a high street shop of your choice.

Do I have to take part?

No, it is up to you if you want to take part. If you decide to take part in the study, but change your mind, you can withdraw at any time without giving a reason and your information will be destroyed. However, if you change your mind after you have sent us your questionnaires, we will be unable to find them, as they won't have your name on them.

What happens to the information in the project?

All your answers and information will be anonymous. You won't put your name on any of the questionnaires. Your name will only appear on the consent form and both your name and contact details on the feedback/prize draw form. However, these forms will be separated from your questionnaires when we receive them and will also be stored separately. The forms containing contact details will be destroyed after sending out feedback.

The University of Strathclyde is registered with the Information Commissioner's Office who implements the Data Protection Act 1998. All personal data on participants will be processed in accordance with the provisions of the Data Protection Act 1998.

What happens next?

If you are happy to be involved in the study, we would like to ask you to sign the consent form to confirm this. Next you can complete the questionnaires and other forms and bring them all back to your child's school in the provided envelope. If you do not wish to be involved in the project, we would like to thank you for your attention.

After we have received your questionnaires, the data will be entered anonymously on a computer. The answers of all parents on the questionnaires will be grouped and no reference will be made to individual data. Data will be written up in the researcher's doctoral thesis and will be presented at conferences and published in peer reviewed journals. After the investigation is complete, you will receive feedback if you wished to receive this.

This investigation was granted ethical approval by the School of Psychological Sciences and Health ethics committee. If you have any questions/concerns, during or after the investigation, or wish to contact an independent person to whom any questions may be directed or further information may be sought from, please contact the chair of the ethics committee:

Dr Susan Rasmussen School of Psychological Sciences and Health University of Strathclyde Graham Hills Building 40 George Street Glasgow G1 1QE Email: <u>s.a.rasmussen@strath.ac.uk</u> Phone: 0141 548 2575

For any questions regarding the study, please contact me, Myrthe Jacobs, or alternatively Dr. Lisa Woolfson by e-mail or phone. Thank you for your attention.

Yours sincerely,

Myrthe Jacobs

Researcher Contact Details:

Email: <u>myrthe.jacobs@strath.ac.uk</u> Tel: 0141 548 4391 Chief Investigator Details: Dr. Lisa Woolfson

Email: <u>lisa.woolfson@strath.ac.uk</u> Tel: 0141 548 2580



School of Psychological Sciences and Health

Parent perceptions of child behaviour in parents of children with learning disabilities and typically developing children.

Consent Form

- I confirm that I have read and understood the information sheet for the above project and the researcher has answered any queries to my satisfaction.
- I understand that my participation is voluntary and that I am free to withdraw from the project at any time, without having to give a reason and without any consequences.
- I understand that any information recorded in the investigation will remain confidential and no information that identifies me will be made publicly available.
- I consent to being a participant in the project

1	(PRINT NAME)	Hereby agree to take part in the above project
Signature of Participant:		Date

Appendix E Participant Information Sheet Study 2



School of Psychological Sciences and Health University of Strathclyde Graham Hills Building 40 George Street Glasgow G1 1QE

Parent perceptions of child behaviour in parents of children with learning disabilities

Dear parent,

My name is Myrthe Jacobs, I am a doctoral researcher in psychology at the University of Strathclyde and am currently researching for my PhD degree under the supervision of Prof. Lisa Woolfson. Our study looks at how parents think about behaviour in their children.

All children misbehave from time to time. This is a normal childhood experience. Some children however have more of these difficult behaviours than others. We are interested in how parents think about and react to their child's misbehaviour. This will help us understand how individual parents can be supported in dealing with various child behaviours.

We are looking for parents who would like to help us by taking part in an individual interview at your child's school. This will only take half an hour and we offer all participating parents a £5 M&S voucher as a token of our appreciation for your help. All information will be anonymous. The interview will involve going over a number of scenarios and talking about your child's behaviour.

Please note that your child does not need to experience behaviour problems for you to be able to participate. We are looking for any parents who have a child within the ages of 6 and 12.

If you would like to help us, please contact me by email or phone using the details below, to make an appointment or for any questions you might have. Alternatively, you can get in touch with your child's school. More detailed information on the study can be found on the next pages.

Yours sincerely,

Myrthe Jacobs

Contact Details:

Email: <u>myrthe.jacobs@strath.ac.uk</u> Tel: 0141 548 4391



School of Psychological Sciences and Health University of Strathclyde Graham Hills Building 40 George Street Glasgow G1 1QE

Parent perceptions of child behaviour in parents of children with learning disabilities

Dear parent,

I am a doctoral researcher at the University of Strathclyde undertaking a study into behaviour problems in children with learning disabilities under the supervision of Prof. Lisa Woolfson. Currently we are looking for parents of children with learning disabilities and also for parents of typically developing children who would like to help us by being interviewed.

What is the purpose of this study?

All children misbehave from time to time. This is a normal childhood experience. Some children however have more of these difficult behaviours than others. We are interested in how parents think about and react to their child's misbehaviour. This will help us understand how individual parents can be supported in dealing with their child's misbehaviour, in particular parents of children with learning disabilities.

Why have I been invited to take part?

We are currently inviting parents to take part in interviews for our study. We are looking for parents of children with learning disabilities aged 6 to 12 years. For learning disabilities, we mean children whose development, learning, understanding and communication does not match up to their actual age and who also have problems in independent life skills (such as self-care or social skills). For example, these are children who have developmental delays (with or without a known cause), children with genetic syndromes (such as Down syndrome or Fragile X syndrome) or children who have severe brain injuries. Some children with autism or cerebral palsy also have learning disabilities. If you would like to help us with our study, but are unsure if your child fits within this group, please do not hesitate to contact the researcher.

What will I do in the project?

We will ask parents who take part in the interview to give their opinion on a number of written scenarios describing a situation between a parent and child and will ask how you view the behaviour of the child in the scenario. We would also like to ask how you think about your own child's behaviour. Finally, we will ask you to complete some questions regarding background information about you and your child.

The interview will take half an hour and can be conducted at your child's school or at the University of Strathclyde in Glasgow. Interviews will be recorded only if you agree with this. If you wish, we can send you a brief summary with the results of the interview-study once completed. We also offer all participating parents a £5 M&S voucher as a token of our appreciation for your help

Do I have to take part?

No, it is up to you if you want to take part. If you decide to take part in the study, but change your mind, you can withdraw at any time without giving a reason and your information will be destroyed. However, if you change your mind more than one week after the interview, we will be unable to find your data, as it will be made anonymous and won't contain your name.

What happens to the information in the project?

All your answers and information will be anonymous. Your name will only appear on the consent form and both your name and contact details on the feedback form. However, these forms will be stored separately from your interview data. The forms containing contact details will be destroyed after sending out feedback.

The University of Strathclyde is registered with the Information Commissioner's Office who implements the Data Protection Act 1998. All personal data on participants will be processed in accordance with the provisions of the Data Protection Act 1998.

What happens next?

If you are happy to be involved in the interview-study, we would like to ask you to contact your child's teacher who can pass your contact details to us so we can contact you to make an appointment. You can also phone or email us directly (details below) with any questions or to make an appointment for the interview.

After we have conducted the interview, your information will be entered anonymously on a computer. The information from the interviews of all parents will be grouped and no reference will be made to individuals. Data will be written up in the researcher's doctoral thesis and will be presented at conferences and published in peer reviewed journals.

This investigation was granted ethical approval by the School of Psychological Sciences and Health ethics committee. If you have any questions/concerns, during or after the investigation, or wish to contact an independent person to whom any questions may be directed or further information may be sought from, please contact the chair of the ethics committee:

Dr Susan Rasmussen School of Psychological Sciences and Health University of Strathclyde Graham Hills Building 40 George Street Glasgow G1 1QE Email: <u>s.a.rasmussen@strath.ac.uk</u> Phone: 0141 548 2575

For any questions regarding the study, please contact me, Myrthe Jacobs, or alternatively Prof. Lisa Woolfson by e-mail or phone. Thank you for your attention.

Yours sincerely,

Myrthe Jacobs

Researcher Contact Details: Myrthe Jacobs

University of Strathclyde School of Psychological Sciences and Health Email: <u>myrthe.jacobs@strath.ac.uk</u> Tel: 0141 548 4391

Chief Investigator Details: Prof. Lisa Woolfson

University of Strathclyde School of Psychological Sciences and Health Email: <u>lisa.woolfson@strath.ac.uk</u> Tel: 0141 548 2580

Appendix F Interview Topic Guide Study 2

Questions following scenarios

Can you see that happen between yourself and your child? Ever happened?

What do you think would cause this?

Child control? Parent control?

Would this happen again? In future?

What would happen next? What would you do? How would you react? How would you feel?

Description of behaviour

Can you recognise the behaviour of the child in the scenarios? Is it something your child would likely do?

Are there any behaviours that you consider problematic in your child? Are there any behaviours your child has that you worry about or that you find difficult to handle? Can you give an example?

Beliefs about causes (locus)

Some people have ideas about what causes behaviour problems – do you have any thoughts about that regarding your child?

Have you noticed anything that can trigger these behaviours?

How do others in the family view the behaviour problems?

Why do you think this particular cause is most important in this situation?

What could be other causes influencing your child's behaviour here?

Attributions (control)

Do you think your child is in control over this kind of behaviour? Why?

What would you say about your own control over your child's behaviour?

Thoughts about the future (stability)

How do you think these behaviours will progress over time?

How do you view these behaviours in a few years time?

What are your thoughts on these behaviours in a couple of years from now?

What do you think about the presence of the causes in a few years from now?

Consequences

How do you think these problems impact your child? You? The family?

Reactions to behaviour problems

How do you react to your child's behaviour problems?

How does it make you feel?

What do you do when your child acts like this in real life?

Coping

How do you cope with your child's behaviour? How does that make you feel? How does that influence your behaviour?

Relations between factors:

How do your reactions influence your child you think?

You said you see the behaviour (mainly) caused by (or by a mix of factors). Do you think you would react to your child's behaviour differently if they were (if you saw them as) caused by something else – by different factors?



School of Psychological Sciences and Health

Parent perceptions of child behaviour in parents of children with learning disabilities and typically developing children.

Consent Form

- I confirm that I have read and understood the information sheet for the above project and the researcher has answered any queries to my satisfaction.
- I understand that my participation is voluntary and that I am free to withdraw from the project at any time, without having to give a reason and without any consequences.
- I understand that any information recorded in the investigation will remain confidential and no information that identifies me will be made publicly available.
- I consent to being a participant in the project
- I consent to being audio recorded as part of the project: Yes/ No

1	(PRINT NAME)	Hereby agree to take part in the above project
Signature of Participant:		Date



School of Psychological Sciences and Health University of Strathclyde Graham Hills Building 40 George Street Glasgow G1 1QE

Debriefing Sheet

Parent perceptions of child behaviour in parents of children with learning disabilities and typically developing children

Dear parent,

Thank you for taking part in the interview!

The aim of the study is to examine how parents view the behaviour of their child. This pilot interview is part of a larger study that aims to investigate how parents think about and react to their child's misbehaviour. This will help us understand how individual parents can be supported in dealing with their child's misbehaviour, in particular parents of children with learning disabilities.

All recordings and questionnaires you have completed today are anonymous and will be stored safely. If you would like to withdraw your data from the study, please let us know within a week after the interview has been conducted. After this week, all data will have been made completely anonymous, so we won't be able to find your interview. If you have opted to receive some information on the outcomes of the study, you can expect to receive this by email in April 2012.

In case you wish to express concern about the study, you can contact Dr. Susan Rasmussen, the contact the chair of the ethics committee (details below).

If you have any further questions or would like more information, please do not hesitate to contact me, or alternatively my supervisor, Dr. Lisa Woolfson. Thanks again for your help!

Yours sincerely,

Myrthe Jacobs

Researcher Contact Details: Myrthe Jacobs <u>myrthe.jacobs@strath.ac.uk</u> Tel: 0141 548 4391 Chief Investigator Details: Dr. Lisa Woolfson lisa.woolfson@strath.ac.uk Tel: 0141 548 2580 Chair of the Ethics Committee Dr. Susan Rasmussen <u>s.a.rasmussen@strath.ac.uk</u> Tel: 0141 548 2575 If you have any worries regarding your child's behaviour, you can contact your GP or the following organisations for information or support:

Parentline Plus

"Parentline Plus is a national charity that works for, and with, parents. Parentline Plus works to offer help and support through an innovative range of free, flexible, responsive services shaped by parents for parents."

Web: http://www.parentlineplus.org.uk/

Telephone: 0808 800 2222 (Number available 24/7 and free from landlines and most mobiles)

Contact a Family

"Contact a Family provides support, advice and information for families with disabled children, no matter what their condition or disability." Web: http://www.cafamily.org.uk E-mail: helpline@cafamily.org.uk Telephone: 0808 808 3555 (Free helpline)

The following charities provide more information on learning disabilities:

ENABLE Scotland

"ENABLE Scotland is a dynamic charity run by its members. We campaign for a better life for children and adults with learning disabilities and support them and their families to live, work and take part in their communities."

Web: http://www.enable.org.uk/

Mencap

"Mencap is the voice of learning disability. Everything we do is about valuing and supporting people with a learning disability, and their families and carers. We work in partnership with people with a learning disability, and all our services support people to live life as they choose."

Web: http://www.mencap.org.uk/

Appendix I Questionnaire Booklet Study 4

Questionnaire Booklet

Parent perceptions of causes of challenging behaviour in children with learning disabilities

Thank you for helping us with our study. In this booklet you will find three questionnaires and a demographic sheet. Each questionnaire has some short instructions that we would like you to read carefully. If you have any questions, please do not hesitate to contact us.

Researcher Contact Details: Myrthe Jacobs School of Psychological Sciences and Health Email: <u>myrthe.jacobs@strath.ac.uk</u> Tel: 0141 548 4391

Chief Investigator Details:

Prof. Lisa Woolfson School of Psychological Sciences and Health Email: <u>lisa.woolfson@strath.ac.uk</u> Tel: 0141 548 2580

Appendix I1 PCS

Parent Cognition Scale

Instructions: At one time or another, all children misbehave or do things that could be harmful, that are wrong, or that parents don't like. Examples include:

hitting someone	whining	not cleaning room	not doing homework
lying	refusing to go to bed	arguing back	taking things that aren't theirs
having a tantrum	cursing	coming home late	running into the street

Parents have many different ways of thinking about these types of problems, and may think differently about problems depending on their specific children.

Please rate how much you would agree, in general, that the following <u>reasons</u> for misbehaviour are true for your child and his/her behaviour for the <u>past two months</u>:

		Always True	Frequently True	Sometimes True	Occasionally True	Rarely True	Never True
1.	I was not as firm as I usually am.	1	2	3	4	5	6
2.	My child won't listen.	1	2	3	4	5	6
3.	I'm not structured enough with my child.	1	2	3	4	5	6
4.	My child cannot understand the rules.	1	2	3	4	5	6
5.	My child thinks that he/she is the boss.	1	2	3	4	5	6
6.	I don't know how to handle my child.	1	2	3	4	5	6
7.	I don't give my child enough attention.	1	2	3	4	5	6
8.	My child is headstrong.	1	2	3	4	5	6
9.	It's hard for me to set limits.	1	2	3	4	5	6
10.	My child is in a stage.	1	2	3	4	5	6
11.	My child wants what he/she wants when he/she wants it.	1	2	3	4	5	6
12.	I was tired at the time.	1	2	3	4	5	6
13.	I handle my child in a non-confident way.	1	2	3	4	5	6
14.	My child purposely tries to get me angry.	1	2	3	4	5	6
15.	My child feels like there is no time for him/her.	1	2	3	4	5	6
16.	I'm not patient.	1	2	3	4	5	6
17.	My child tries to get my goat or push my buttons.	1	2	3	4	5	6
18.	My child wants things his/her way.	1	2	3	4	5	6
19.	It's difficult for my child to do what I want.	1	2	3	4	5	6
20.	I can't control my child.	1	2	3	4	5	6
21.	I couldn't respond quickly enough at the time.	1	2	3	4	5	6
22.	I'm not able to be clear.	1	2	3	4	5	6
23.	My child is very demanding.	1	2	3	4	5	6
24.	I handled things in an unusual way.	1	2	3	4	5	6
25.	My child likes to see how far he/she can push me.	1	2	3	4	5	6
26.	I was busy with something at the time.	1	2	3	4	5	6
27.	I don't do the right thing.	1	2	3	4	5	6
28.	My child tires easily.	1	2	3	4	5	6
29.	I have a hard time really listening to my child.	1	2	3	4	5	6
30.	My child refuses to do what I think he/she should do.	1	2	3	4	5	6

Thank you for completing this questionnaire!

Appendix I2 PS

Parenting Scale

Instructions: At one time or another, all children misbehave or do things that could be harmful, that are "wrong", or that parents don't like. Examples include:

hitting someone forgetting homework having a tantrum running into the street whining throwing food lying arguing back not picking up toys refusing to go to bed wanting a cookie before dinner coming home late

Parents have many different ways or styles of dealing with these types of problems. Below are items that describe some styles of parenting.

For each item, fill in the circle that best describes your style of parenting during the past two months with <u>the same child as before</u>.

SAMPLE ITEM:

At m	eal time I let my child decide how much to eat.	00 •000	I decide how much my child eats.
1.	When my child misbehaves I do something right away	00000	I do something about it later
2.	Before I do something about a proble I give my child several reminders or warnings	m 000000	l use only one reminder or warning
3.	When I'm upset or under stress I am picky and on my child's back	000000	I am no more picky than usual
4.	When I tell my child not to do someth I say very little	ing 000000	I say a lot
5.	When my child pesters me I can ignore the pestering	00000	I can't ignore pestering
6.	When my child misbehaves I usually get into a long argument with my child	000000	I don't get into an argument
7.	I threaten to do things that I am sure I can carry out	000000	I know I won't actually do
8.	I am the kind of parent that set limits on what my child is allowed to do	000000	lets my child do whatever he/she wants
9.	When my child misbehaves I give my child a long lecture	000000	I keep my talks short and to the point
10.	When my child misbehaves I raise my voice or yell	000000	I speak to my child calmly
11.	If saying "No" doesn't work right awa I take some other kind of action	ıy 000000	I keep talking and try to get through to my child
12.	When I want my child to stop doing s I firmly tell my child to stop	omething 000000	I coax or beg my child to stop

13.	When my child is out of my sight I often don't know what my child is doing	00000	I always have a good idea of what my child is doing
14.	After there's been a problem with my I often hold a grudge	child 000000	things get back to normal quickly
15.	When we're not at home I handle my child the way I do at home	00000	I let my child get away with a lot more
16.	When my child does something I don' I do something about it every time it happens	't like 000000	l often let it go
17.	When there is a problem with my child things build up and I do things I don't mean to do	d 000000	things don't get out of hand
18.	When my child misbehaves, I spank, s never or rarely	slap, grab, or hit my child 0000000	most of the time
19.	When my child doesn't do what I ask. I often let it go or end up doing it myself	 000000	I take some other action
20.	When I give a fair threat or warning I often don't carry it out	00000	l always do what I said
21.	If saying "No" doesn't work I take some other kind of action	00000	l offer my child something nice so he/she will behave
22.	When my child misbehaves I handle it without getting upset	000000	I get so frustrated or angry that my child can see I'm upset
23.	When my child misbehaves I make my child tell me why he/she did it	000000	I say "No" or take some other action
24.	If my child misbehaves and then acts I handle the problem like I usually would	sorry 000000	I let it go that time
25.	When my child misbehaves I rarely use bad language or curse	00000	l almost always use bad language
26.	When I say my child can't do somethi I let my child do it anyway	ng 000000	I stick to what I said
27.	When I have to handle a problem I tell my child I'm sorry about it	000000	l don't say l'm sorry
28.	When my child does something I don'	't like, I insult my child, say m	nean things, or call my child
	names never or rarely	00000	most of the time
29.	If my child talks back or complains will l ignore the complaining and stick to what I said	hen I handle a problem 000000	l give my child a talk about not complaining
30.	If my child gets upset when I say "No" I back down and give in to my child	" 0000000	I stick to what I said

Thank you for completing this questionnaire!

Appendix I3 NCBRF

Nisonger Child Behavior Rating Form

For each item that describes your child's behaviour as it was over the last month, circle the:

- 0.... if the behaviour **did not** occur or **was not a problem**
- 1.... if the behaviour occurred occasionally or was a mild problem
- 2.... if the behaviour occurred quite often or was a moderate problem
- 3.... if the behaviour occurred **a lot** or was a **severe problem**

For each problem that occurred, circle only the score that best describes the behaviour.

SE DO NOT SKIP ANY QUESTIONS. IF YOU DO NOT KNOW THE ANSWER OR HAVE NOT HAD A CHANCE TO
RVE THE CHILD FOR A GIVEN TIME, CIRCLE THE ZERO.

RVE THE CHILD FOR A GIVEN TIME		NUL	E I		ZE,						
Apathetic or unmotivated	0	1	2	3		34.	Overly anxious to please others	0	1	2	3
Argues with parents, teachers, or						35.	Overly excited, exuberant	0	1	2	3
other adults	0	1	2	3		36.	Physically attacks people	0	1	2	3
Clings to adults, too dependent	0	1	2	3		37.	Refuses to talk	0	1	2	3
Cruelty or meanness to others	0	1	2	3		38.	Repeats the same sound, word, or				
Crying, tearful episodes	0	1	2	3			phrase over and over	0	1	2	3
Hits or slaps own head, neck, hands,						39.	Restless, high energy level	0	1	2	3
or other body parts	0	1	2	3		40.	Runs away from adults, teachers, or				
Defiant, challenges adult authority	0	1	2	3			other authority figures	0	1	2	3
Knowingly destroys property	0	1	2	3		41.	Says no one likes him/her	0	1	2	3
Difficulty concentrating	0	1	2	3		42.	Secretive, keeps things to self	0	1	2	3
Disobedient	0	1	2	3		43.	Repeatedly bites self hard enough to				
Rocks body or head back and forth							leave tooth marks or break skin	0	1	2	3
repetitively	0	1	2	3		44.	Self-conscious or easily embarrassed	0	1	2	3
Doesn't feel guilty after misbehaving	0	1	2	3		45.	Shifts rapidly from topic to topic				
Easily distracted	0	1	2	3			when talking	0	1	2	3
Easily frustrated	0	1	2	3		46.	Short attention span	0	1	2	3
Overly sensitive; feelings easily hurt	0	1	2	3		47.	Shy or timid behaviour	0	1	2	3
Exaggerates abilities or achievements	0	1	2	3		48.	Steals	0	1	2	3
Explosive, easily angered	0	1	2	3		49.	Odd repetitive behaviors (e.g., stares,				
Has rituals such as head rolling or							grimaces, rigid postures)	0	1	2	3
floor pacing	0	1	2	3		50.	Stubborn, has to do things own way	0	1	2	3
Fails to finish things he/she starts	0	1	2	3		51.	Sudden changes in mood	0	1	2	3
Feelings easily hurt	0	1	2	3		52.	Sulks, is silent and moody	0	1	2	3
Feels others are against him/her	0	1	2	3		53.	Physically harms or hurts self on				
Harms self by scratching skin or							purpose	0	1	2	3
pulling hair	0	1	2	3		54.	Talks back to teacher, parents, or				
Feels worthless or inferior	0	1	2	3			other adults	0	1	2	3
Fidgets, wiggles, or squirms	0	1	2	3		55.	Talks too much or too loud	0	1	2	3
Shy around others; bashful	0	1	2	3		56.	Temper tantrums	0	1	2	3
Gets in physical fights	0	1	2	3		57.	Threatens people	0	1	2	3
[rritable	0	1	2	3		58.	Threatens to harm self	0	1	2	3
Repeatedly flaps or waves hands, fingers						59.	Engages in meaningless, repetitive				
or objects (such as pieces of string)	0	1	2	3			body movements	0	1	2	3
solates self from others	0	1	2	3		60.	Too fearful or anxious	0	1	2	3
Lying or cheating	0	1	2	3		61.	Underactive, slow	0	1	2	3
Nervous or tense	0	1	2	3		62.	Unhappy or sad	0	1	2	3
Gouges self, puts things in ears, nose,						63.	Violates rules	Ő	1	2	3
etc., or eats inedible things	0	1	2	3		64.	Withdrawn, uninvolved with others	0	1	2	3
Overactive, doesn't sit still	Õ	1	2	3		65.	Worrying	Ő	1	2	3
,		-	-	-		66.	Argues with other children or peers	õ	1	2	3

Thank you for completing this questionnaire!

Appendix I4 Demographics

Demographics

Finally, we would like to ask you some questions about your child and about you.

1. What is your child's c	? _	(day/month/year)										
2. Is your child a boy or	E	Boy[]	Girl []								
3. Does your child have any of the following? Learning Disability [] Autism [] Down syndrome [] Fragile X syndrome [] A specific							sy []					
4. Please write down an	y other con	ditions,	diagn	oses	or im	pairm	ents	you	r child ha	IS:		
5. How did you first lear	n about you	ur child's	s conc	ditions	s or c	liagno	sis?	9 (e.g.	. GP, edu	cational p	psycholog	gist)
6. On a scale of 1 to 10,	how challer	nging do	o you t	think	your	child'	s be	havio	our is?			
not at all challenging	1	23	4	5	6	7	8	9	10	ver	y challen	ging
7. How would you estim	ate your ch	ild's dev	/elopn	nent i	n cor	nparis	son t	o any	y typical	child of	his/her a	ge?
no delay	1	23	4	5	6	7	8	9	10		severe d	elay
 8. What type of school c 9. Does your child have 	-			-								
10. Are you the child's:	Mother [Father [-	Carer Other		pleas	se spe	cify)					
11. What is your age? _												
12. How would you dest White [] Asian/Asian British []	cribe your e Black/Afric Mixed/mul	an/Carib	bean/l	Black		h	[[Other e	thnic gro	oup	[]
13. What is the highest	evel of edu	cation y	ou ha	ve coi	mple	ted? _						
14. What is your current Never married [] Cohabiting []	marital sta Currently r Separated	married	ease ti	ick onl [] []	-	e <i>that i</i> Divorc Widov	ed	st ap	plicable) [] []			
15. What is your current Paid employment Self-employed Non-paid work, such as v Student Keeping house/house-ma	olunteer/cha	arity [[se sele]]]]]	ect the	-	Retire Unem Unem Other	d ploye ploye	ed (he	ealth reas her reaso y)		[] [] [] []	
16. Which category wou Up to: £10.000 [] £15.000 []	£	cribe yo 20.000 [30.000 []	al ann		touse £45.00 £60.00	00			e housir [] []	ng cost?	

This was the final questionnaire. Thank you for completing all the questions!

Appendix I5 Participant Debriefing Sheet Study 4

- Please detach and keep this page -

Dear parent,

Thank you for taking part in the study and completing the questionnaires!

The aim of the study is to examine how parents of children with learning disabilities think about the causes of their child's behaviour. It has been predicted that parents who view their child or themselves as in control over or responsible for misbehaviour respond differently towards misbehaviour than those who do not. These parent responses, in turn, will affect the child's behaviour. Examining these thoughts and relationships will help us understand how individual parents can be supported in dealing with their child's misbehaviour.

All questionnaires you have completed today are anonymous and will be stored safely. If you would like to withdraw your data from the study, please let us know within one week after bringing your questionnaire back to the school. After this time, all data will have been made completely anonymous, so we won't be able to find your questionnaires.

If you have any worries regarding your child's behaviour after completing these questionnaires, please contact your GP, Parentline Plus or Contact a Family (contact details below). The chair of the School of Psychological Sciences and Health ethics committee can be contacted as an independent source of information on the study and to express concern about the study (details below). For any further questions on the study or if would like more information, please do not hesitate to contact me.

Yours sincerely,

Myrthe Jacobs

Researcher Contact DetailsChief InMyrthe JacobsProf LisaSchool of PsychologicalSchool ofSciences and HealthSciencesUniversity of StrathclydeUniversitGraham Hills BuildingGraham40 George Street40 GeorgGlasgow G1 1QEGlasgow

<u>myrthe.jacobs@strath.ac.uk</u> Phone: 0141 548 4391

Chief Investigator Details

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Chair Ethics Committee

Dr Susan Rasmussen School of Psychological Sciences and Health University of Strathclyde Graham Hills Building 40 George Street Glasgow G1 1QE <u>s.a.rasmussen@strath.ac.uk</u> Phone: 0141 548 2575

"Parentline Plus is a national charity that works for, and with, parents. Parentline Plus works to offer help and support through an innovative range of free, flexible, responsive services - shaped by parents for parents."

Web: http://www.parentlineplus.org.uk/ Telephone: 0808 800 2222 (Number available 24/7 and free from landlines and most mobiles) Contact a Family

"Contact a Family provides support, advice and information for families with disabled children, no matter what their condition or disability."

Web: http://www.cafamily.org.uk

E-mail: helpline@cafamily.org.uk

Telephone: 0808 808 3555 (Free helpline)

The following charities provide information on learning disabilities: ✓ ENABLE Scotland

Appendix J Participant Information Sheet Study 4

School of Psychological Sciences and Health

Parent perceptions of causes of misbehaviour in children with learning disabilities

Dear parent,

My name is Myrthe Jacobs, I am a doctoral researcher in psychology at the University of Strathclyde and am currently researching for my PhD degree under the supervision of Prof Lisa Woolfson. Our study looks at how parents think about behaviour in their children.

All children misbehave from time to time. This is a normal childhood experience. Some children however experience more of these difficult behaviours than others. We are interested in how parents of children with learning disabilities think about and react to their child's misbehaviour. This will help us understand how individual parents can be supported in dealing with various child behaviours.

We are looking for parents who would like to help us by completing three questionnaires. This will take about 15 minutes and all information will be anonymous. Please note that your child does not need to experience behaviour problems for you to be able to participate. We are looking for any parents who have a child with a learning disability within the ages of 6 and 12. If you wish, you will be included in our prize draw, which will give you a chance to win one of 35 £5 M&S vouchers or one £15 M&S voucher!

If you would like to help us, please read through the following pages, sign your consent on the consent form and complete the accompanying questionnaire booklet. Once finished you can take the form and questionnaire booklet back to your child's school where they will be collected. More information on the study can be found on the next pages. Your child's school has given us approval to contact parents and this investigation was granted ethical approval by the School of Psychological Sciences and Health ethics committee. The chair of the ethics committee can be contacted as an independent source of information on the study (details below).

If you have any further questions, please do not hesitate to contact me using the details below.

Yours sincerely,

Myrthe Jacobs

Researcher Contact Details

Myrthe Jacobs School of Psychological Sciences and Health University of Strathclyde Graham Hills Building 40 George Street Glasgow G1 1QE Email: <u>myrthe.jacobs@strath.ac.uk</u> Phone: 0141 548 4391

Chief Investigator Details

Prof Lisa Woolfson School of Psychological Sciences and Health University of Strathclyde Graham Hills Building 40 George Street Glasgow G1 1QE Email: <u>lisa.woolfson@strath.ac.uk</u> Phone: 0141 548 2580

Chair Ethics Committee

Dr Susan Rasmussen School of Psychological Sciences and Health University of Strathclyde Graham Hills Building 40 George Street Glasgow G1 1QE Email: <u>s.a.rasmussen@strath.ac.uk</u> Phone: 0141 548 2575

Participant Information Sheet

School of Psychological Sciences and Health

Parent perceptions of causes of misbehaviour in children with learning disabilities

Introduction

My name is Myrthe Jacobs and I am a doctoral researcher at the University of Strathclyde undertaking a study into behaviour problems in children with learning disabilities under the supervision of Prof. Lisa Woolfson. If you have any questions regarding this study, please contact me by email (<u>myrthe.jacobs@strath.ac.uk</u>) or phone (0141 548 4391).

What is the purpose of this investigation?

All children misbehave from time to time. This is a normal childhood experience. Some children however experience more of these difficult behaviours than others. We are interested in how parents think about and react to their child's misbehaviour. This will help us understand how individual parents can be supported in dealing with their child's misbehaviour, in particular parents of children with learning disabilities.

Do you have to take part?

It is up to you if you want to take part. If you decide to take part in the study, but change your mind, you can withdraw without giving a reason, but only for one week after the school has received your completed questionnaire. After this time, we will have received and anonymised your data and will not be able to find your questionnaire. Deciding not to participate or withdrawing your participation will not affect you in any way.

What will you do in the project?

Parents who take part will be asked to complete three questionnaires. The first questionnaire will ask you about different causes for your child's behaviour. The second questionnaire will ask you about how you respond to your child's behaviour in general. The final questionnaire asks you about your child's actual behaviour. We will also ask you to complete some questions regarding background information about you and your child. It should take around 15 minutes to complete. Together with these questionnaires you have also received a form to provide us with your contact details if you wish to receive feedback on the study's results. Feedback will consist of a brief summary with the results of the overall study. If you wish, you will be included in our prize draw, which will give you a chance to win one of 35 £5 M&S vouchers or one £15 M&S voucher.

Why have you been invited to take part?

We are looking for parents of children with learning disabilities between the ages of six and twelve. For learning disabilities, we mean children whose development, learning, understanding or communication does not match up to their actual age and who also have problems in independent life skills (such as self-care or social skills). For example, these are children who have developmental delays (with or without a known cause), children with genetic syndromes (such as Down syndrome or Fragile X syndrome) or children who have severe brain injuries. Some children with autism or cerebral palsy also have learning disabilities. If you would like to help us with our study, but are unsure if your child fits within this group, please do not hesitate to contact the researcher.

What happens to the information in the project?

All your answers and information will be anonymous. You won't put your name on any of the questionnaires. Your name will only appear on the consent form and both your name and contact details on the feedback/voucher form. However, these forms will be separated from your questionnaires when we receive them and will also be

stored separately. The forms containing contact details will be destroyed after sending out feedback and the vouchers to winners.

The University of Strathclyde is registered with the Information Commissioner's Office who implements the Data Protection Act 1998. All personal data on participants will be processed in accordance with the provisions of the Data Protection Act 1998.

Thank you for reading this information - please ask any questions if you are unsure about what is written here.

What happens next?

If you are happy to be involved in the study, we would like to ask you to sign the consent form to confirm this. Next you can complete the questionnaires and bring them all back to your child's school in the provided envelope. If you do not wish to be involved in the project, we would like to thank you for your attention.

After we have received your questionnaires, the data will be entered anonymously on a computer. The answers of all parents on the questionnaires will be grouped and no reference will be made to individual data. Data will be written up in the researcher's doctoral thesis and will be presented at conferences and published in peer reviewed journals. After the investigation is complete, you will receive feedback if you wished to receive this.

Researcher Contact Details:

Myrthe Jacobs School of Psychological Sciences and Health, University of Strathclyde Graham Hills Building, 40 George Street, Glasgow G1 1QE Email: <u>myrthe.jacobs@strath.ac.uk</u> Phone: 0141 548 4391

Chief Investigator Details:

Prof Lisa Woolfson School of Psychological Sciences and Health, University of Strathclyde Graham Hills Building, 40 George Street, Glasgow G1 1QE Email: <u>lisa.woolfson@strath.ac.uk</u> Phone: 0141 548 2580

This investigation was granted ethical approval by the School of Psychological Sciences and Health ethics committee.

If you have any questions/concerns, during or after the investigation, or wish to contact an independent person to whom any questions may be directed or further information may be sought from, please contact:

Dr Susan Rasmussen School of Psychological Sciences and Health, University of Strathclyde Graham Hills Building, 40 George Street, Glasgow G1 1QE Email: <u>s.a.rasmussen@strath.ac.uk</u> Phone: 0141 548 2575

Consent Form

School of Psychological Sciences and Health Parent perceptions of causes of challenging behaviour in children with learning disabilities

- I confirm that I have read and understood the information sheet for the above project and the researcher has answered any queries to my satisfaction.
- I understand that my participation is voluntary and that I am free to withdraw from the project at any time, without having to give a reason and without any consequences.
- I understand that I can withdraw my data from the study for one week only after returning it to the school.
- I understand that any information recorded in the investigation will remain confidential and no information that identifies me will be made publicly available.
- I consent to being a participant in the project

(PRINT NAME)	Hereby agree to take part in the above project
Signature of Participant:	Date