THE UNIVERSITY OF HULL

Learning from adoptive families: What are their experiences of children's development and the support they receive?

Being a Thesis submitted in partial fulfilment
of the requirements for the degree of Doctor of Clinical Psychology

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By

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Acknowledgements

Firstly, I would like to thank all the parents that gave their time to take part in the study and share their experiences. Covid-19 placed so many additional stressors and strains on parents, so for parents to share their experiences with me, from 30 minutes up to an hour and a half, was sincerely appreciated. Speaking with parents about their experiences was an absolute pleasure and privilege, and I cannot thank the parents who took part enough for sharing their experiences honestly and openly. Hearing your experiences was truly enlightening, and I hope others are now able to benefit from hearing your experiences.

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Overview

This portfolio consists of three parts. Part one is a systematic literature review and part two is an empirical paper, the combination of which provide greater insight into the experiences of adoptive families. Specifically, in the domains of post-adoption support and adoptive children's development and support needs, addressing significant gaps in current literature and understanding. Part three forms the appendices.

Part One: A systematic literature review exploring UK adoptive families' experiences of post-adoption support. The review synthesised findings from ten available studies, using narrative synthesis to generate themes and produce a final conceptual model reflecting parental experiences of post-adoption support. This model shows the systemic impact of experiences, and the review provides several recommendations for improving post-adoption support in line this and existing theory.

Part Two: A empirical study exploring parents' experiences and perceptions of cognitive development in adoptive children with underdeveloped sensory systems. Parental experiences were explored in the context of a sensory-based intervention, aiming to rebuild these systems. This provided an understanding of the perceived influence of such an intervention on cognitive development contributing to a gap in research. Ten parents took part in semi-structured interviews following their child's completion of a sensory-based intervention. Parents' experiences of cognitive development supported existing theory and research, and further contributed new findings to the field, allowing beneficial suggestions for future research and clinical practice to be made.

Part Three: Appendices relating to both parts, including all relevant additional documentation, a reflective statement and epistemological statement.

Total word count: 17, 393 (excluding tables, figures, references, appendices)

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Part One: Systematic Literature Review

Experiences of Post-adoption Support for UK Adopted Families: A Systematic Review

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Abstract

Many adoptive families require support post-adoption to manage a range of complex needs which impact children’s wellbeing and development, parental wellbeing, and family functioning. This systematic review aims to explore adoptive families’ experiences of post-adoption support in the UK to inform support provision. Ten studies exploring adoptive families’ experiences of post-adoption support were identified, seven of which studied experiences of therapeutic interventions, while three addressed post-adoption experiences generally. Using narrative synthesis, themes for categories of support were found and a conceptual model was developed. The model showed families experiences of post-adoption are experienced and influenced by many systems surrounding an adoptive child, across parents, family, friends, professionals, and society. The review was unable to provide a deeper understanding of children’s experiences of post-adoption support, however it presents a greater understanding of parents’ experiences of post-adoption support. Several recommendations are provided to improve post-adoption support, including the need for a whole systems approach.

Keywords: post-adoption support; adoptive families; experiences; wellbeing; mental health

Introduction

Many adoptive children present with high levels of care needs and require support from various services post-adoption (Bramlett, Radel and Blumberg, 2007), due to most children experiencing abuse or neglect prior to being taken into care (Department for Education, 2020). Such experiences can influence children’s emotional, social, physical, and cognitive development, and place children at greater risk for mental health difficulties across their life span (Richardson and Lelliott, 2003; DeJong, Hodges and Malik, 2016). Adoptive families therefore require support with a range of presenting difficulties throughout the post-adoptive period (Bardsley, 2017). Post-adoption support is defined as any support provided to adoptive families from the point at which the adoptive child is first placed with their adoptive family (Performance and Innovation Unit, 2000). Support can include therapeutic, educational, social, and financial help (Miller and Bentovim, 2006). Much literature has recognised the importance of providing support to children post-adoption; not only in supporting children’s existing wellbeing and development, but also in preventing future difficulties, such as later mental health conditions (Randall, 2009).

Post-adoption support is additionally vital for parents and families themselves (Thomas, 2013). The Family Stress Model (Pardeck, 1989) suggests stressors felt by one individual in the family can permeate through the family so other members also experience this distress. This mutual influence is theoretically represented in Bronfenbrenner’s Ecological Systems Theory (1992), which shows children’s development is influenced by many different systems surrounding the child, such as the family. Therefore unsurprisingly, research shows that when an adoptive child presents with emotional and behavioural distress, this also affects parents’ experience of distress, in some cases affecting parents’ mental health (Hirst, 2014). Parenting children with high levels of needs poses many challenges for families. Sometimes such challenges can impact families' capacity to adopt, resulting in adoption breakdown (White et al. 2021). Breakdown and lack of stability are likely to lead to negative emotional, behavioural and educational outcomes for children, who have already experienced trauma and disruption and are at risk of mental health and developmental difficulties (Gauthier, Fortin and Jéliu, 2004). Supporting families as a whole post-adoption should be considered essential for both children's and parents' wellbeing.

The UK Government recognised the importance of post-adoption needs in families in 2012, when they reformed and strengthened adoption services, releasing 'An Action Plan for Adoption: Tackling Delay' (Department for Education, 2012). This led to many changes in adoption support provision and policy, including the introduction of the Adoption Support Fund which helps families access therapeutic support post-adoption. However, research suggests that families rarely continue to access support post-adoption, and when support is accessed, this is often when issues have escalated and pose adoption breakdown risks (Lushey, Holmes and McDermid, 2018). Adoptive families may be unsure what support services are available, which they may benefit from, and whether to even seek support, due to fears of being regarded a failure (Harlow, 2019). In addition, service provision and funding limitations may prevent access, as local agencies hold no legal obligations to provide support after assessing support needs, and provision varies widely across services (Harlow, 2019). To date no comprehensive review has explored adoptive families' experiences of post-adoption support in the UK, despite both the Government and National Health Service (NHS) recognising the value of understanding service user perspectives in the development and improvement of services (Department for Education, 2016).

There is however a systematic review focused on understanding the demands and use of post-adoption services in adult adoptees in the US (Sánchez-Sandoval et al. 2020); along with a systematic review exploring the evidence base for post-adoption support in educational settings (Stother, Woods and McIntosh, 2019). Additionally, systematic reviews have explored the evidence-base for therapeutic interventions (Department for Education, 2016). Ní Chobhthaigh and Duffy (2019) found that therapeutic interventions completed with adoptive parents were characterised as effective in supporting children's emotional and behavioural functioning, when interventions incorporated psychological and attachment theories, along with video examples or video feedback for parents. Drozd et al. (2018) further found post-adoption interventions completed with adoptive parents had positive effects on parents themselves and on family life. However, this conclusion should be considered with caution due to poor methodology. While such reviews provide some insight into families' potential experiences by considering intervention outcomes, none specifically aim to review families' experiences. The reviews therefore fail to present details of insightful experiences, including those captured through qualitative methods. Both Ní Chobhthaigh and Duffy (2019) and Drozd et al. (2018) explored quantitative studies only. In addition, none of the reviews excluded studies from outside of the UK. Therefore, varying services, policies and cultural attitudes towards adoption policy and practice, influence any relevance of conclusions to UK adoptive families. Consequently, there is currently no single review available in the literature, which is able to accurately synthesise the post-adoption support experiences of UK adoptive families.

This presents a shocking gap in current understanding and literature, which the current review aims to meet. The review seeks to answer the question: 'What are adoptive families' experiences of post-adoption support in the UK?'. To answer this question, the review will uniquely explore adoptive families' experiences of post-adoption support in the UK alone; in addition to gathering families' experiences provided by either quantitative or qualitative means. Thus, contributing to both lacking areas of understanding. By answering this question, what families experience as helpful and unhelpful in the UK provision of post-adoption support will be able to be identified. As such, current UK support provision can then be improved and informed by the needs and experiences of the families accessing these services themselves. This should bolster the effectiveness of services and interventions, currently implemented in the UK, to support both children and families' wellbeing, and prevent future difficulties, such as mental health conditions and placement breakdown.

Method

Data sources and search strategy

A systematic search was conducted using the following electronic databases: Academic Search Premier, CINAHL, Education Research Complete, ERIC, Library Information Science & Technology Abstracts, MEDLINE, APA PsycArticles, and APA PsycInfo. The search terms used were:

(Adopt* N3 (child* or adolescen* or boy* or girl* or son* or daughter* or famil* or parent* or mother* or father* or carer* or caregiver* or "care giver*" or "young person*" or careprovider* or "care provider*")

AND

(experience* or perception* or view* or feeling* or attitude* or voice* or perspective* or qualitat* or interview* or "focus group*" or survey* or questionnaire*)

AND

(support* or service* or interv* or counsel* or treat* or program* or group* or therap* or psychotherap* or training* or course* or class*).

Such terms, truncations (*) and operators (N3) were used with the aim of completing a wide yet relevant search of the literature base. Limiters were applied so articles were in, English language, from Academic Journals, and from the year of 2012 to February 2021; to allow peer-reviewed articles relevant to UK adoptive families' experiences following the 2012 adoption reforms to be reviewed. The included articles' reference lists and key journals were hand searched for relevant articles to be included in the synthesis.

Inclusion and exclusion criteria

Studies exploring any adoptive family member's experience (i.e. parent or child), of any form of post-adoption support (any practical or emotional input intended to support, i.e. therapeutic intervention, support service, social or peer support), which discussed anywhere within their methodology section that they explored post-adoption support experiences (any expressed feelings, views, attitudes, opinions, or perceptions) using any type of methodology (quantitative, qualitative or mixed methods), from anywhere in the UK (England, Wales, Scotland, Northern Ireland) provided the inclusion criteria. Articles where experiences of post-adoption support could not be separated from experiences of non-adoptive families (i.e. foster and biological families) and experiences of pre-adoption support (i.e. training group, life story book intervention), were excluded; as experiences of support would likely differ due to different needs and service input required. Articles exploring support post-adoption specifically in relation to managing biological family contact and supporting adoptive children with learning disabilities were also excluded due to this same reason. Studies which did not explore experiences of post-adoption support, such as those exploring the experience of adoption itself, or studies exploring patterns of service use were also excluded. Finally, research using data collected prior to 2012, and non-empirical papers such as discussion papers, were excluded.

Article selection summary and data extraction

A total of 841 articles were initially found from the electronic database search. After screening articles for eligibility according to the inclusion and exclusion criteria, and as shown by the selection process in figure 1, a final 10 articles were included in the review. Of these, seven discussed experiences of a specific post-adoption therapeutic intervention, and three discussed other more general experiences of post-adoption support. Data deemed relevant for the review was extracted from the 10 articles using the data extraction tool shown in Appendix D.

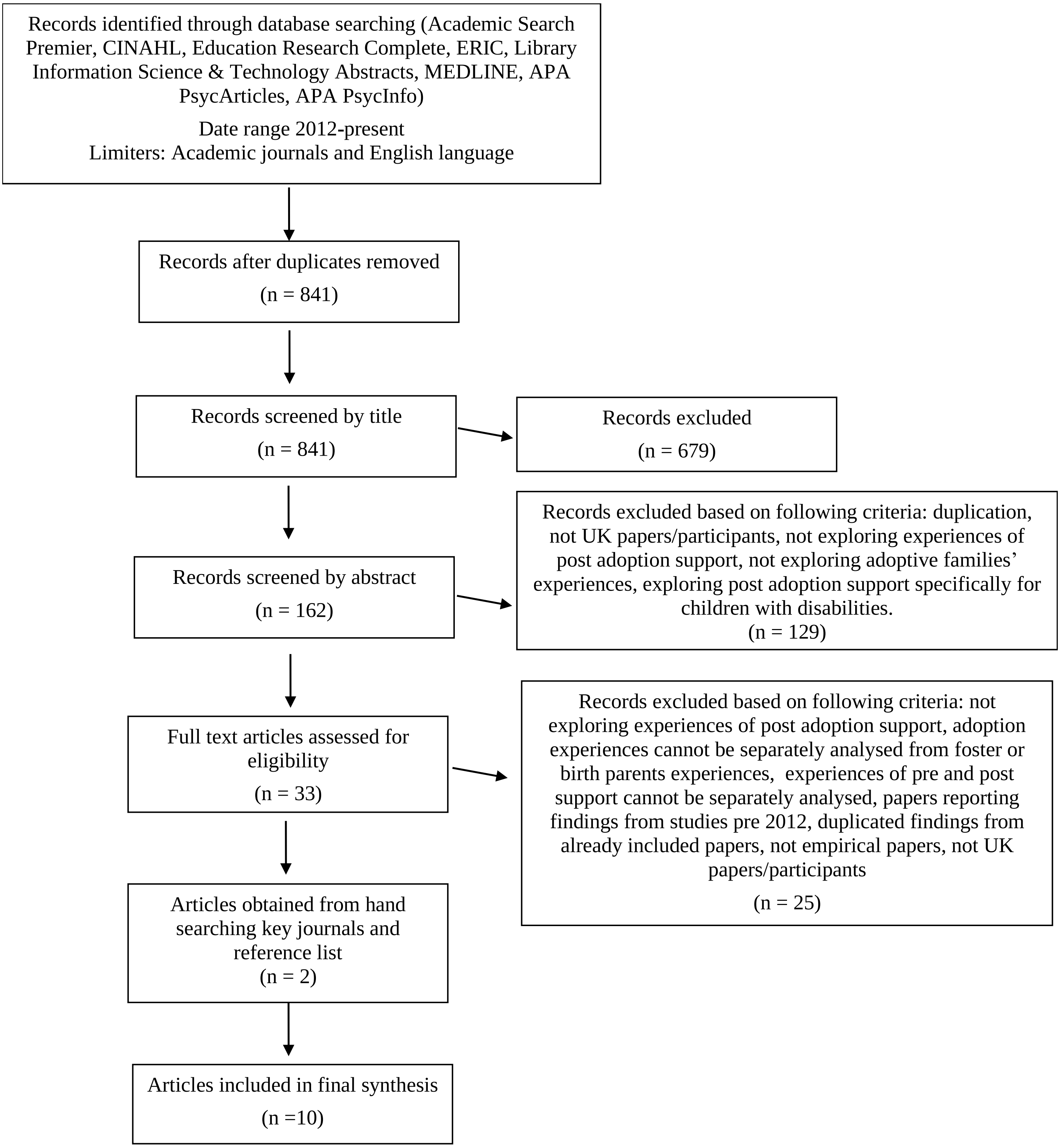


Figure 1. *Article selection processes for review.*

Quality assessment

Quality assessment is regarded to be a key part of conducting systematic reviews, as this process ensures that the impact of included study's methodological quality on both the included study's findings and the wider review findings have been considered (Popay et al. 2006). Quality assessment was completed with an adapted version of the Mixed Methods Appraisal Tool (MMAT) (Hong et al. 2018), with additional items pertaining to 'the role of the researcher', 'the richness of data', and 'relevance of conclusions' added from the quality appraisal checklist for qualitative studies developed by The National Institute for Health and Care Excellence (NICE, 2012) (See Appendix E for the adapted appraisal tool used). The MMAT was chosen as unlike other tools it allows studies of varying methodologies to be appraised, including differing quantitative designs and mixed methods studies, while conserving appraisal reliability and validity (Pace et al. 2012, Hong et al. 2019). The MMAT was adapted in this way, to consider the possible subjective influence of the researcher in both the process of the research and in the findings presented and conclusions drawn during qualitative appraisal. Such factors can impact reliability and validity of findings; hence are important to consider in qualitative research (Krefting, 1991). The NICE checklist, a proven reliable and valid tool (NICE, 2012), provides a descriptive rating similar to that of the MMAT, allowing ease in adaption. Four articles were quality assessed by an independent researcher to check reliability, with any discrepancies discussed before ratings were mutually agreed. The MMAT user guidelines recommend the use of an additional assessor, thus this process aids the robustness of the final synthesis (Hong et al. 2018). As both the MMAT and NICE discourage using an overall score, quality assessment was inspected by entering all ratings into one table to explore possible patterns and consider quality qualitatively.

Data synthesis

A narrative synthesis, following the guidelines outlined by Popay et al. (2006), was used to analyse the data. This form of analysis was chosen as narrative synthesis allows studies of varying methodologies to be integrated into one complete understanding, allowing the review to capture all available adoptive families' experiences. Additionally, narrative synthesis allows a story to be told due to the nature of its open narrative approach; this was therefore felt to fit with the aim of the review, to share adoptive families experiences, as such experiences may resemble stories in many ways (Popay et al. 2006). As most studies explored experiences of a specific therapeutic interventions, these were initially analysed separately from the three studies exploring more general post-adoption support experiences. Common themes within these two categories of post-adoption support experiences were explored independently; following which relationships within and between these two categories' themes were explored, as outlined by Popay et al. (2006). This process was followed to ensure families' experiences of post-adoption support were not missed in synthesis by treating these two categories as identical constructs.

Results

Overview of included studies

A summary of the included studies and their details is shown in table 1. Four studies were qualitative, three were quantitative, and the remaining three mixed methods. Eight studies explored adoptive parents' experiences of post-adoption support; and two studies examined both parents' and children's experiences. All studies used either interviews, questionnaires or surveys, or a combination of these methods. Three studies used IPA to analyse qualitative data and three used thematic analysis. Six studies used descriptive statistics to analyse quantitative data, three of these using t-tests or the Wilcoxon signed ranks in addition to descriptive statistics, and a further two using additional statistics such as Chi-Squares, ANOVAs, ANCOVAs, correlations, and multiple regressions, with just one study using descriptive statistics alone to capture experiences (Downes, Kieran and Tiernan, 2019).

Three studies explored experiences of post-adoption support more generally; with one paper discussing experiences of early support needs post-adoption, one addressing social support, and one focusing on experiences of mental health services. The remaining seven papers explored experiences of post-adoption support interventions. All interventions were completed with either parents or families, no intervention worked with children alone. Three studies explored interventions either on, or based on, Dyadic Developmental Psychotherapy (DDP) (Wingfield and Gurney-Smith, 2019); two of which were group interventions (Hewitt, Gurney-Smith and Golding, 2018; Downes et al. 2019). One study explored an adaption of mentalisation-based therapy for families (MBT-F), and one used Multisystemic Therapy (MST). The final two explored Neuro-Physiological Psychotherapy (NPP) and were similar in methodology as one study was an extension of the other.

Table 1. Summary of included studies.

Author (year)	**Methodology**	**Post-adoption support explored**	**Participants**	**Method of data collection and analysis**	**Main Findings**
Downes, Kieran and Tiernan (2019)	Quantitative (non-comparative study)	Intervention: Therapeutic group for adoptive parents. Adapted from Kim Golding's Nurturing Attachments group (informed by DDP principles).	• 10 parents	• Questionnaire • Descriptive/ frequencies of responses to structured questions	• 100% reported understanding had increased "a lot" (re relationship between child's early trauma experiences and present difficulties). • 80% reported confidence in parenting ability increased "a lot". • All reported increased level of competence when dealing with challenging behaviour (10% "a little", 50% "somewhat", 40% "a lot"). • Half reported changes in stress (30% "a little", 20% "somewhat"). • All reported improvement in their relationship with children (50% saying "a lot"). • All reported change in their child's behaviour, social or emotional functioning (30% "a little", 30% "somewhat", and 40%"a lot"). • All reported improvement in household atmosphere (20% "a little", 50% a "lot", 30% "somewhat").
Harrison-Stewart, Fox and Millar (2018)	Qualitative	Intervention: Multisystemic Therapy (MST): a family and community-based intensive intervention	• 10 parents	• Semi-structured interviews • Thematic analysis	• Five superordinate themes: situation prior to MST, enablers to change, barriers to change, outcomes of MST and developing MST practice to better meet the needs of adoptive families. • 3-4 subtheme within these.
Hewitt, Gurney-Smith and Golding (2018)	Qualitative	Intervention: The Nurturing Attachments Group: DDP informed intervention	• 8 parents	• Semi-structured interviews • IPA	• Five superordinate themes: A supportive group, A shift in perspective, 'Turning trauma into secure attachment', 'Am I doing it right?' and 'Continuing the adoption journey'. • 1-4 subthemes within these.

		group for adoptive parents.			
McCullough et al. (2016)	Quantitative (before and after study, with multimethod design)	<u>Intervention:</u> Neuro-Physiological Psychotherapy (NPP): a wrap-around multi-disciplinary, neuro-sequential, attachment-focussed intervention.	• 31 children and their parents • 12 in current treatment group; 19 in maintenance group	• Questionnaires completed by parents (Child Behaviour Checklist (CBCL), Behaviour Rating Inventory of Executive Function (BRIEF), Assessment Checklist for Children (ACC) • Semi-structured interview • Descriptive statistics, statistical analysis (T-test or Wilcoxon signed-rank test)	• BRIEF scores: Significant decrease in Behavioural Regulation Index, Inhibit and Emotional Control in full analysis; and additional significant decrease in Global Executive Composite, Working Memory and Monitor when pre-treatment ‘normal’ scores were excluded in analysis. • ACC scores: Significant decrease in Total Clinical Score, Indiscriminate and Food Maintenance in full analysis; and additional significant decrease in Insecure and Abnormal Pain Response when pre-treatment ‘normal’ scores were excluded in analysis. However Indiscriminate score was no longer significant. • CBCL scores: Significant decrease in Total Problems, Externalising Problems, Social Problems, Thought Problems and Aggressive Behaviour in full analysis; and additional significant decrease in Anxious/Depressed and Attention Problems when pre-treatment ‘normal’ scores were excluded in analysis. • Interviews: 87% and 74% reported improved relationships with parents and siblings respectively. 10% and 35% received further mental health diagnosis and further intervention respectively. 77% remained in mainstream education; 23% in special educational facilities; 55% receiving educational support and 41% had been in receipt of a statement of special educational needs at some point. 77% remained in education without exclusions. 100% were without any criminal conviction.
McCullough and Mathura (2019)	Quantitative (case control study, with multimethod design)	<u>Intervention:</u> NPP	• 54 children and their parents • 31 in the intervention	• Questionnaires completed by parents (CBCL, BRIEF, ACC/ACA	• BRIEF scores: Significant decrease in total domain Global Executive Composite, Behavioural Regulation Index. • CBCL scores: Significant decrease in Total Problems, Externalizing Problems when pre-treatment ‘normal’ scores were excluded in analysis.

			group; 23 controls	(adolescent version)) • Structured interview • Descriptive statistics, statistical analysis (chi-squares, ANCOVAs)	• ACC/ACA scores: Significant difference in shared items and composite self-esteem. • Interviews: Significant improvements in parent-child, sibling and peer relationships; significantly less placement disruptions; significantly fewer mental health diagnoses at follow up, with fewer children on prescribed medication; significantly fewer exclusions with more children remaining in mainstream education and achieving their National Curriculum; significantly less involvement with criminal justice system.
Meakings et al. (2018)	Mixed Methods (sequential explanatory design)	General support: Exploring support needs and experiences of newly formed adoptive families.	• 96 parents completing questionnaire • 40 parents completing interviews	• Questionnaires • Interviews	• Five key domains from quantitative and qualitative data: promoting children’s health and development; strengthening family relationships; fostering children’s identity; managing contact with birth parents and significant others; and financial and legal assistance.
Midgley et al. (2018)	Mixed methods (sequential explanatory design with pre and post measures for quantitative data)	Intervention: Adopting Minds: an adaption of mentalisation-based therapy for families (MBT-F).	• 36 families in total but with varying completed data for quantitative measures. • Five families participated in interviews (4 parents, 1 child and parent)	• Questionnaires completed by parents (Brief Assessment Checklist (BAC), Brief Parental Self Efficacy Scale (BPSES), Experience of Service Questionnaire (ESQ)) • Semi-structured interviews	• BAC scores: Significant improvements for 11 out of 15 respondents. • BPSES scores: Significant improvements for 12 out of 18 respondents. • ESQ: All reported help received was good and beneficial, views were taken seriously, were treated well, was easy to talk to the people, and were listened to. Time and location of sessions received lowest ratings. • Interviews: Four superordinate themes of: receiving support and containment; a space where negative feelings are allowed, and achievements praised; getting help to deal with past experiences; and short-term support is not always enough.

				• Descriptive statistics, t-tests and IPA.	
O’Reilly et al. (2016)	Qualitative	General support: Perceptions of help-seeking, in particular of child mental health services.	• 12 participants in total, 6 parents and their 6 children	• Semi-structured interviews • Thematic analysis	• Two broad issues divided into six themes. • First issue: how adoptive families link construction of ‘problems’ to aspects such as family life and schooling. This had four themes: the child’s construction; the carers’ construction; its relevance to family life; its relevance to school life. • Second issue: how family members managed problems. This had two themes: how the family managed the problem internally; and external sources of help.
Weistra and Luke (2017)	Mixed methods (sequential explanatory design)	General support: Experiences of social support and attitudes towards adoption.	• 43 participants, subset of 7 interviewed	• Survey (consisting of Family and Friends Support Scale and Feelings About Adoption Scale) • Semi-structured interviews • Descriptive statistics, t-tests, correlation, ANOVA, multiple regressions • Thematic analysis	• Parents perceived more support from friends than families but no significant difference in importance attributed. • Themes from interviews: blood ties, misconceptions about adoption, openness about adoption, internalisation of stigma, social support, making your own support.
Wingfield and Gurney-Smith (2019)	Qualitative	Intervention: Dyadic developmental psychotherapy (DDP): an attachment-focused therapy	• 12 parents	• Semi-structured interviews • IPA	• Four superordinate themes: increased understanding; ‘It’s a different method of parenting generally’; the DDP journey; and ‘It’s a shared kind of experience you go through and come out together’. • 10 subthemes within these.

	completed with parents and children.

Overview of Quality Assessment

A summary of the quality assessment is shown in table 2. Overall, the studies are of good quality. However, the Downes et al. (2019) paper stands out as the only paper where the research question is not explicit, despite the reader being able to ascertain the study aims to evaluate a group intervention. The lack of explicit aims affects the study replicability and the validity of findings. None of the quantitative studies indicate whether the samples are representative of the target population, and both McCullough and Mathura (2019) and McCullough et al. (2016), have missing outcome data. Both issues weaken the conclusions drawn from these studies. For the mixed methods studies, it is only clear in Meakings et al. (2018) that the sample is representative. The mixed methods paper by Midgley et al. (2018) presents with a number of quality concerns compared to the others. In particular, it does not integrate the quantitative and qualitative findings well. Moreover, the conclusions appear to be based mainly on the qualitative findings. As the qualitative component only included a subsample size of five, these conclusions are weak and lack representativeness. There is also the likelihood of response bias affecting the quality of this study due to high levels of missing data. The Weistra and Luke (2017) mixed methods paper however appears to be of high quality, with rigorous methodology and consequently valid conclusions. A frequent concern across qualitative papers and mixed methods papers is the unclear description of the researcher’s context. This is key in completing rigorous qualitative analysis (Krefting, 1991), hence, robustness of findings and conclusions is affected. Relevance of conclusions was queried once as a possible quality issue during assessment of Hewitt et al. (2018), where there is no clear and explicit concluding statement, and some conclusions appear more focused on individual themes rather than integrating these to understand experiences. Unclear or weak conclusions influence the usefulness of finding contributions to the research field.

Overall, the qualitative papers are of high quality, with Wingfield and Gurney-Smith (2019) standing out with no quality assessment concerns.

Table 2. *Summary of each study’s quality assessment.*

Screening Questions	Qualitative	Quantitative non-randomised	Quantitative descriptive	Mixed methods

Study	**S1**	**S2**	**1.1**	**1.2**	**1.3**	**1.4**	**1.5**	**1.6**	**1.7**	**1.8**	**3.1**	**3.2**	**3.3**	**3.4**	**3.5**	**4.1**	**4.2**	**4.3**	**4.4**	**4.5**	**5.1**	**5.2**	**5.3**	**5.4**	**5.5**
Downes, Kieran and Tiernan (2019)	CT	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	CT	Y	CT	Y	-	-	-	-	-
McCullough et al. (2016)	Y	Y	-	-	-	-	-	-	-	-	CT	Y	N	Y	Y	-	-	-	-	-	-	-	-	-	-
McCullough and Mathura (2019)	Y	Y	-	-	-	-	-	-	-	-	CT	Y	N	Y	Y	-	-	-	-	-	-	-	-	-	-
Meakings et al. (2018)	Y	Y	Y	Y	Y	Y	Y	N	Y	CT	-	-	-	-	-	Y	Y	CT	Y	Y	Y	Y	Y	CT	Y
Weistra and Luke (2017)	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	-	-	-	-	-	Y	CT	Y	Y	Y	Y	Y	Y	Y	Y
Midgley et al. (2018)	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	CT	Y	N	N	Y	-	-	-	-	-	Y	N	CT	CT	Y
Wingfield and Gurney-Smith (2019)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Harrison-Stewart, Fox and Millar (2018)	Y	Y	Y	Y	Y	Y	Y	CT	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hewitt, Gurney-Smith and Golding (2018)	Y	Y	Y	Y	Y	Y	Y	Y	Y	CT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
O’Reilly et al. (2016)	Y	Y	Y	Y	Y	Y	Y	CT	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Key

Y= Yes
N=No
CT=Cannot Tell

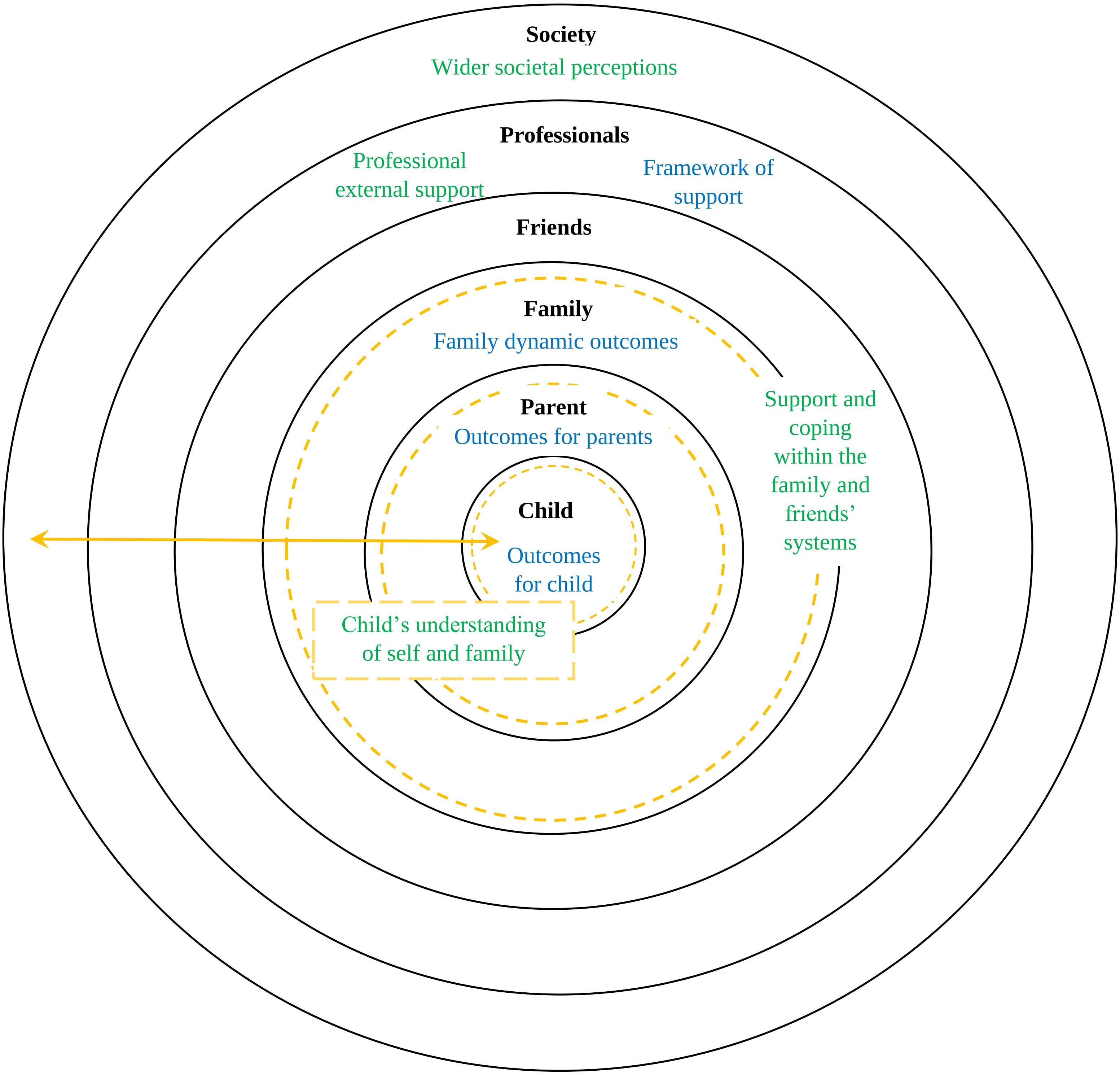
Narrative Synthesis

The initial stage of synthesis led to the following themes to be identified for the two different categories of post-adoption support experiences, outlined in table 3.

Table 3. *Themes developed from synthesis.*

Category	**Theme**	**Subtheme**
Experiences of post-adoption support generally	Support and coping within the family and friends' systems	-
	Professional external support	-
	Child's understanding of self and family	-
	Wider societal perceptions	-
Experiences of post-adoption therapeutic interventions	Outcomes for child	Mental health/emotional
		Learning
		Behavioural and social
	Outcomes for parents	Learning strategies and approaches
		Improvements in confidence
		Support and containment
		Understanding child and their experiences
	Family dynamic outcomes	-
	Framework of support	Early intervention
		Continuing support

Following this initial synthesis, themes were explored for possible relationships between and within these two categories, which led to the development of a conceptual model outlined in figure 2. This captured all main themes, and commonalities between themes and subthemes, in one shared framework of understanding.



Key:

🟩 = Themes from experiences of post-adoption support generally

🟦 = Themes from experiences of post-adoption therapeutic interventions

🟨 = Understanding and containment of child, parent, and family

Figure 2. Conceptual model developed from themes.

Experiences of post-adoption support: general support experiences

Support and coping within the family and friends' systems

Adoptive families shared their experiences on support and coping within the family and friends' systems within all papers exploring general support experiences. Many families discussed needing support to manage the transition in creating a new family, as children's behaviour could present as challenging and difficult to manage during this transition, and sibling jealousy and aggression could occur. In addition, parents described difficulties in developing positive emotional relationships and healthy attachments with children during this time (Meakings et al. 2018; O'Reilly et al. 2016). Some parents felt these initial difficulties reflected early signs of mental health problems (O'Reilly et al. 2016). Many families also described needing support from external family and friends, with this support regarded as essential and impossible to be without during the initial transition period (Meakings et al. 2018; Weistra and Luke 2017). Weistra and Luke (2017) found parents perceived more support from friends than family, but suggested this could be due to family of the interviewed sample living further away than friends, and found the importance placed on these two forms of support was no different. The significance and benefit of sharing experiences with family and friends with experience of adoption or fostering, or with support groups, was also captured in this study. Adoptive parents perceived such people to be more understanding of their experiences, and all parents in Weistra and Luke's (2017) study had reached out to mentoring or support groups and forums, with one parent saying this helped avoid feeling '*so alone in it*' (page 236).

Professional external support

Seeking out professional external support was discussed across two of three studies, with most parents saying they had accessed a range of different external supports; many having accessed CAMHS (Meakings et al. 2018; O'Reilly et al. 2016). However, also common was the discussion of unmet support needs and parents feeling they needed additional external support. Meakings et al. (2018) found 30% of parents completing their questionnaire wanted professional support with their child's emotional and/or behavioural distress; with 32% expressing concerns over their children's development. During interviews, parents spoke about needing reassurance for their concern from professionals, and support in knowing what to expect and how to respond to their child's distress. However, parents also discussed their difficulties in accessing support, with it being difficult to ask for help, this feeling like admitting failure (O'Reilly et al. 2016); and appropriate support being hard to access, due to restraints such as lack of funding and provision (Meakings et al. 2018): '*I had no, nobody at all giving me any help in how to deal with it, not one person*' (O'Reilly et al. 2016: page 70).

Child's understanding of self and family

Children's understanding of themselves, and their family was a theme across all studies, with this understanding varying for children and families. Some children presented a coherent narrative, with some describing their pre-adoption lives and current feelings, behaviours and personality (O'Reilly et al. 2016); and others celebrating their adoptive status, with parents aiming to be clear about their adoptive status to others (Weistra and Luke 2017). Other parents preferred to not share this status with others, so this did not define their child (Weistra and Luke 2017). Meakings et al. (2018) found 30% of children over the age of four, were perceived by their parents to be confused about their adoption. 36% of parents with children aged over two reported an unmet need for support in helping their child make sense of their lives (Meakings et al. 2018).

Wider societal perceptions

Wider societal perceptions appeared as a theme in one paper (Weistra and Luke 2017). The labels and stigma parents felt from societal perceptions ran across these themes, with parents describing they feel perceived to be either ‘wonderful heroes’, and feel pressure to perfectly parents; or are perceived as ‘desperate’, and feel society places emphasis on blood relations with others questioning their IVF choices and who the ‘real parent’ is.

Experiences of post-adoption support: therapeutic interventions experiences

Outcomes for child: Mental health/emotional

Bar one study exploring MST, all studies exploring interventions showed positive benefits of interventions on children’s mental health. Two studies exploring NPP demonstrated changes in different scale items on assessment measures completed by parents, reflecting emotional improvements following intervention; in addition to significant changes observed for the NPP group’s self-esteem compared to controls. Significant post-intervention mental health changes also occurred in the MBT-F intervention. Moreover, in all DDP studies parents experienced positive changes in children’s emotional functioning. Downes et al. (2019) found all parents reported positive changes in emotional, behavioural and social functioning, with 40% regarding this change as ‘a lot’ in scaled questions. The remaining two studies found parents reported improvements in children’s emotion regulation skills, as well as their own, which in turn helped them to support their children (Wingfield and Gurney-Smith, 2019). However, all studies also captured that, despite improvements, additional support was still perceived to be needed for children’s mental health. Downes et al. (2019) found 30% reported there had been positive changes ‘somewhat’ and another 30% rated ‘a little’. The MBT-F study found children were still at clinical cut offs post-intervention for concerns regarding their mental health (Midgley et al. 2018). Finally, McCullough et al. (2016) found

35% of children received additional therapy post-intervention; 10% receiving later mental health diagnoses.

Outcomes for child: Learning

Outcomes relating to children's learning and cognitive ability were discussed frequently within the two NPP intervention studies. McCullough et al. (2016) found 77% of children remained in mainstream education post-intervention. However, 55% received additional learning support and 41% had a statement of special educational needs. McCullough and Mathura (2019) found significantly fewer children were excluded from school post-intervention compared to the control group, and significantly more were achieving their National Curriculum. In both studies, positive outcomes in children's executive functioning skills were observed.

Outcomes for child: Behavioural and social

Across the studies exploring NPP, MBT-F, and in one DDP study (Downes et al. 2019), quantitative results showed improvements in children's behavioural and social functioning post-intervention. During interviews, parents reported significant improvements in children's peer relationships, with 69% of parents reporting these relations to be better following the NPP intervention; compared to 38% of parents reporting these relations to be better in the control group (McCullough and Mathura, 2019). The control group reported such relations to have worsened significantly more than the intervention group. Children post NPP intervention had significantly less involvement in the criminal justice system compared to the control group, with 100% in the intervention group being without criminal conviction, compared to 33.3% of the control group receiving a formal caution, charge or conviction.

Outcomes for parents: Learning strategies and approaches

Across the three studies exploring DDP and the one MST study, parents discussed their experiences of learning new strategies and approaches. Although some parents initially expressed scepticism over strategies and approaches taught during interventions, many described their learning as helpful in providing a sense of control and certainty in understanding what to do to support children effectively (Harrison-Stewart et al. 2018; Hewitt et al. 2018). Downes et al. (2019) found all parents reported increased levels of competence when dealing with challenging behaviour, with 40% saying this increased ‘a lot’ post-intervention. Parents found learning underlying theory helpful too, feeling ‘empowered’ knowing how to adapt techniques, and noticing changes in their overall approach to parenting; and in some cases, noticing changes in their own internal worlds and relationships with others (Wingfield and Gurney-Smith, 2019; Hewitt et al. 2018). Many also recognised they would continue to use, learn and adapt strategies and approaches, with some feeling hopeful about future challenges (Harrison-Stewart et al. 2018; Hewitt et al. 2018).

Outcomes for parents: Improvements in confidence

Across different types of interventions, including DDP, MST and MBT-F, improvements in confidence were reported by parents in both qualitative and quantitative studies (Downes et al. 2019; Hewitt et al. 2018; Harrison-Stewart et al. 2018; Midgley et al. 2018). Parents described greater confidence in parenting ability following interventions, with some parents explaining they had previously *‘lost a lot of confidence about being a parent’* (Harrison-Stewart et al. 2018: page 168) but since the intervention had regained this and felt better prepared to cope with challenges (Harrison-Stewart et al. 2018; Hewitt et al. 2018). 80% of parents reported this confidence improved ‘a lot’ following the intervention in Downes et al. (2019), and 12 out of 18 parents in Midgley et al. (2018) experienced a significant improvement in self-rated self-efficacy.

Outcomes for parents: Support and containment

A common theme from qualitative interviews, was parents' reported experience of support, safety, and containment during the various interventions (Midgley et al. 2018; Hewitt et al. 2018; Harrison-Stewart et al. 2018; Wingfield and Gurney-Smith, 2019). Interventions provided parents a supportive space where they could share thoughts and emotions, which would be listened to non-judgementally (Wingfield and Gurney-Smith, 2019; Midgley et al. 2018). One parent explained they *'felt like it held us'* (Midgley et al. 2018: page 28); and others explained a positive relationship with a supportive and warm therapist was important (Wingfield and Gurney-Smith, 2019; Midgley et al. 2018). Many parents expressed feelings of guilt and desires to feel understood before attending the interventions (Hewitt et al. 2018; Midgley et al. 2018). This was a barrier to engagement, with one parent explaining that accepting help felt like a '*confirmation of being a failure. It was a big barrier for me and I think it slowed down the initial progress'* (Harrison-Stewart et al. 2018: page 167). Additional helpful components of interventions were having experiences normalised by other parents and gaining reassurance from a non-critical clinician, who supported parents to think about things differently (Hewitt et al. 2018; Midgley et al. 2018; Wingfield and Gurney-Smith, 2019).

Outcomes for parents: Understanding child and their experiences

Parents gained a greater understanding of their child and their experiences, following interventions, across all included studies, bar the two studies exploring NPP. Most parents described understanding children's behaviours in a new light, by considering the impact of past trauma on current behaviour and children's internal worlds (Hewitt et al. 2018; Wingfield and Gurney-Smith, 2019; Harrison-Stewart et al. 2018; Midgley et al. 2018; Downes et al. 2019). Many parents explained this greater understanding allowed them to remove blame from children following behaviour difficulties (Harrison-Stewart et al. 2018; Wingfield and Gurney-Smith, 2019). In contrast, some parents (Harrison-Stewart et al. 2018) described that, despite experiencing changes in their expectations of children's behaviour, they felt the MST intervention did not fully consider the contribution of children's past trauma experiences. Parents explained if this had been considered more, the experienced post-intervention changes may be longer lasting.

Family dynamic outcomes

Across all quantitative and qualitative studies exploring NPP and DDP interventions, parents experienced improvements in family dynamics. Improvements in parent-child relationships were reported across many studies post-intervention, as well as improvements in sibling relationships, and positive changes in household atmosphere and family set-up (McCullough and Mathura, 2019; McCullough et al. 2016; Downes et al. 2019). Parents also felt more attuned and connected to their child following DDP interventions (Hewitt et al. 2018; Wingfield and Gurney-Smith, 2019).

Framework of support: Early intervention

Within the qualitative studies exploring DDP and MST (Hewitt et al. 2018; Harrison-Stewart et al. 2018), parents shared their perceptions regarding earlier intervention. Parents discussed requiring preparation regarding the challenges of adoption and wishing they had received DDP prior to adoption (Hewitt et al. 2018). Moreover, parents felt MST should be completed with children at an earlier age, to help children cope with challenging thoughts and feelings which develop past the ages of eight-ten (Harrison-Stewart et al. 2018).

Framework of support: Continuing support

Across several different interventions, parents described their experience of the interventions as not providing a ‘fix’ for difficulties (Harrison-Stewart et al. 2018). Parents explained that whilst interventions were helpful, additional factors had contributed to positive changes alongside interventions; though such factors were not reported (Midgley et al. 2018). However, some parents described additional therapeutic input as helpful, or perceived that future additional therapy would help (Midgley et al. 2018, Harrison-Stewart et al. 2018). Parents acknowledged they would need to continue to use strategies learnt during interventions for future challenges (Harrison-Stewart et al. 2018; Hewitt et al. 2018).

Conceptual model of adoptive families’ experiences of post-adoption support

When looking across all the themes developed from each category of post-adoption support, similarities arose in how themes affected different systems around adoptive families, which led to the development of the conceptual model. Adoptive families experienced direct positive outcomes from various post-adoption support therapeutic interventions for the child, the parent supporting the child, as well as for the family as a whole. These are shown on the model as the initial three systems. Similarly, within general experiences of post-adoption support, families discussed their experiences of support and coping within the family system, in addition to the friends system. Friends were added to the model, and this theme was placed between the family and friends systems to reflect this overlap. Professionals were added as a further system, as themes from both categories of support reflected adoptive families experience of professional support. Society was added as a final system, as families shared their experiences of wider societal perceptions when discussing post-adoption support generally.

The added yellow/orange lines reflect another commonality of the reported experience of understanding and containment of child, parent and family. Children’s understanding of themselves and family arose as a main theme in experiences of post-adoption support generally, and is consequently shown on the model along with all other overarching themes. In addition, parent's understanding of their child and their experiences, and parents' experience of support and containment, were found as subthemes within intervention outcomes for parents. The three yellow dashed lines around child, parent and family on the model reflect these commonalities between theme and subthemes, showing where understanding and/or containment is experienced by each system. The yellow arrow reflects how this understanding and containment is influenced by the different systems.

Discussion and Implications

The current review aimed to synthesise literature exploring adoptive families' experiences of post-adoption support, drawing on studies exploring experiences of post-adoption therapeutic interventions and studies on experiences of general post-adoption support. The review then considered the overlap of these experiences, leading to the development of a conceptual model to synthesise findings. This model captured family experiences within one shared systemic framework and appears similar to that of Bronfenbrenner's (1992). The findings showed experiences overlapped within and between the many different systems which make up an adoptive family accessing post-adoption support, with the child at the centre. This permeation of experiences supports the Family Stress Model (Pardeck, 1989) and Ecological Systems Theory (Bronfenbrenner, 1992). Final synthesis therefore shows, regardless of the form of post-adoption support, adoptive families experiences of support are felt within, and influenced by, the many different systems around the adoptive child; suggesting the need for a whole systems approach in support.

At the child level, the review shows children experience improvements in mental health, learning (including cognitive ability and support needed at school), behaviour and social functioning, following involvement in various types of therapeutic interventions post-adoption. Although positive outcomes relating to learning were only observed within NPP interventions, this may be due to only these studies using questionnaires capturing experiences relating to cognitive ability and education. Previous reviews echo this finding (Ní Chobhthaigh and Duffy, 2019) suggesting post-adoption therapeutic interventions are beneficial for children's wellbeing and development. However, improvements were only captured through parental reports, hence the review can only conclude children experience improvements from parental perceptions. Moreover, despite improvements, the review showed parents still perceived children to have support needs post-intervention (Midgley et al. 2018; McCullough et al. 2016). Additionally, parents felt within the framework of support provided by professionals, continuing support was needed; and within the theme of professional external support, parents also described unmet support needs and requiring support from many different professionals (Meakings et al. (2018). Therefore, a one-off form of post-adoption support, along with interventions failing to encourage the ongoing use and adaption of learnt strategies, may be insufficient in supporting children's wellbeing and development. This supports current adoption knowledge that ongoing support, as well as a variety of support, may be needed due to the complex support needs of adoptive children (Lushey et al. 2018).

In addition, ongoing support may be needed due to challenges at different points in time across the child's life span. Many families shared experiences of needing support within the family system to manage the initial transition in creating a new family, with this leading to many emotional, behavioural and relational difficulties. Some families perceived these difficulties to reflect the initial signs of mental health problems, supporting literature showing the high prevalence of risk factors for poor mental health in adoptive children, particularly in the first few years of adoption (Paine, Fahey, Anthony and Shelton, 2020). Although only six parents provided these perceptions and their knowledge of detecting mental health conditions was not discussed (O'Reilly et al. 2016). Other families described, as part of the framework of support provided by professionals, they needed earlier intervention for themselves and children, to prepare themselves for adoption and to prepare children for future challenges at later developmental points, felt to be experienced past the age of eight. These findings support both The Family Life Cycle (Carter and McGoldrick, 1988), suggesting that difficulties are encountered across significant transitional points within the family, such as the joining of a new family; and Erikson's stages of Psychosocial Development (1963), suggesting difficulties may be encountered across the child's life span as they progress through the different stages of psychosocial development. Therefore, earlier support, and support at key periods such as adoption transition, is wanted and needed for both parent and children's wellbeing.

Families provided further insight into their needs from support services when discussing their perceptions and experiences of professional external support and parental outcomes following interventions. These included the perceived need for reassurance, knowing what to expect, and how to respond to children's distress, which parents felt provided them with a sense of control and certainty when incorporated into support. Additionally, providing underlying theory was perceived to be helpful, so parents knew how to adapt techniques for different challenges, providing hope and empowerment. These positive components support literature showing the benefit of normalising people's experiences and building hope and an internal locus control in therapeutic settings (Dudley et al. 2007; Holdsworth et al. 2014). In addition, this supports theoretical understanding regarding the intolerance of uncertainty in developing anxiety (Dugas, Freeston and Ladouceur, 1997). Parents may experience distress and thus seek support, from being ill-equipped to tolerate uncertainty in post-adoption support. Such helpful components of interventions may explain why parental confidence increased post-intervention, as Maslow's hierarchy of needs (Maslow and Lewis, 1987) suggests before self-esteem and self-actualisation can be achieved, individuals first require safety needs to be met. This includes needing control and stability in life. Therefore, parents may experience positive outcomes in confidence and their own wellbeing if feelings of control and certainty are provided from incorporating these elements into post-adoption interventions.

Many parents appeared to experience support and containment from interventions, again showing the experienced benefit of post-adoption therapeutic interventions on parents' own wellbeing. This is also important to provide for children's own wellbeing, as attachment theory suggests a secure parental base is needed for children's own emotional development (Bowlby, 1979). Helpful contributors in providing support and containment for parents were perceived to be, a supportive and non-judgemental space, where experiences could be openly shared, and positive relationship with the therapist. This supports literature showing the significance of therapeutic relationships in therapy outcome (Holdsworth et al. 2014). Invaluable support was also experienced from interactions with wider family and friends, particularly if family and friends had adopted or fostered themselves. This supporting literature showing the importance of peer support (Shalaby and Agyapong, 2020). As previous literature suggested, supporting parents themselves post-adoption can lead to positive outcomes for children and the wider family (White et al. 2021; Pardeck, 1989). Indeed, the review supports systemic ideas, with wider positive family dynamic outcomes experienced by many families and suggesting such interventions may be important in preventing adoption breakdown. However, some positive accounts should be considered with caution, as some participants within studies may have avoided sharing negative perceptions due to being interviewed by an assistant within the same service delivering the intervention (Hewitt et al. 2018); and some participants with negative experiences of interventions may not have been approached, due to DDP clinicians decided who to contact during recruitment (Wingfield and Gurney-Smith, 2019).

Although the review also captures some negative experiences of post-adoption support. Professional external support was experienced as difficult to access, due to funding, availability, and shame in asking for help. Parents' experiences of interventions supported the latter with difficulties in accepting help identified as a barrier to engagement in interventions. Guilt, shame and feeling like 'a failure' may prevent parents from accessing and engaging with support, and may be influenced by wider societal perceptions, as social stigma can affect behaviour (Goffman, 1963). Parents perceived societal labels of 'heroes' or 'desperate' placed upon them. Such labels may negatively affect parental wellbeing, either placing pressure on parents or leading them to experience shame, which could in turn affect they decision to share their adoptive child's status. Some parents feared the label and stigma disclosing their adoptive child's status may cause (Weistra and Luke, 2017). Ecological Systems Theory (Bronfenbrenner, 1992) would suggest this perceived stigma and consequent choice to share adoptive children's status could impact children's experiences and their self-understanding. Findings showed some children had a coherent understanding of their self and family, while others may require more support in developing this understanding. Therefore, different systems around the child need to be considered in supporting children post-adoption to develop a coherent understanding of themselves and family. While more research is needed to explore these effects, the review highlights that some children require ongoing support in developing coherent narratives about themselves and family post-adoption. This is important since many mental health difficulties develop from conflicts within the self and a lack of a coherent narrative, and thus a lack of emotional containment (Payne, 2006).

Containment may also be provided to children through supporting parent's understanding of children and their experiences. Interventions which provided psychoeducation, considering influence of past trauma, supported parents to see children's presenting difficulties in a new light and remove some blame from their child. According to attachment theory (Bowlby, 1979), this will support children's own wellbeing and containment by enabling parents to fully understand their child's emotional experiences, and appropriately respond to and contain these emotions. Thus, supporting parents to provide a secure base for children, enabling healthy parent-child attachments to be made. Furthermore, this theory states appropriate containment and healthy attachment will have long-lasting positive influences on children's future mental health. Only one intervention was perceived to not sufficiently consider the influence of past trauma on children's emotions and behaviours (Harrison-Stewart et al. 2018). However, within this study only two parents shared their experiences within the same year they completed this intervention, meaning most parental perceptions may be influenced by memory. Regardless, the review shows the significance of understanding and containment of both children and parent's emotional experience, with these concepts discussed throughout themes and systems, and playing an influential role in children's, families' and parents' experiences of post-adoption support.

Clinical Applications

The conceptual model demonstrates the importance of taking a whole systems approach to providing post-adoption support for adoptive families, intervening at the different systems around an adoptive child. The review further demonstrates the importance of ongoing support in post-adoption as one-off interventions are experienced as insufficient, and many forms of intervention from various professionals may be needed. Therefore, multi-disciplinary working should be encouraged within post-adoption support, to ensure services identify and meet the various support needs of adoptive families effectively and promptly in line with

NHS policy (‘Future in Mind’ Department of Health, 2015). Moreover, ongoing support may be required due to difficulties experienced across children’s development, and across family transitions or milestones. Therefore, support should focus on preparing both parents and children with the skills they need to encounter future difficulties; and should provide additional support to families during significant periods likely to cause distress, such as during the initial transition to an adoptive family. It may be beneficial to consider The Family Life Cycle (Carter and McGoldrick, 1988) and Erikson’s stages of Psychosocial Development (1963) when assessing support needs and considering prevention. Earlier intervention within current post-adoption support provisions would also help prevent difficulties for children and their families, in line with the ‘Future in Mind’ report (Department of Health, 2015) outlining the importance of prevention.

The combination of these recommendations align well with the current THRIVE framework utilised in CAMHS service delivery. Encouraging mental health prevention and encouraging services to utilise a whole systems approach and consider different levels of support in adoptive children’s mental health within wider systems and the MDT, can be seen to support this THRIVE model which outlines the importance of identifying different categories of support needs in the prevention and promotion of children’s mental health. As such the THRIVE model may be a useful framework to bear in mind when implementing the discussed recommendations for service delivery in post-adoption support and when designing future post-adoption support services.

Post-adoption therapeutic interventions should seek to incorporate psychoeducation on trauma and normalise parents’ experiences. In addition, interventions should provide strategies and approaches for parents to support and respond to children’s distress, along with the theory behind such strategies; so, where possible, uncertainty is removed, and control and hope can be provided. Equipping parents with skills to manage the inevitable uncertainty of raising a child may also support parents in managing their own mental health and improve their confidence. Support and containment for parents themselves should be offered within post-adoption support as this affects parental and child wellbeing, and the experience and functioning of the wider family. This can be achieved through building positive therapeutic relationships and providing support in a non-judgemental manner. Parents can experience support through peer support, and family and friends, in addition to therapies. Therefore, these additional avenues of support should be encouraged in post-adoption. Key for parents is that their experiences are contained and understood by others. Such aspects are also important in supporting children and the whole family. Therefore, containment and understanding should be considered essential values in post-adoption support services. Access to support can be hampered by parental experiences of guilt and shame, as parents perceive shame in help-seeking to affect both their initial decision to ask for help and their decision to continue to engage in this. Therefore, in order to prevent intervention drop out and situations escalating to crisis point before help is sought, which may result from parental experiences of shame in engaging with support, help-seeking needs to be normalised both within adoption and support services, and also within wider society. Societal narratives may maintain or play into feelings of shame and therefore the reality behind adoption should also be discussed within various forms of media to support normalising experiences and help-seeking at a societal level to facilitate systemic change.

Strengths and limitations

This is the first systematic review able to make recommendations regarding UK post-adoption support based on the experiences of adoptive families themselves. This is a clear strength. In addition, most included papers were high in methodological quality, strengthening the validity and reliability of findings overall. However, due to the limited research base the review only included ten studies, somewhat limiting conclusions. However, all themes generated from the studies, regardless of the form of post-adoption support, shared commonalities towards a systemic framework of understanding experiences. Thus, conclusions could be seen to be valid due to this homogeneity, despite the review's scale. Although it should be noted that these conclusions may be impacted by the discussed influence of shame on adoptive parents' experience of seeking support. This experience of shame in engaging with support services may also transpire into engaging in research, and thus could limit the review's conclusions if many adoptive parents' voices are missed by avoiding engaging in research due to shame. Future research should seek to overcome this barrier by normalising adoptive parent's experiences, encouraging all parents to share their experiences irrespectively and ensure unbiased and ethical procedures are followed in planning and conducting research.

The review highlights the need for future research to explore experiences of post-adoption support, in particular experiences of support outside therapeutic interventions. Future research should also seek to explore children's experiences of post-adoption support, as children's voices are under-represented in this research. The aim of the review was to explore families' experiences, but the predominant experience explored was that of parents. Therefore, the review is unable to address conclusively adoptive families' post-adoption support experiences, although does provide an understanding of adoptive parents' experiences. Consequently, to support the development of person-centred therapeutic interventions for children, and to ensure children experience post-adoption support positively, more research is needed to explore their experiences.

Conclusion

Overall, while the review is unable to provide a deeper understanding of children’s experiences of post-adoption support, it does provide a greater understanding of parents’ experiences of post-adoption support within the UK. Parents’ experiences of post-adoption support can be felt within, and influenced by, the many different systems around the adoptive child, from the individual level of the child and parent, to wider family and friends, to the external levels of professionals and society. Therefore, post-adoption support should be delivered in a whole systems approach to improve provision and create significant improvements in support for families. This will positively impact children’s, parents’ and families’ wellbeing, and will ensure fewer adoptions break down.

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Part Two: Empirical Paper

Exploring Experiences and Perceptions of Cognitive Development in Adoptive Children with Underdeveloped Sensory Systems

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Abstract

Aims: The research explores adoptive parents' experiences and perceptions of their child's cognitive development in the context of a sensory-based intervention; including parents' perceptions regarding the influence of such an intervention on cognitive development.

Method: Ten adoptive parents of children who had completed a sensory-based intervention, took part in semi-structured interviews. Data was analysed by thematic analysis.

Results: Four main themes were identified: *Cognitive abilities; Emotional, Social and Behavioural Development; Support in Development* and *Understanding of development*. Three themes included between two and four subthemes.

Conclusions: Adoptive parents experienced children's development to be affected in various domains of cognition and emotional, social and behavioural development to one extent or another. Most perceived developmental changes during the sensory-based intervention. Parents understood these changes to be influenced by the intervention building underdeveloped sensory systems, thus providing children with the skills and capacity to engage in cognitive tasks; improvements in children's confidence affecting their motivation to learn; and other additional influences outside the intervention influencing development.

Keywords: Adoptive children, cognitive development, emotional, social and behavioural development, wellbeing, sensory system development, sensory-based intervention.

Introduction

Adopted children are primarily in services due to the experience of trauma such as abuse and neglect (Department of Education, 2020). Traumatic experiences in childhood have been consistently found to affect children's wellbeing and development across a range of domains, including both sensory and cognitive development (Maguire et al. 2015; Yochman & Pat-Horenczyk, 2020). As a result, children who have experienced trauma often present with deficits in their sensory processing systems and in their cognitive functioning, at both a neurological and observational level (Glaser, 2014; Lupien, McEwen, Gunnar & Heim, 2009).

Sensory processing describes the way in which the nervous system processes information from the senses (Purvis, McKenzie, Cross & Razuri, 2013). When sensory information is processed, it is integrated and interpreted, to provide an understanding of oneself within the surrounding environment, using all the incoming information from the senses (Roley, Mailloux, Miller-Kuhaneck & Glennon, 2007). The tactile, proprioceptive and vestibular senses are particularly important in development, as these enable experiences such as pain to be felt (tactile system) and allow an individual to have control over the movement and balance of their body (proprioceptive and vestibular) (Kilroy, Aziz-Zadeh & Cermak, 2019). The development of these sensory systems, and ability to process and integrate information, can be implicated if a child has not received enough sensory input early in life (Fraser, MacKenzie & Versnel, 2017). A neglected child may receive limited sensory input if they are unable to move within, and explore their environment; and abuse can result in too high a state of fear and arousal for a child to be able to receive and integrate any sensory input (Perry, 2009; Lloyd, 2016). As a result, children with traumatic experiences can struggle to process sensory cues and respond to the environment, and consequently may struggle to perceive when, for example, they are hot or cold; and may struggle with balance and coordination (Howe & Fearnley, 2003; Cheatum & Hammond, 2000). Consequently, underdeveloped sensory systems present many difficulties for children throughout their life.

Underdeveloped sensory systems may also present difficulties for children’s cognitive development. Several theoretical models suggest that successful cognitive development cannot be achieved without sensory development occurring first. Piaget (1936) suggested that children cannot progress through the later three stages of cognitive development, without first progressing through the initial sensorimotor stage. This is where children use their many senses, such as touch and sight, to understand their environment; relying only on sensations and movement to understand the world. Consequently, if children are unable to receive and process information from their sensations and movement, as is the case in neglect and trauma, Piaget’s theory suggests that children experiencing such traumas may struggle to develop through the later stages of cognitive development. In addition, the Neurosequential Model (Perry, 2006) describes how children’s brain develop in a bottom-up approach. The brainstem develops first and is involved in sensory development; then the limbic system develops, and finally the cortical brain, which is responsible for higher order cognitive skills. Again, this model highlights the importance of initial sensory development as a precursor to cognitive development. Ayres’ theory of sensory integration also highlights the importance of first building the sensory systems in order to develop cognitive capacities and skills (Ayres & Robbins, 2005).

Therefore unsurprisingly, much research shows that children who have experienced abuse and neglect present with poorer cognitive skills, poorer executive functioning skills, lower academic performance, a lower IQ, and struggle to engage and function within the school environment (Su, D'Arcy, Yuan & Meng, 2019; Whiting, 2018). As well as affecting children’s day-to-day functioning, deficits in cognitive development have been shown to negatively affect children later in life. This includes later job prospects and socioeconomic status (Scorza, Araya, Wuermli & Betancourt, 2016), and wellbeing and risk of developing mental health conditions, both now and in the future (McCrory, Gerin & Viding, 2017). Consequently, supporting children’s cognitive development should be considered important by health and mental health professionals.

Sensory-based interventions aim to improve children’s sensory processing systems by providing sensory input, in the form of various sensorimotor activities or techniques, to develop and build these systems (Champagne, 2011). Although activities can vary within interventions, many encourage children to crawl, jump, climb and balance to rebuild underdeveloped sensory systems (Blanche, Chang, Gutiérrez & Gunter, 2016). This provides children with trauma experiences, the sensory input and movement they may have missed out on as an infant (Lloyd, 2016). However, despite the aforementioned theories suggesting the importance of rebuilding underdeveloped sensory systems for children’s later cognitive development, no research has investigated sensory-based interventions in relation to cognitive development for children who have experienced trauma.

The research base for sensory-based interventions for children who have experienced trauma is sparse. Consequently, most studies have focused on understanding the impact of such interventions on symptomatology of sensory processing. Fraser et al. (2017) conducted a systematic review of sixteen papers examining the effectiveness of sensory-based interventions for children with trauma histories; finding while such interventions are effective for improving sensory processing, research is limited and fails to explore many other domains of outcome, including cognitive development. Research exploring sensory-based interventions predominantly explores the use of such for children without trauma histories, who present with other sensory processing difficulties, such as autism spectrum disorder (ASD) and sensory processing disorder. Consequently, National Institute for Clinical Excellence guidelines for supporting children with trauma histories, do not currently recognise the importance of sensory-based interventions in children’s development and wellbeing (NICE, 2017).

However even within the research base for children with no experiences of trauma, systematic reviews have highlighted the need to explore cognitive development in the context of sensory-based interventions. Again, the focus of research is on symptomatology (Case-Smith, Weaver & Fristad, 2015). Despite this, Pastor-Cerezuela, Fernández-Andrés, Sanz-Cervera and Marín-Suelves (2020) found sensory processing difficulties in children with ASD predicted some domains of affected executive and cognitive functioning. They conclude future research is needed to investigate if sensory-based interventions can improve cognition. Moreover, Blanche et al. (2016) investigated the impact of a sensory-based intervention on cognitive functioning in 63 children with developmental delays. All were delayed in either their motor, cognitive or language skills, or in a combination of these, and some presented with sensory processing difficulties. Children completed a sensory-based intervention programme for three to nine months, and the Bayley Scales of Infant and Toddler Development III (Bayley, 2006) and Infant/Toddler Sensory Profile (ITSP) (Dunn, 2002) were administered before and after the intervention to measure cognitive ability and sensory processing. The findings showed that children with sensory processing difficulties exhibited significant improvements in their gross motor skills, receptive and expressive language, and cognition following the intervention. This suggests that a sensory-based intervention can lead to improvements in cognitive development for children with developmental delays.

However, as cognitive development has not been explored in relation to a sensory-based intervention specifically for children who have experienced trauma, and as research is extremely sparse, it is unclear if such an effect would persist for such children. Therefore, research is first needed to conduct an open exploration of cognitive development in the context of a sensory-based intervention for children who have experienced trauma, before it can then be considered where future research needs to be directed in this field. The current study aims to meet this need, by qualitatively exploring parents' experiences of their adoptive child's cognitive development following their completion of a sensory-based intervention. This research should help contribute to the understanding of children's cognitive development following trauma; informing policy makers and practitioners on how best to support children's development and consequent wellbeing. The research aims are therefore: To explore adoptive parents' perceptions and experiences of children's cognitive development; and to explore how adoptive parents perceive and experience the influence of a sensory-based intervention on their child's cognitive development.

Method

Design

The research used a qualitative design to support an open exploration of cognitive development through exploring parent's experiences. Semi-structured interviews were used to enable this, allowing parents to speak freely, and enabling the interviewer to respond to where parents took discussions.

Participants

Ten adoptive parents (eight females, two males) from ten separate families took part in the research, all of whom had taken part in a sensory-based intervention with their child. Participants were recruited opportunistically, having completed the same sensory-based intervention, The Building Undeveloped Sensory Systems (BUSS) programme. The BUSS programme provides children with a personalised intervention plan, incorporating various sensory based activities to rebuild their sensory systems. Parents implement these activities with their children at home or within school, or both, on a regular basis for 8-10 weeks; during which progress is reviewed and the intervention plan can be adapted if children's sensory needs change and develop. For further information on this sensory-based intervention see Appendix G. Families were recruited from a range of cohorts, with the recruitment period extended due to the impact of Covid-19 on recruitment. This meant some parents had completed some parts of the intervention face to face, and others had completed the intervention remotely. Families varied in time taken to complete the intervention due to various difficulties such as the impact of the Covid-19 and some children requiring a break in intervention or needing further therapeutic input. All participants discussed their experiences of one adoptive child who had taken part in the intervention. Children discussed within interviews were predominantly male (N=7, N=3 females); and children varied in age between three and eleven years old.

Procedure

Ethical approval was granted by the Faculty of Health Sciences Ethics Committee, University of Hull (see Appendix H). Information regarding the research (see Appendix I, J, K and L) was provided to all potential participants via email, by the programme lead, before they engaged with the sensory based activities with their child, during the initial information sharing stage of the BUSS programme; in addition to verbal information regarding the study, provided by the researcher during this initial stage (see Appendix G for more information regarding the BUSS programme). The researcher and programme lead explained to parents that their participation in the study would not affect their treatment during the BUSS programme, and that the programme lead would have no knowledge of who had taken part, with all information being anonymous and confidential. Parents contacted the researcher by phone or email if they wanted to take part in the study, after which the researcher called or emailed the participant explaining the research in further detail, providing the opportunity to ask questions, and obtaining informed consent. During this call or email, prior to parents starting the next stage of the BUSS programme and completing sensory activities with their child, parents were asked to read an information sheet defining and describing cognitive development (Appendix L). Parents were asked to keep their child's cognitive development in mind over the course of the BUSS programme in preparation to share their experiences and perceptions during a semi-structured interview. Some parents offered to keep diaries to help this reflection process.

Interviews

All parents were interviewed after their child had completed BUSS, approximately one month later (occasionally earlier due to the impact of Covid-19 affecting timescales). Prior to commencing the interview parents were asked to read a brief version of the cognitive development information sheet (see Appendix M). Interviews explored parents' experiences and perceptions of their children's cognitive development, and their experiences and perceptions of this development in relation to the sensory-based intervention. All interviews were recorded via an encrypted laptop and transcribed using pseudonym names for children. Interviews lasted between 30 and 90 minutes.

Materials

The information sheet on cognitive development was informed by cognitive development research, including children's developmental milestones (Slater & Bremner, 2017) and recognised cognitive assessment tools such as the Wechsler Intelligence Scale for Children-5th Edition (Wechsler, 2016); ensuring this information sheet covered all areas of cognitive development. This information was reviewed by the researcher’s primary supervisor who is familiar with child development work and has worked in this field for several years. The interview schedule, shown in Appendix N, was used to guide the interview, and was also developed in collaboration with the researcher’s primary supervisor, to ensure the questions asked explored experiences of cognitive development in an unbiased and explorative nature. Parents were consulted during the creation of these materials to ensure the language used within both the information sheet and interview schedule was appropriate and understandable. Language and terminology used, and questions asked, were adapted in line with parents’ feedback.

Analysis

Thematic analysis was used to analyse interview data according to Braun and Clarke’s (2006) six phases of analysis (Appendix O). After transcription initial codes were developed before themes were then generated and reviewed (see Appendix P for example of this). The 15-point checklist of criteria for good thematic analysis was referred to during analysis to aid validity and reliability (Braun & Clarke, 2006). Thematic analysis was opted for as the flexible nature of thematic analysis suited the research aim in providing an open exploration of experiences of cognitive development, as themes can be developed in a bottom-up approach (Braun & Clarke, 2006). Guidelines regarding sample size in thematic analysis were consulted prior to recruitment to ensure thematic analysis would be appropriate for the scope of the project. A minimum of ten participants is recommended for conducting thematic analysis within a medium sized doctoral project (Braun & Clarke, 2013).

Researcher’s position

The researcher is a female, White British, Trainee Clinical Psychologist in her mid-20s with no prior connection to the BUSS programme or adoption services. While the researcher had no prior personal investment in the research, qualitative research is influenced more so by researchers' own values, assumptions and epistemological positions (Becker, 1996). Therefore, the researcher's own critical realist (Fletcher, 2017) epistemological stance (Appendix B) and perceptions may have influenced both the interview and analysis process, possibly favouring some topics over others. The researcher kept a reflective diary throughout the process of research and engaged in supervision and qualitative reflective practice groups to identify biases and remain reflexive during the design, collection and analysis of research.

Results

Thematic analysis generated four overarching themes which described parents' experiences and perceptions of their children's cognitive development. Three themes contained between two to four subthemes (see table 1). Quotes where '…' have been used indicate excluded extraneous information.

Theme	**Subtheme**
Cognitive abilities	Acquire information
	Understand information
	Express information
	Imagination and flexibility
Emotional, social, and behavioural development	-
Support in development	Additional support accessed
	Considering additional support
Understanding of development	Building underdeveloped systems
	Confidence in self and abilities
	Additional influences

Table 1. *Themes developed from analysis.*

Cognitive abilities

Acquire information

All parents spoke about their child's ability to acquire information; discussing either their child's ability to attend to information, or to retain information, or a combination of the two, to be poor to a certain extent.

"In terms of his cognitive development and in terms of his ability to learn he does, he does find it difficult to concentrate. He always has, which is a big issue with him" (Ryan's Dad)

"He'd struggle to retain information so you could tell him something very basic and then ask him to repeat it back after what we're doing next, those kinds of things, and he just wouldn't be able to do it." (Sam's Dad)

All but two parents described their experiences of seeing this ability develop, to one extent or another, throughout and following the sensory-based intervention.

"His attention has just improved no end." (Nathan's Mum)

"The difference memory wise, spellings used to be very difficult for her to do, just never seem to go in, just in, out… Just it was challenging for her and again spellings have got so much better her ability, not even her ability to write them down, but just be able to store them and recall them and she's doing really well with her spellings now."(Emma's Mum)

Understand information

While some parents recognised their child's strengths in their ability to understand information, many more recognised this was a difficulty for their child.

"But I'm not sure what it is because to me there seems to be a lack of understanding of what is." (Ryan's Dad)

"It takes him longer to grasps things" (Jake's Mum)

Parents recognising this difficulty described their perception of this understanding improving.

"His comprehension of like the overarching story is better now." (Marlon's Mum)

"He's able now to reason most things and understand them in a way that he just he absolutely wouldn't have been able to before, and process information and actually link it to something else as well. You know, he'll say 'Ohh, no, we can't do that either because of the germ, and when the germs are going away and when we keep washing our hands and when we keep doing this, then we'll all be able to go back and do it again soon'. And things like that. Which is definitely, I think a big development for him." (Nathan's Mum)

Express information

Seven parents discussed that their child's ability to express information was poor, with some parents sharing their child's experience of a speech delay.

"I think the problem with Jake is that he's not always been able to express himself. So, when. He couldn't. When his speech was massively delayed." (Jake's Mum)

"He does talk in shortened sentences a lot" (Marlon's Mum)

Out of these parents, five saw this ability improve to some extent throughout the sensory-based intervention.

"Definitely I mean his language is, I think it's pretty, pretty advanced, you know he's using. A) He's talking in sentences. B) He's using, his vocabulary is expanded significantly. You know he'll talk to me about, 'I've got something really interesting to tell you Mummy', and he's, explaining things to me in a way that he never did before. (Liam's Mum)

"My dad said he's able to verbalise like. He's able to talk more that's what he'd say. Like he can have conversations more, whereas he didn't really have conversations before." (Maron's Mum)

Imagination and flexibility

All parents discussed their child’s flexibility of thought and imagination. While parents differed in their perception and experience of this development, the majority felt their child struggled with these skills. Imagination was a particular difficulty, mentioned by seven parents. Many discussed this in the context of children’s play.

“He's got quite a lot of things that require an imagination that we bought, farm sets and those things, and we found that all those games and toys he doesn't really play with because he doesn't know how to play with them” (Ryan’s Dad)

“Mental flexibility he hasn't got the capacity to be flexible well, really.” (Alex’s Mum)

While not all parents discussed developments in this ability in the context of the sensory-based intervention, most parents who described their child’s imagination to be lacking, felt this was developing; and a handful perceived some development in their child’s flexibility of thinking.

“It’s kind of unlocked her imagination, and again creativity is a lot more unlocked now than it used to be.” (Emma’s Mum)

“She's better at problem solving now, as part to some extent in that she’ll have a go at problem solving rather than just saying. In fact, she does that a lot at the moment she comes up with ideas for things”. (Sarah’s Mum)

Emotional, social, and behavioural development

All parents felt their child had some level of difficulty in their emotional, social and behavioural development and discussed these areas as overlapping difficulties. Most parents perceived their child’s emotional and behavioural regulation, expression of emotion, and ability to consider other’s feelings, to be one of their main difficulties.

"That's his main issue really regulating his emotions and monitoring his behaviours." (Jake's Mum)

"It's, you know, used to be incredibly difficult for him and he didn't, the only way of expressing that might have been, you know, anger or upset." (Nathan's Mum)

"Thinking about other people's thoughts and feelings, how they might differ to you own. She does really struggle that." "She isn't quite able to empathise properly." (Sarah's Mum)

The majority of parents noticed some form of improvement in their child's abilities and development in these domains in recent months.

"I feel like now she's just able to slightly take breath before she reacts. Think before she reacts, whereas before it was just that, well think before she responds, whereas previously there was just reaction. You know, without even without even thinking. And I think that is developing. And I suppose that links in with quite a few different things. So regulating emotions and behaviour although sometimes that we are seeing that dysregulation that's been contained and she's able to kind of pull herself out of that, but also able to express her emotions a bit more when it comes to big things like (name removed) dying which has stopped her expressing them in a negative way." (Emma's Mum)

"So now I will say to him. Alright, it's not important to you but it's important to me and he seems to take that on board. I think he seems more empathetic." (Alex's Mum)

Some parents discussed the impact this development had on other aspects including, school exclusions, parents' own experiences of stress, and their ability to emotionally connect with their child.

"It got to the point beforehand where school, even though they were aware that he wasn't choosing these fight or flight type behaviour responses, they weren't able to manage them

anymore, so they started to temporarily exclude him. So he's nearly ten now but he's had five exclusions already, for example. So it was clearly having an impact on him. More recently, there's been a lot less of that at school, so he's had a couple of small flare ups, but nothing compared to how it used to be. So we're hoping that's starting to develop a little bit more and hopefully some of that feeds back into we discussed earlier in terms of he seems able to regulate his body and his feelings a little bit more." (Sam's Dad)

"I feel like well we feel there's a lot more joy in our lives because she's able to be in the moment and experience things in a really positive way, and so let me give you an example. So for her birthday in September, (name removed)'s Mum and Dad got her tickets to Flamingo Land. So we went there for the day… I remember (name removed) and I looking at each other thinking we're going to have to start ending this now. And previously, in a past time, she's not coped with endings very well, she would have got upset or angry that kind of thing. And it just ended really well. We had a really lovely day." (Emma's Mum)

"He's much more in touch with his emotions as well you know. Where, I think. I always felt affection from him, I think less so my husband he didn't feel it so much, but you know, he tells us how much he loves us. It's you know, and I sense that he really feels that as well. (Liam's Mum)

Support in development

Additional support accessed

All bar one parent described their child currently, or had previously, accessed additional support for either their cognitive abilities, or emotional, social or behavioural development. This support included, 1:1 support in lessons, private tuition, speech and language therapy, play therapy, filial therapy, family therapy and part-time alternative provision for social skills development. Some accessed just one of these, others accessed a combination of these.

"He does need support, 1:1 support at school, so he does need somebody there to explain things to him or give him longer to understand things. Things like that." (Jake's Mum)

"School's a bit of it's a bit more complex there's a lot of anxiety around school which is why we're undergoing the filial therapy." (Shona's Mum)

Considering additional support

Eight parents discussed their consideration of accessing additional support for their child's developmental needs in addition to past or existing support. Parents highlighted children still required support, and many questioned whether their child had a developmental disorder or learning difficulty.

"We know we're going to have to look for somewhere that has got a nurture provision. And I can tell you now that he will find, well GCSEs he's going to find really difficult." "It could be the very start, or the signs of ADHD, in that sense. However, because he's been through trauma, it is really hard to pinpoint exactly what it is that's affecting him". (Ryan's Dad)

"I mean don't get me wrong there's still work to be done." "I think she's still a work in progress." (Emma's Mum)

"My gut instinct was telling me that we did need a bit of support, but I really didn't know what it was. And then yeah, some were saying we needed to do further investigation and test for autism possibly, ADHD, sensory processing disorder." (Nathan's Mum)

However, five of these parents felt they no longer needed to consider additional support, or possible diagnostic labels, for their child.

"But I think that he is cognitively probably at the level he needs to be at now. Like other, like, almost like four or five year olds. I don't really see him behind it that way, which I think is

> *huge because I was thinking it like last summer, especially talking to paediatricians like my gosh, like does he, like is there learning difficulties?" (Marlon's Mum)*

> *"I know (name removed) and I talked about does she have ADHD you know… And absolutely she didn't have ADHD. But if we hadn't known about BUSS who knows what route we might have gone down." (Sarah's Mum)*

> *"He just wasn't meeting the sort of milestone, they'd expect, and he didn't have the attention that they'd expect, he wasn't participating like other children were at his age, and picking things up in the same way. So they were sort of pushing for some support … But now, having been through BUSS, there is no worries… No worries whatsoever that he will be able to, you know, fully thrive in a mainstream school" (Nathan's Mum)*

Understanding of development

Building underdeveloped systems

When discussing their understanding of children's more recent cognitive development, all but one parent discussed the impact of building underdeveloped sensory systems. Most parents explained they felt their child now possessed the physical skills to be able to sit still, which then enabled them to attend to and engage with cognitive tasks. Parents explained they felt this building of physical skills and sensory systems had allowed their child to have more cognitive capacity to focus on other tasks, with children no longer needing to concentrate on their body.

> *"They have said that beforehand he couldn't sit and do anything, you know an activity. And he can sit for a few minutes now and so he is improving. And his knowledge is improving off the back of that, because he's not as slippy he's managing to sort of sit and actually interact and getting involved just more than he could've done at the beginning of the year." (Jake's Mum)*

> *"Like capacity had been taken up with just trying to get his body, like brain capacity had been taken up with just trying to get his body to do what he wanted to do. And because we were building core strength and going back through the development on a bodily level, that actually his body was doing more of what he wanted to do. It wasn't as difficult to sit or walk, you know, walk around an item without bumping into it, or carry something or sit still. And you know use his hand to do an activity, that actually he also had more capacity to like listen to people and understand what was going on around him and listen to instructions and take turns." (Nathan's Mum)*

> *"If you're putting all your attention on trying to keep yourself sat still, because its tiring then it does take your energy away from your other cognitive functions." (Shona's Mum)*

> *"I feel less of, she needs less of her brain power to focus on movement, being able to sit still. She doesn't really have to be aware of body. Whereas she used to. And that has freed up, in my mind, freed up space to be able to just devote to the cognitive stuff." (Emma's Mum)*

Confidence in self and abilities

Eight parents discussed children's confidence in either themselves or their abilities, or a mixture of the two, increased throughout the sensory-based intervention, when discussing their understanding of development observed. Many parents reported this had led children to want to attempt more in relation to their cognitive development, including persevering for longer on cognitive tasks, asking more questions, and wanting to learn more at school.

> *"His whole demeanour is sort of changing a bit, he sort of feels his self-confidence has improved and he feels a bit smarter than he would have felt. That definitely has, his self-confidence is, because last year in reception he'd say "can't do it, can't do it". Whereas now he'll sit and have a go, you know he'll get involved, so that definitely has come over this sort of 4/5 months." (Jake's Mum)*

> *"Instead of Mum I need help, Dad I need help' in everything, she's kind of 'Awh no I've got it, I've got this' and don't get me wrong she still needs a little bit of help. But all kids do you know when you're home schooling…but yeah, her confidences has grown a lot." (Emma's Mum)*

> *"She seems taller. She definitely walks straighter. She's more upright, which again I think all impacts on her confidence which just, it must affect their ability to learn. It must do." (Sarah's Mum)*

Additional influences

Eight parents explained it was impossible to understand children's development, and some of the changes they had observed, in the context of the sensory-based intervention alone, without considering the impact of factors such as school and normal developmental changes.

> *"BUSS tied in with him going into year one so it's difficult to say whether it's been the change of the process of education, or whether or it's that, with you know the BUSS he's built his core strength and he doesn't have to concentrate as much on how he's able to holds himself and that may have taken that bit of pressure off him." (Jake's Mum)*

> *"I don't know if that is down to the BUSS or whether he's just growing up a bit more. Yeah. It's hard to pinpoint really." (Alex's Mum)*

Discussion

Research Findings

The research explored adoptive parents' experiences and perceptions of their child's cognitive development in the context of a sensory-based intervention; aiming to explore both parents' experiences and perceptions of this development, as well as the influence of a sensory-based intervention on cognitive development. The themes: *Cognitive abilities,* *Emotional, social and behavioural development,* and *Support in development,* and each associated subtheme, provide an understanding to both of these aims. While the theme: *Understanding of development,* and its associated subthemes, provide an understanding to the second aim of the research.

The themes *Cognitive abilities* and *Emotional, social and behavioural development* contribute to and support the current knowledge base on development following trauma. Adoptive parents experience and perceive observable deficits in their child's cognitive development. These are experienced within both explicit cognitive functioning skills, in children's ability to acquire, understand and express information, and show flexibility and imagination; and within functioning requiring higher level cognitive skills, in children's emotional, social and behavioural development (Slater & Bremner, 2017). Difficulties in these domains, as identified in previous literature, can have far-reaching implications (Scorza et al. 2016).

Without skills to acquire information, children may struggle to meet the necessary developmental milestones, and may struggle to learn in school and progress through their education (Whiting, 2018). Many parents recognised this, as they spoke about their concerns for their children's development and their progression through mainstream school within the subtheme of *Considering additional support* in *Support in Development*. Such struggles could place children at a disadvantage in terms of later qualifications, job prospects and consequent income and socioeconomic status. These are known risk factors for poor mental health and wellbeing (Meltzer, Gatward, Goodman & Ford, 2003).

Children's ability to understand information also impacts their ability to make sense of the world around them and affect their day-to-day functioning (Rosenberg, 2015). Ability to express information can further lead to such difficulties, as well as difficulties during schooling if children are unable to meet various standardised methods of assessment (Dockrell, Lindsay & Palikara, 2011). One parent discussed such concerns explaining that while their child’s understanding was good, their ability to express this information was not. This was felt to impact their child’s performance on school assessments, consequently negatively reflecting abilities and attainment. This can again affect later prospects in children’s life, shaping the course of their future and possible wellbeing (Scorza et al. 2016). Within the subtheme *Ability to express* some parents also discussed their child’s delayed speech. Language is theorised to play a significant role in cognitive development; the acquisition of language, and expression of this, leads to higher order cognitive skills (Vygotsky 1962). Delays in speech could affect children’s later stages of cognitive development and therefore need to be addressed urgently.

Difficulties with imagination and flexibility of thought also negatively impact outcomes for children. Many parents discussed a lack of imagination being a barrier to their child’s play. Poor imagination during play activities can affect not only cognitive development, but also peer relations and social and emotional development (Golinkoff & Hirsh-Pasek, 2006; Vygotsky 1967). Lack of flexibility of thought may further impact children’s social development and can prevent milestones such as theory of mind from developing (Jacques & Zelazo, 2005). If children are unable to develop positive peer relations due to affected cognitive and consequent social emotional development, this negatively impacts their wellbeing and future relationship formation (Price & Brew, 1998). In addition, mental flexibility has been shown to be a protective factor in mental health research, suggesting without this skill, children may be at greater risk for mental health conditions (Qouta, El-Sarraj & Punamäki, 2001).

Adoptive parents perceived children to predominately struggle with their emotional, social and behavioural development, in particular the ability to regulate and express emotions and consider others' feelings. Unsurprisingly difficulties in these domains affect children's mental health and wellbeing (Hackett et al. 2010). Some parents in the study recognised the impact of these difficulties on children's ability to remain in school, supporting literature showing such difficulties affect day-to-day functioning and long-term outcome (Goodman Joshi, Nasim & Tyler, 2015). Higher order cognitive skills are required for this development. Therefore, parents experience adoptive children to struggle with higher order cognitive skills needed to emotionally, behaviourally and socially develop, which supports and contributes to existing research (Brown, Waters & Shelton, 2017).

Both subthemes in *Support in Development* suggest adoptive children may require additional support across a range of developmental domains, as parents either considered, or had accessed, additional support for their child from various disciplines. Therefore, parent perspectives may be that adoptive children's cognitive and emotional, social and behavioural development cannot improve without MDT input. This again supports and contributes to existing literature which shows, following trauma children need access to support from a variety of domains to bolster their development and wellbeing (Bardsley, 2017). The subtheme of *Considering additional support* further shows adoptive parents can feel unsure about whether their child has a diagnoseable condition, and consequently may struggle to make sense of their child's development and require support in understanding their child's presenting developmental concerns.

In addition to the fourth and final theme of *Understanding of development,* the discussed first three themes contribute to the current gap in the literature, exploring perceptions of the influence of a sensory-based intervention on adoptive children's cognitive development.

While perceptions were mixed, the first two main themes show most parents perceive their child's cognitive abilities, and emotional, social and behavioural development, to improve to a certain extent within the context of the sensory-based intervention. Therefore, adoptive parents might experience some form of influence of a sensory-based intervention on children's cognitive development.

Parents' shared perceptions from the theme *Understanding of development* help to ascertain whether this is the case. The subtheme *Building underdeveloped systems* suggests parents perceived the sensory-based intervention to impact children's cognitive development to some extent. By building underdeveloped systems parents felt children developed the skills and capacity to engage with cognitive tasks. These experiences link well with theory from Piaget (1936), Perry (2006) and Ayres (Ayres & Robbins, 2005), and support Blanche et al's. (2016) research in a non-adoptive sample showing children's cognitive domains improved following completion of a sensory-based intervention. However, these findings support this only to a certain extent as the current research cannot suggest any directional relationship in the findings with any quantitative significance.

Parents also perceived the intervention to impact children's ability to learn and engage during school, as parents discussed children now being able to attend and engage in school in *Building underdeveloped systems*. Engagement with school affects children's future prospects and later mental health (Wang & Peck, 2013). Therefore, the intervention may have long term positive implications for children's wellbeing. Moreover, in the *Confidence in self and abilities* subtheme, parents discussed children's confidence improving during and following engagement with the sensory-based intervention. This led children to try more in cognitive tasks at both school and home. Parents therefore perceive a sensory-based intervention to have an additional indirect effect on children's cognitive development by supporting children’s confidence. Positive self-esteem and self-efficacy are protective factors in the development of mental health conditions (Gurung, Sampath, Soohinda & Dutta, 2019), and self-esteem is needed before self-actualisation can be achieved (Maslow & Lewis, 1987). Therefore, these factors are important to foster in children’s development, and appear to be achieved through a sensory-based intervention. Parents perceive positive outcomes for children’s emotional development and wellbeing following engagement with a sensory-based intervention, highlighting the significance such interventions may have in supporting children following trauma.

The subtheme *Considering additional support* provides further support for this. Some parents explained they were no longer considering additional support or diagnostic assessment for their child. This suggests that the sensory-based intervention supported children in many domains of development to the extent that they no longer required support. However, parents’ understanding of developmental disorders and learning difficulties changed following the sensory-based intervention. Therefore, alternatively, there may be no perceived influence of the intervention on children’s development, but instead on parents’ understanding of this development. This remains significant, as if parents are able to understand children’s development, they will be better able to support their child’s needs and may avoid seeking out unfitting diagnostic labels for their children’s presenting difficulties.

Despite these perceptions of the influence of a sensory-based intervention on children’s cognitive development, findings from the subtheme *Additional influences* suggest parents are unsure if all experienced developmental changes within the context of the sensory-based intervention can be attributed to the intervention alone. Parents recognise the complexity and systemic nature of children’s development, considering the impact of other additional factors such as school and normal developmental changes which occur rapidly during childhood

(Slater & Bremner, 2017). In addition, within *Additional support accessed* some parents discussed the previous impact of support they accessed at the same time as the sensory-based intervention. Therefore, parents' experiences of cognitive development may be impacted by additional influences and support, and consequently the perceived influence of the sensory-based intervention is also influenced by such elements.

Clinical Implications

The research highlights the already known importance of services needing to provide support for adoptive children in relation to their cognitive development, as parents experience this development to be affected, and research shows this negatively affects children's wellbeing (Vorria et al. 2006). When supporting children's development, a sensory-based intervention should be considered by clinicians, as parents' experiences point to such an intervention supporting children's cognitive, emotional, social and behavioural development, as well as children's confidence; all important factors in children's wellbeing and preventing mental health conditions (Hackett et al. 2010). Sensory-based interventions foster a bottom-up approach to trauma. Thus, the current study supports available theory and research showing the importance of clinicians supporting children with trauma histories using a bottom-up approach (Perry, 2009).

Building underdeveloped sensory systems may enable adoptive children to develop greater cognitive capacity and skills to then engage with later beneficial therapeutic talking therapies (Bardsley, 2017), as the current findings suggest parents perceive difficulties in sensory processing to affect children's ability to engage in cognitive tasks. This, as well as the already identified deficits in cognitive skills such as mental flexibility, may affect children's ability to engage in talking therapies. Therefore, supporting children's cognitive development prior to offering therapeutic intervention could result in children experiencing greater positive outcomes from therapy. Such a preventative approach could lead to children requiring fewer therapy sessions and less support from services in the future. This has implications not only for children's wellbeing, but also for NHS and social service capacity. It remains important that children access multi-disciplinary services, as findings suggest children require support across a wide range of domains.

The current findings strongly suggest that supporting children's sensory and cognitive development provides children with the skills and confidence to better engage in learning and education. Therefore, supporting children's development in these domains may support their long-term outcomes, future prospects, and wellbeing, and should again be encouraged by clinicians working with children with trauma histories. Adopting a child with many therapeutic needs can be challenging for families and can affect parents' own wellbeing (White et al. 2021). Parents' experiences within the *Emotional, social and behavioural development* theme support this and show the positive impact of a sensory-based intervention on parents' wellbeing and attachment towards their child. Consequently, sensory-based interventions should be considered in adoption support services, to support both parents' wellbeing, and indirectly children's wellbeing, by ensuring caregivers can provide an emotionally stable base for positive attachments to be formed (Bowlby, 1979). Such interventions also help parents to understand their adoptive children's presenting difficulties with reference to underdeveloped sensory systems rather than diagnostic categories such as ADHD, autism and sensory-processing disorder. Therefore sensory-based interventions may be beneficial prior to conducting diagnostic assessments for developmental disorders and learning difficulties. As these interventions are currently not in NICE guidelines for supporting children with trauma histories (NICE, 2017), some children may be currently receiving diagnoses for the aforementioned conditions prematurely and inappropriately.

Strengths and Limitations

While the research provides strengths in being the first of its kind to explore adoptive children's cognitive development in the context of a sensory-based intervention, the conclusions are limited due to the nature of such. This explorative study suggests sensory-based interventions can be useful more broadly than intended, as reported by parents in interviews, rather than from developmentally tracked longitudinal quantitative data. However, the study reports on both relevant and prevalent themes following Braun and Clarke's 15-point checklist (2006), so the experiences shared can be considered representative of most participants and to reflect valid parental experiences. Participants were provided with information defining and describing cognitive development to support their understanding of this term, and to ensure the capture of all experiences and perceptions relating to children's cognitive development. Some participants may not have been aware of all elements included in this term, and consequently some experiences of development might have been missed. Moreover, participant responses may have varied due to differences in participants' understanding, thus potentially impacting the richness of data, and validity and reliability of findings. Without the prior definition some participants' voices may have been excluded through possibly limiting experiences shared or deterring parents from participating. Conversely, the definition may have affected the openness of enquiry, as parents' experiences and perceptions may have been influenced by this guiding knowledge.

The open enquiry may also be limited by the fact that the school context was not considered. Due to Covid-19 interviewing teachers of adoptive children was not possible. As much development occurs during school, experiences of teachers would have been useful to understand children's cognitive development in the context of a sensory-based intervention (Slater & Bremner, 2017). Consequently, some experiences of development may have been missed. However, as most children were home schooled during the Covid-19 pandemic these experiences may not have been missed in their entirety. Although, the pandemic and the resulting home schooling may have influenced parents' experiences of cognitive development if children's learning and wellbeing was negatively affected from this additional context. Therefore, the findings are influenced in many ways by the pandemic.

In addition to teacher's experiences, children's experiences of development were also not captured in the current study. Asking children to reflect on and share their own perceptions of their cognitive development may have been a difficult task for children to do, therefore they were not interviewed during the research. However, failing to consider alternative creative methods to capture children's experiences, such as through drawings, may both limit the study findings and inadvertently privilege the voices of parents over their children. Children's drawings could be used through methods and tools such as the Draw a Man Test (Goodenough, 1926), or the Draw-and-Talk Method (Jordan, 2004). The former is a known useful tool for exploring children's cognitive development through their drawings of a man, woman and themselves (Hagood, 2003), while the later allows children's experiences to be shared through the co-construction of these with the researcher (Tay-Lim & Lim, 2013), as the child talks with the researcher while drawing. Methods such as these and asking children to draw themselves following the BUSS programme, may provide some insight into their experiences of cognitive development and allow their voices to also be heard.

Parents were not asked to share whether their child had experienced trauma such as abuse or neglect. While most adoptive children are placed in care services due to this reason (Department of Education, 2020) and therefore it is assumed most adoptive children will have experienced trauma, there are still many children who have been placed in care services due to other reasons and have not experienced traumatic histories. For example, Department of

Education statistics show that in 2020, 3% of children were placed in care services due to child disability, a further 3% due to parent illness or disability and 14% due to family dysfunction. Therefore, the research is limited in its conclusions regarding cognitive development in children with trauma histories. Additionally, children's cognitive development can differ depending on the type of trauma experienced, and time placed with an adoptive family, which were not measured (Glaser, 2014; Christoffersen, 2012).

Future Research

Future quantitative research examining cognitive development following a sensory-based intervention is needed to understand if such an intervention can directly impact on children's cognitive abilities. The current study also highlights the need for future research to study children's emotional, social and behavioural development and experiences of confidence following sensory-based interventions, to determine causal or correlational relationships. Future research on the impact of such interventions on parental outcomes is also merited, as parents expressed positive influences from this type of intervention for their own wellbeing and experiences. Additionally, the current study could be replicated with various adjustments made to negate for the identified limitations, including, completing the research outside of a pandemic, ascertaining types of trauma in children engaging with a sensory-based intervention, identifying length of placement in adoptive families, and using children's drawings to explore their experiences of cognitive development.

Conclusion

Although no firm directional conclusions regarding children's cognitive development in the context of a sensory-based intervention can be stated, the research shows adoptive parents experience their children's development to be affected positively by a sensory-based intervention. Parents felt children's cognitive abilities and emotional, social and behavioural development were affected, and children no longer required support in these domains. While parents recognise many additional factors influence their child's development, most parents witnessed developmental changes during their child's engagement with a sensory-based intervention. Parents perceive such changes were due to improving children's underdeveloped systems, providing children with the skills and capacity to engage in cognitive tasks; and improving children's confidence which affects children's motivation to learn. The research addresses a current gap in literature and support provision for adoptive children; suggesting where future research needs to be directed, to understand in greater detail the impact of a sensory-based intervention on children with trauma histories.

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Dissemination of research

In addition to publication the researcher aims to share the findings of the research at appropriate conferences and special interest groups, and online through social media and a website. The researcher aims to share the findings with not just professionals within their own domain of clinical psychology, but also with professionals working in school settings such as teachers and educational psychologists, occupational therapists, and professionals working within both adoption support and child trauma services. This will be achieved through contacting and networking with professionals in appropriate services and through attending many public events, conferences, discussions and sharing the research with appropriate magazines and online platforms.

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Part Three: Appendices

Appendix A: Reflective Statement

Initial experiences and reflections

Prior to any development of ideas for a thesis project I was initially extremely excited by the prospect of being able to complete my own research. Before the doctorate course I had many experiences of getting involved in research through various research assistant roles throughout my undergraduate degree. In these roles, I loved how research could be used to expand current knowledge; changing and developing what we know about the world, and how it could really help to make an impact on someone's life. The creativity of this process also appealed to me. To find a gap in knowledge and then address this with an original piece of research was really exciting to me. So, starting the research process I was very much bright eyed and bushy tailed, with full eagerness to hopefully produce a novel and influential piece of research, that stood the chance of being published- that was the dream. I knew research would be a long and difficult process from my previous experiences; but rather naively I did not realise the extent of this, and I probably allowed my excitement about the process to somewhat 'rose tint' my glasses.

Choosing the empirical research area

Initially due to my eagerness I set about coming up with all kinds of ideas that I perceived would make for good research projects. I took some of these ideas with me to the research fair where our associated University researchers would explain their research field and give us the opportunity to find out more about areas of research they felt were interesting to explore in a thesis project. After speaking to my now primary researcher supervisor, I rather surprisingly was drawn to the area of research she discussed may require some further exploration. She spoke about the use of sensory-based interventions with the field supervisor Sarah Lloyd, and how promising such interventions seem to be in supporting children who typically have histories of trauma. After hearing about the work Sarah Lloyd was doing, I went away and explored the trauma research base and found it captured my full interest. Unlike some other areas I was reading about wondering whether to go down a different route with a research topic, I was fully engaged in what I was reading and actively wanted to keep on reading. I reflected on what it was about this area that had interested me when thinking about whether to go down this route for a thesis topic, and realised that I was drawn to the more neurological aspects of this research base. The studies looking at the effect of trauma on children’s brain functioning and consequent development of skills were the elements I was enjoying reading about the most. Coming from a science heavy education in A-Levels, and predominantly enjoying the more neuro focused teaching during my Psychology Undergraduate, this made sense to me. After realising this was where my interest really lay, I began looking to the more neurological papers in trauma and considered where they may be some gaps in understanding related to this in the use of sensory-based interventions. This was when I found the gap with cognitive development in the context of a sensory-based intervention. While it took some time to develop an idea, looking back, this process allowed me to develop a strong initial foundation understanding of the research base which then aided write up, as I did feel I knew what I was talking about inside and out. In addition, understanding what it was that I was enjoying reading in particular, I think really helped to ensure I had motivation throughout the research process to engage in the work and get things done, even when there were challenges with this process. Although this did waver at times, as I have now learnt is normal in research, I would always in future seek to explore an area that I am fully engaged in. Not only did this help the process feel more doable but I think this also allowed me to really take time in considering different aspects of the research, such as the design and analysis, and not just rush to get it done because I was not interested.

Designing and completing the empirical project

Most inquiries into cognitive development typically come from a quantitative approach. However due to no previous study exploring this area to base any logically informed research questions on, and due to putting children through endless cognitive tests with no clear initial direction of inquiry seeming completely unethical, myself and the research team felt a qualitative inquiry was the best form of approach. While this made sense and fit with my own epistemological position, this decision was experienced with some apprehension. I wondered how a piece of research qualitatively exploring cognitive development would be viewed by others in the field where quantitative research was predominant. With this I worried if journals would accept and publish such an inquiry, and if an initial exploration of the area would be able to make as big an impact as I hoped for. Due to this I found it difficult at times to not stray into a more quantitative way of discussing and designing the research project during initial proposal submissions, and relied on supervision to make sure my inquiry was still true to its qualitative roots. This may have influenced why I decided to provide participants with information on cognitive development prior to their interviews, perhaps slipping into this more quantitative mindset to ensure ‘validity’. However, even after considering this potential during the design of the research, I still decided to include this element, as I think the use of this also fit with an open qualitative exploration of development. The use of the definition would support parents’ knowledge of this term, allowing them to potentially share more experiences, and allowed potential participants not be deterred in taking part and sharing their experiences, if they were unsure what this term referred to in all its entirety. Now after analysing and writing up the research I feel this qualitative inquiry really should not feel ashamed of feeling ‘different’ from the rest in the research world. I think the results found really do contribute just as much if not more than a quantitative approach might have done, and provide some really insightful experiences, clinical applications and future research directions. This is one of the things that I would say I have learnt from this process, to not feel ashamed or intimidated by completing a piece of research that is maybe different from the rest out there, as all research really does provide useful contributions and therefore should be considered by journals to publish regardless of this factor. Another key aspect that I learnt from the research process was perseverance. Initially when developing the research, I was hoping to include teachers in my sample, believing this would allow further experiences of cognitive development from a key development area to be captured. However due to the pandemic this just was not feasible. This felt like a massive hit at the time as I had been thinking about what an impact research from both parents and teachers' experiences might have, and I initially struggled to see how things would be the same without teachers' experiences. However, as I soon learnt, you just have to go with the flow and keep moving on and making progress. I could not just stop there because I was not happy. From keeping going, I soon realised that actually not including teacher experiences did not even seem to matter that much. Children were not at school so parents would not have noticed any development and I still was able to recruit parents which was great in the context of a global pandemic. The pandemic brought challenges not just to the design of the final project but also to the recruitment and write up process. Recruitment was massively pushed back which affected the time left to analyse and write up the results. I was mindful of the pressure this would inevitably place on things, so throughout analysis tried to remain as calm as possible to ensure the analysis was not affected by this. With this I took my time to analyse the data regardless of the mounting pressures and decided if it wasn't done in time, it wasn't done in time and an extension would be needed. No way did I want to rush analysis and create a piece of research that wasn't valid or reliable and didn't honour participants' voices accurately. I think my passion for the research area really helped with this and probably my perfectionistic tendencies too. Within the analysis process, as well as within the interview process, I was also mindful to not let my eagerness to develop a piece of publishable, impactful piece of research, affect the themes I generated and how I conducted the interviews. To support this process, I wrote down reflections following interviews and listened back to tapes to assess my own approach. While qualitative analysis will be intrinsically subjective, I did again try to remain as neutral as possible to avoid going searching for the themes that I wanted to find, rather than these actually being present. The time pressure felt during the final interviewing, analysis and write up process was extremely difficult, but it did teach me something valuable about the research as a whole. That is to always be adaptable, create contingency plans and start things early. Throughout research I used a meticulous plan for when things needed to be done setting myself own personal goals for things to be completed. When Covid-19 happened, that plan went out the window. However, starting research early and thinking ahead for possible contingency plans really helped when new plans needed to be made. I still think I will always plan out a research process, as I think this is needed to get things done in time, but I am now also very aware that plans need to be adaptable and can easily be thrown out the window, and to not be surprised if/when this happens.

Designing and conducting the SLR

I found developing an appropriate SLR question extremely difficult. It ended up being an incredibly long process to find an area for review that had enough papers available to review and hadn’t already been done. For the first time I had fallen out of love with research. I felt a sense of hopelessness at getting no further along with this part of the thesis, despite spending so much time on exploring possible questions, and really did not know where else to go with an idea. However, whilst making the initial phone calls to potential participants during recruitment, I noticed during our informal conversations many parents seemed to speak about their experiences of post-adoption support. Explaining how support had been difficult to access and what support they had already accessed. From this I looked at literature around parents' experiences of post adoption support and was able to discover the gap in such a review for UK parents. From this I realised I was looking too hard for fully formed questions during my initial searching for an idea and had taken the wrong approach to developing a question. I learnt, in order to develop a suitable question, first focusing on a broad area of research, such as post-adoption support, to then consider possible gaps and develop a question from there, was a much better approach; as opposed to thinking of possible questions right from the off. Although by hitting many dead ends in this process I again really did develop my understanding of the literature base for both the empirical and the SLR, which really supported the write up process to be much quicker than expected. Due to this idea coming from reflections when speaking to parents taking part in my empirical project, I feel the two papers that came out were able to overlap nicely with both exploring parents' experiences related in some way to post-adoption support. One being directly and the other being in the context of a form of post-adoption support intervention. Therefore, I feel the SLR provided a good initial context for the later empirical. Although, during the analysis and write up of both papers I had to remind myself that, while similar in some key respects, the two were separate and distinct papers. This was to avoid inadvertently merging the two and finding the outputs of both the write up and analysis had evolved into one of the same.

Final thoughts on the research process

Reflecting back now, although I lost some of my eagerness for research along the way, I do think research is something to still feel excited about. As clinical psychologists, having the skills and knowledge to be able to design a piece of research which could affect service design and provision to better support someone's wellbeing, I think is so important to remember. Above all else this process has taught me how important research is in clinical psychology and am hopeful that I will continue to do research when I qualify with this intention.

Appendix B: Epistemological Statement

The epistemological stance of a researcher is important to understand prior to designing and conducting researching, as such as stance can influence, and essentially, underpin how the research is developed and then interpreted (Becker, 1996). Epistemology refers to the study of knowledge and explains how knowledge understood to be true (Killam, 2013). Therefore, the researcher's epistemological position influences what approach the researcher takes during their inquiry of knowledge (Avenier & Thomas, 2015). This statement is consequently provided to support the reader's understanding of the researcher's approach in designing and understanding the current research, and provide transparency in the chosen pursuit for knowledge.

Prior to the current research, the researcher had only completed quantitative research. This approach of inquiry is in keeping with positivism epistemological paradigm, which believes knowledge can be observed and measured and there is only one single reality that can be discovered (Dieronitou, 2014). While the researcher felt familiar with this approach, personally the researcher's view of the acquisition of knowledge was one in line with a form of post-positivism called critical realism. In line with critical realism the researcher believes there is one reality and attempts to measure and observe this can be made, but as all measurement and observation can be impacted by additional influences and is open to error, reality cannot be known with full certainty (Fletcher, 2017). Consequently, our thoughts about reality and reality itself remain independent constructs. Therefore, when designing the current research, the researcher was open to the use of both quantitative and qualitative methodologies, believing no single methodology to show any greater promise in understanding the truth (Bryman, 1984). This belief and position appeared to fit with the research topic and area as cognitive development has been observed by both quantitative inquiries and qualitative inquiries (Gibb, 2002) with both providing different important understandings.

However, due to the lack of research base in the current field of inquiry to allow any hypothesis to be logically informed, and due the inquiry being underpinned by Piaget's (1936) theory of cognitive development, who believed developmental changes to appear qualitatively as opposed to quantitatively; the researcher felt a qualitative design was best suited to understanding this area in greater depth. Therefore, the positivism stance was rejected as this did not suit such an inquiry. A social constructionism approach, believing knowledge is completely subjective and there to be no absolute truth, was also rejected (Losantos, Montoya, Exeni, Santa Cruz & Loots, 2016). Due to the nature of cognitive development being a construct with recognised explicit domains such a position was also felt to be incompatible with the inquiry. The researcher's own epistemological position and critical realist view therefore fit with this approach, allowing the research process to feel authentic to the researcher's own assumptions and beliefs.

Various methods of analysis were then considered in light of this position, including thematic analysis, narrative analysis and interpretative phenomenological analysis (IPA). IPA aims to explore personal lived experiences in detail. Exploring people's experiences, how they make sense of these, and how they communicate these verbally and non-verbally (Smith, Flowers, Larkin, 2009). This form of analysis did not appear congruent with an inquiry into parent's experiences of their child's cognitive development, with this approach being predominantly used for understanding people's experiences of a life event or emotional experience personal to them. Therefore, gathering experiences of their child's cognitive development, a recognised construct outside of their own personal experiences (participants' experiences of their own cognitive development were not explored) seemed unfitting to IPA. Narrative analysis was also considered, as an unfolding narrative of parent's experiences of their child's cognitive development, from prior to and throughout the context of the sensory-based intervention, may have provided some interesting insight to the research aims (Polkinghorne, 1995). However, as an open exploration into experiences of cognitive development was first required in the literature, it was felt that semi-structured interviews would best allow this open exploration. With this approach the interviewer would be able to ask follow-up questions, to further understand experiences and build understanding upon participants' responses. Using narrative analysis this approach would not have been feasible and may have prevented the openness to the inquiry. Therefore, this was also disregarded. Thematic analysis was opted for as the most suitable method of analysis for the current research, because thematic analysis allows a flexible and open approach to analysis, as themes can be generated deductively or inductively, and analysis can be used for a wide range of research questions (Braun & Clarke, 2006). Thematic analysis is not tied to any specific theoretical framework and therefore does not limit itself in what it seeks to achieve (Braun & Clarke, 2013). As such it can be used for any method of qualitative data collection, including those of semi-structured interviews. Therefore, thematic analysis was felt to suit both the underlying approach taken during the research, the open exploration of experiences, and the use of semi-structured interviews. Cognitive experiences would therefore be able to be explored openly by coding all interview content, and then generating themes from similarities within and between interviews (Braun & Clarke, 2006).

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Appendix C: Submission Guidelines for *Adoption and Fostering*

1. What do we publish?

1.1 Aims & Scope

Before submitting your manuscript to *Adoption & Fostering*, please ensure you have read the Aims & Scope.

1.2 Article Types

Articles may cover any of the following: analyses of policies or the law; accounts of practice innovations and developments; findings of research and evaluations; discussions of issues relevant to fostering and adoption; critical reviews of relevant literature, theories or concepts; case studies.

All research-based articles should include brief accounts of the design, sample characteristics and data-gathering methods. Any article should clearly identify its sources and refer to previous writings where relevant. The preferred length of articles is 5,000-7,000 words excluding references.

Contributions should be both authoritative and readable. Please avoid excessive use of technical terms and explain any key words that may not be familiar to most readers.

Letters to the Editor. Readers' letters should address issues raised by published articles or should report significant new findings that merit rapid dissemination. The decision to publish is made by the Editor, in order to ensure a timely appearance in print.

Book Reviews. A list of up-to-date books for review is available from the journal's Managing Editor.

1.3 Writing your paper

The SAGE Author Gateway has some general advice and on how to get published, plus links to further resources.

1.3.1 Make your article discoverable

When writing up your paper, think about how you can make it discoverable. The title, keywords and abstract are key to ensuring readers find your article through search engines such as Google. For information and guidance on how best to title your article, write your abstract and select your keywords, have a look at this page on the Gateway: How to Help Readers Find Your Article Online.

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2. Editorial policies

2.1 Peer review policy

Adoption & Fostering operates a strictly anonymous peer review process in which the reviewer’s name is withheld from the author and the author’s name from the reviewer. The reviewer may at their own discretion opt to reveal their name to the author in their review but our standard policy practice is for both identities to remain concealed. Each manuscript is reviewed by at least two referees. All manuscripts are reviewed as rapidly as possible, and an editorial decision is generally reached within 6-8 weeks of submission.

2.2 Authorship

All parties who have made a substantive contribution to the article should be listed as authors. Principal authorship, authorship order, and other publication credits should be based on the relative scientific or professional contributions of the individuals involved, regardless of their status. A student is usually listed as principal author on any multiple-authored publication that substantially derives from the student's dissertation or thesis.

2.3 Acknowledgements

All contributors who do not meet the criteria for authorship should be listed in an Acknowledgements section. Examples of those who might be acknowledged include a person who provided purely technical help, or a department chair who provided only general support.

Please supply any personal acknowledgements separately to the main text to facilitate anonymous peer review.

2.3.1 Third party submissions

Where an individual who is not listed as an author submits a manuscript on behalf of the author(s), a statement must be included in the Acknowledgements section of the manuscript and in the accompanying cover letter. The statements must:

- Disclose this type of editorial assistance – including the individual's name, company and level of input
- Identify any entities that paid for this assistance
- Confirm that the listed authors have authorized the submission of their manuscript via third party and approved any statements or declarations, e.g. conflicting interests, funding, etc.

Where appropriate, SAGE reserves the right to deny consideration to manuscripts submitted by a third party rather than by the authors themselves.

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Adoption & Fostering requires all authors to acknowledge their funding in a consistent fashion under a separate heading. Please visit the Funding Acknowledgements page on the SAGE Journal Author Gateway to confirm the format of the acknowledgment text in the event of funding, or state that: This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

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Adoption & Fostering encourages authors to include a declaration of any conflicting interests and recommends you review the good practice guidelines on the SAGE Journal Author Gateway.

For guidance on conflict of interest statements, please see the ICMJE recommendations here.

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3. Publishing Policies

3.1 Publication ethics

SAGE is committed to upholding the integrity of the academic record. We encourage authors to refer to the Committee on Publication Ethics' International Standards for Authors and view the Publication Ethics page on the SAGE Author Gateway.

3.1.1 Plagiarism

Adoption & Fostering and SAGE take issues of copyright infringement, plagiarism or other breaches of best practice in publication very seriously. We seek to protect the rights of our authors and we always investigate claims of plagiarism or misuse of published articles. Equally, we seek to protect the reputation of the journal against malpractice. Submitted articles may be checked with duplication-checking software. Where an article, for example, is found to have plagiarised other work or included third-party copyright material without permission or with insufficient acknowledgement, or where the authorship of the article is contested, we reserve the right to take action including, but not limited to: publishing an erratum or corrigendum (correction); retracting the article; taking up the matter with the head of department or dean of the author's institution and/or relevant academic bodies or societies; or taking appropriate legal action.

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4. Preparing your manuscript for submission

4.1 Formatting

The preferred format for your manuscript is Word. LaTeX files are also accepted. Word and (La)Tex templates are available on the Manuscript Submission Guidelines page of our Author Gateway.

4.2 Artwork, figures and other graphics

For guidance on the preparation of illustrations, pictures and graphs in electronic format, please visit SAGE's Manuscript Submission Guidelines.

Figures supplied in colour will appear in colour online regardless of whether or not these illustrations are reproduced in colour in the printed version. For specifically requested colour reproduction in print, you will receive information regarding the costs from SAGE after receipt of your accepted article.

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This journal is able to host additional materials online (e.g. datasets, podcasts, videos, images etc) alongside the full-text of the article. For more information please refer to our guidelines on submitting supplementary files.

4.4 Reference style

Adoption & Fostering adheres to the SAGE Harvard reference style. View the SAGE Harvard guidelines to ensure your manuscript conforms to this reference style.

If you use EndNote to manage references, you can download the the SAGE Harvard EndNote output file.

4.5 English language editing services

Authors seeking assistance with English language editing, translation, or figure and manuscript formatting to fit the journal's specifications should consider using SAGE Language Services. Visit SAGE Language Services on our Journal Author Gateway for further information.

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5. Submitting your manuscript

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41 Brunswick Square
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WC1N 1AZ
Telephone: +44 (0)20 7520 0300
Email: miranda.davies@corambaaf.org.uk

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You will be asked to provide contact details and academic affiliations for all co-authors via the submission system and identify who is to be the corresponding author. These details must match what appears on your manuscript. At this stage please ensure you have included all the required statements and declarations and uploaded any additional supplementary files (including reporting guidelines where relevant).

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6. On acceptance and publication

6.1 SAGE Production

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7. Further information

Any correspondence, queries or additional requests for information on the manuscript submission process should be sent to the Adoption & Fostering editorial office as follows:

Editor, Miranda Davies, at miranda.davies@corambaaf.org.uk.

Appendix D: Data Extraction Tool

Author (year)	**Methodology**	**Post-adoption support explored**	**Participants**	**Method of data collection and analysis**	**Main Findings**

Appendix E: **Adapted Quality Appraisal Tool**

Category of study designs	**Methodological quality criteria**	**Responses**			
		Yes	No	Can’t tell	Comments
Screening questions (for all types)	S1. Are there clear research questions?				
	S2. Do the collected data allow to address the research questions?				
	Further appraisal may not be feasible or appropriate when the answer is ‘No’ or ‘Can’t tell’ to one or both screening questions.				
1. Qualitative	1.1. Is the qualitative approach appropriate to answer the research question?				
	1.2. Are the qualitative data collection methods adequate to address the research question?				
	1.3. Are the findings adequately derived from the data?				
	1.4. Is the interpretation of results sufficiently substantiated by data?				
	1.5. Is there coherence between qualitative data sources, collection, analysis and interpretation?				
	1.6 Is the role of the researcher clearly described?				
	1.7 Is the data 'rich'?				
	1.8 Relevance of conclusions				
2. Quantitative randomized controlled trials	2.1. Is randomization appropriately performed?				
	2.2. Are the groups comparable at baseline?				
	2.3. Are there complete outcome data?				
	2.4. Are outcome assessors blinded to the intervention provided?				
	2.5 Did the participants adhere to the assigned intervention?				
3. Quantitative non-randomized	3.1. Are the participants representative of the target population?				
	3.2. Are measurements appropriate regarding both the outcome and intervention (or exposure)?				
	3.3. Are there complete outcome data?				
	3.4. Are the confounders accounted for in the design and analysis?				

	3.5. During the study period, is the intervention administered (or exposure occurred) as intended?				
4. Quantitative descriptive	4.1. Is the sampling strategy relevant to address the research question?				
	4.2. Is the sample representative of the target population?				
	4.3. Are the measurements appropriate?				
	4.4. Is the risk of nonresponse bias low?				
	4.5. Is the statistical analysis appropriate to answer the research question?				
5. Mixed methods	5.1. Is there an adequate rationale for using a mixed methods design to address the research question?				
	5.2. Are the different components of the study effectively integrated to answer the research question?				
	5.3. Are the outputs of the integration of qualitative and quantitative components adequately interpreted?				
	5.4. Are divergences and inconsistencies between quantitative and qualitative results adequately addressed?				
	5.5. Do the different components of the study adhere to the quality criteria of each tradition of the methods involved?				

Appendix F: Submission Guidelines for *Child Abuse & Neglect*

Description

Child Abuse & Neglect is an international and interdisciplinary journal publishing articles on child welfare, health, humanitarian aid, justice, mental health, public health and social service systems. The journal recognizes that child protection is a global concern that continues to evolve. Accordingly, the journal is intended to be useful to scholars, policymakers, concerned citizens, advocates, and professional practitioners in countries that are diverse in wealth, culture, and the nature of their formal child protection system. Child Abuse & Neglect welcomes contributions grounded in the traditions of particular cultures and settings, as well as global perspectives. Article formats include empirical reports, theoretical and methodological reports and invited reviews.

Types of contributions

1. Research Article: Child Abuse and Neglect publishes quantitative, qualitative, and mixed-method research. Particular focus will be placed on thorough and appropriate methods, strong data analysis and discussion of implications for the field.

2. Reviews:Authors with plans for proposed review articles (systematic, meta-analytic, scoping) are invited to first submit a draft outline to the Editor-in-Chief for review. Please send proposals to chiabu@elsevier.com. The editors may also commission reviews on specific topics. Reviews submitted without invitation or prior approval may be returned.

3. Medical Report:Child Abuse and Neglect publishes clinically-relevant original research using a more structured medical format. Medical Reports should include a structured abstract of no more than 250 words including the following sections: Background, Objective, Participants and Setting, Methods, Results (giving specific effect sizes and their statistical significance), and Conclusions. Manuscript length is limited to 3,000 words (excluding the abstract, tables and figures, and references or appendices) and up to 5 figures or tables (additional figures or tables may be considered as online appendices). Medical reports should include the following sections: Introduction: In 1-2 pages, state the objective of the study and provide adequate background that a reader can determine whether they should read the paper in its entirety. Methods: Provide sufficient detail that the study could be repeated by another investigator. Results: Provide main and secondary results. Discussion: Summarize the most important results and provide the authors interpretation of relevance in the context of any relevant prior literature. The discussion section should include a section on the articles strengths and limitations, and suggested next steps. Conclusion: In 1-2 sentences, summarize the authors final conclusions. Medical Reports should include 2 sections highlighting the importance of the paper; What is known and What this study adds. Each section is limited to 40 words.

4. Discussion Article: Plans for proposed critical review discussion articles are invited to first submit a draft outline to the Editor-in-Chief. Please send proposals to chiabu@elsevier.com. These articles may discuss a policy or legal / philosophical framework or a brief data report. The article must present a critical analysis of areas of gap in practice or research, current critical or emergent issues, with an expectation of utilizing an integration and discussion of empirical research.

Child Abuse and Neglect does not publish case reports or small case series in any of its article types.

PREPARATION

Peer review

This journal operates a double blind review process. All contributions will be initially assessed by the editor for suitability for the journal. Papers deemed suitable are then typically sent to a minimum of two independent expert reviewers to assess the scientific quality of the paper. The Editor is responsible for the final decision regarding acceptance or rejection of articles. The Editor's decision is final. More information on types of peer review.

Double-blind review

This journal uses double-blind review, which means the identities of the authors are concealed from the reviewers, and vice versa. More information is available on our website. To facilitate this, please include the following separately: Title page (with author details): This should include the title, authors' names, affiliations, acknowledgements and any Declaration of Interest statement, and a complete address for the corresponding author including an e-mail address. Blinded manuscript (no author details): The main body of the paper (including the references, figures, tables and any acknowledgements) should not include any identifying information, such as the authors' names or affiliations. Use of word processing software It is important that the file be saved in the native format of the word processor used. The text should be in single-column format. Keep the layout of the text as simple as possible. Most formatting codes will be removed and replaced on processing the article. In particular, do not use the word processor's options to justify text or to hyphenate words. However, do use bold face, italics, subscripts, superscripts etc. When preparing tables, if you are using a table grid, use only one grid for each individual table and not a grid for each row. If no grid is used, use tabs, not spaces, to align columns. The electronic text should be prepared in a way very similar to that of conventional manuscripts (see also the Guide to Publishing with Elsevier). Note that source files of figures, tables and text graphics will be required whether or not you embed your figures in the text. See also the section on Electronic artwork. To avoid unnecessary errors you are strongly advised to use the 'spell-check' and 'grammar-check' functions of your word processor.

Length and Style of Manuscripts

Full-length manuscripts should not exceed 35 pages total (including abstract, text, references, tables, and figures), double spaced with margins of at least 1 inch on all sides and a standard font (e.g., Times New Roman) of 12 points (no smaller). Instructions on preparing tables, figures, references, metrics, and abstracts appear in the Publication Manual of the American Psychological Association (6th edition).

For helpful tips on APA style, click here.

Article structure

Subdivision: Divide your article into clearly defined sections. Three levels of headings are permitted. Level one and level two headings should appear on its own separate line; level three headings should include punctuation and run in with the first line of the paragraph.

Introduction: State the objectives of the work and provide an adequate background, avoiding a detailed literature survey or a summary of the results.

Essential title page information

• Title. Concise and informative. Titles are often used in information-retrieval systems. Avoid abbreviations and formulae where possible.

• Author names and affiliations. Please clearly indicate the given name(s) and family name(s) of each author and check that all names are accurately spelled. You can add your name between parentheses in your own script behind the English transliteration. Present the authors' affiliation addresses (where the actual work was done) below the names. Indicate all affiliations with a lowercase superscript letter immediately after the author's name and in front of the appropriate address. Provide the full postal address of each affiliation, including the country name and, if available, the e-mail address of each author.

• Corresponding author. Clearly indicate who will handle correspondence at all stages of refereeing and publication, also post-publication. This responsibility includes answering any future queries about Methodology and Materials. Ensure that the e-mail address is given and that contact details are kept up to date by the corresponding author.

• Present/permanent address. If an author has moved since the work described in the article was done, or was visiting at the time, a 'Present address' (or 'Permanent address') may be indicated as a footnote to that author's name. The address at which the author actually did the work must be retained as the main, affiliation address. Superscript Arabic numerals are used for such footnotes.

Highlights

Highlights are optional yet highly encouraged for this journal, as they increase the discoverability of your article via search engines. They consist of a short collection of bullet points that capture the novel results of your research as well as new methods that were used during the study (if any). Please have a look at the examples here: example Highlights.

Highlights should be submitted in a separate editable file in the online submission system. Please use 'Highlights' in the file name and include 3 to 5 bullet points (maximum 85 characters, including spaces, per bullet point).

Abstract: Abstracts should follow a structured format of no more than 250 words including the following sections: Background, Objective, Participants and Setting, Methods, Results (giving specific effect sizes and their statistical significance), and Conclusions.

Keywords

Immediately after the abstract, provide a maximum of 6 keywords, using American spelling and avoiding general and plural terms and multiple concepts (avoid, for example, 'and', 'of'). Be sparing with abbreviations: only abbreviations firmly established in the field may be eligible. These keywords will be used for indexing purposes.

Formatting of funding sources: List funding sources in this standard way to facilitate compliance to funder's requirements:

Funding: This work was supported by the National Institutes of Health [grant numbers xxxx, yyyy]; the Bill & Melinda Gates Foundation, Seattle, WA [grant number zzzz]; and the United States Institutes of Peace [grant number aaaa].

It is not necessary to include detailed descriptions on the program or type of grants and awards. When funding is from a block grant or other resources available to a university, college, or other research institution, submit the name of the institute or organization that provided the funding.

If no funding has been provided for the research, please include the following sentence:

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Footnotes: The use of footnotes in the text is not permitted. Footnoted material must be incorporated into the text.

Table footnotes: Indicate each footnote in a table with a superscript lowercase letter.

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- Make sure you use uniform lettering and sizing of your original artwork.

- Embed the used fonts if the application provides that option.

- Aim to use the following fonts in your illustrations: Arial, Courier, Times New Roman, Symbol, or use fonts that look similar.

• Number the illustrations according to their sequence in the text. • Use a logical naming convention for your artwork files.

- Provide captions to illustrations separately.
- Size the illustrations close to the desired dimensions of the published version.
- Submit each illustration as a separate file.
- Ensure that color images are accessible to all, including those with impaired color vision.

A detailed guide on electronic artwork is available.

You are urged to visit this site; some excerpts from the detailed information are given here.

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- Submit graphics that are disproportionately large for the content.

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Please submit tables as editable text and not as images. Tables can be placed either next to the relevant text in the article, or on separate page(s) at the end. Number tables consecutively in accordance with their appearance in the text and place any table notes below the table body. Be sparing in the use of tables and ensure that the data presented in them do not duplicate results described elsewhere in the article. Please avoid using vertical rules and shading in table cells.

References

Citation in text: Please ensure that every reference cited in the text is also present in the reference list (and vice versa). Any references cited in the abstract must be given in full. Unpublished results and personal communications are not recommended in the reference list, but may be mentioned in the text. If these references are included in the reference list they should follow the standard reference style of the journal and should include a substitution of the publication date with either 'Unpublished results' or 'Personal communication'. Citation of a reference as 'in press' implies that the item has been accepted for publication.

Web references: As a minimum, the full URL should be given and the date when the reference was last accessed. Any further information, if known (DOI, author names, dates, reference to a source publication, etc.), should also be given. Web references can be listed separately (e.g., after the reference list) under a different heading if desired, or can be included in the reference list.

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Reference to a book: Strunk, W., Jr., & White, E. B. (2000). *The elements of style.* (4th ed.). New York, NY: Longman.

Reference to a chapter in an edited book: Mettam, G. R., & Adams, L. B. (2009). How to prepare an electronic version of your article. In B. S. Jones, & R. Z. Smith (Eds.), *Introduction to the electronic* age (pp. 281–304). New York, NY: EPublishing.

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Include interactive data visualizations in your publication and let your readers interact and engage more closely with your research. Follow the instructions here to find out about available data visualization options and how to include them with your article.

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Below are a number of ways in which you can associate data with your article or make a statement about the availability of your data when submitting your manuscript. If you are sharing data in one of these ways, you are encouraged to cite the data in your manuscript and reference list. Please refer to the "References" section for more information about data citation. For more information on depositing, sharing and using research data and other relevant research materials, visit the research data page.

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Ensure that the following items are present:

One author has been designated as the corresponding author with contact details:

- E-mail address
- Full postal address
- Phone numbers

All necessary files have been uploaded, and contain:

- Keywords
- All figure captions
- All tables (including title, description, footnotes)

Further considerations

- Manuscript has been 'spell-checked' and 'grammar-checked'
- References are in the correct format for this journal
- All references mentioned in the Reference list are cited in the text, and vice versa
- Permission has been obtained for use of copyrighted material from other sources (including the Web)
- Color figures are clearly marked as being intended for color reproduction on the Web (free of charge) and in print, or to be reproduced in color on the Web (free of charge) and in black-and-white in print
- If only color on the Web is required, black-and-white versions of the figures are also supplied for printing purposes

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Authors are responsible for ensuring that manuscripts conform fully to the Publication Manual of the American Psychological Association (6th ed.), including not only reference style but also spelling (see, e.g., the hyphenation rules), word choice, grammar, tables, headings, etc. Spelling and punctuation should be in American English.

Appendix G: BUSS intervention outline

The Building Underdeveloped Sensorimotor Systems (BUSS) programme is a 8-10 week sensory-based intervention, designed to provide children with underdeveloped sensory-systems due to trauma experiences, the necessary sensory input and movement experiences to rebuild and strength their tactile, vestibular and proprioceptive systems (Llyod, 2016). The programme comprises of four stages:

Stage 1: Psychoeducation session provided regarding the impact of trauma on sensory system. In this initial stage, prior to any assessment or intervention plan, parents and teachers of children wishing to engage in the programme attend a training day where information is shared regarding the sensory systems and the impact of trauma, in addition to the BUSS model and theory behind this approach.

Stage 2: Initial assessment of sensory needs. Approximately two weeks after stage 1, children's sensory needs are assessed by professionals within the BUSS. At this point professionals create a personalised intervention plan for children based on their sensory needs, incorporating various sensory based activities to rebuild their sensory systems. Parents go away and implement these activities with their children at home or within school (or both) on a regular basis, and are asked to video their child engaging with some of these for stage 3.

Stage 3: First review. Approximately one month after stage 2, families share progress and videos with BUSS professionals during a review meeting. If needed, bespoke intervention plans are adapted to meet children's current sensory needs, and again parents are encouraged to implement and practice these activities with their children on a regular basis and video progress.

Stage 4: Final review. Approximately one month following stage 3, families meet with professionals one final time to assess children's sensory needs and review progress over the intervention. Professionals at this point will recommend and signpost families to further support if needed.

Appendix H: Ethical Approval

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PRIVATE AND CONFIDENTIAL
Chloe Robinson
Faculty of Health Sciences
University of Hull
Via email

10th March 2020

Dear Chloe

REF FHS238 - Exploring Experiences and Perceptions of Cognitive Development in Adoptive Children with Underdeveloped Sensory Systems

Thank you for submitting your ethics application to the Faculty of Health Sciences Research Ethics Committee.

Given the information you have provided I confirm approval by Chair's action.

Please refer to the Research Ethics Committee web page for reporting requirements in the event of any amendments to your study.

I wish you every success with your study.

Yours sincerely

Professor Liz Walker
Chair, FHS Research Ethics Committee

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PRIVATE AND CONFIDENTIAL
Chloe Robinson
Faculty of Health Sciences
University of Hull
Via email

27th May 2020

Dear Chloe

REF FHS238 – Substantial Amendment no. 1   Date 26/05/20

Exploring Experiences and Perceptions of Cognitive Development in Adoptive Children with Underdeveloped Sensory Systems

Thank you for your Form C Substantial Amendment submitted in respect of the above study to the Faculty of Health Sciences Research Ethics Committee.

Given the information you have provided, I confirm approval by Chair's action.

Please refer to the Research Ethics Committee web page for reporting requirements in the event of any subsequent amendments to your study.

I wish you every success with your study.

Yours sincerely

Dr Tim Alexander
Deputy Chair, FHS Research Ethics Committee

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Appendix I: Research cover sheet provided to parents

Version number: 2. Date: 26/05/2020.

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Dear Parent,

Hello, my name is Chloe Robinson and I am a trainee Clinical Psychologist studying at the University of Hull. As part of my training I am completing a research project with Sarah Lloyd’s support.

The title of the project is ‘Exploring Experiences and Perceptions of Cognitive Development in Adoptive Children with Underdeveloped Sensory Systems’.

We are completing this project as there is limited research exploring sensory-based interventions for adoptive children with underdeveloped sensory systems. So far, no study has explored cognitive development in the context of such interventions. This study aims to do just that! We hope that this study will help improve the research base and understanding and consideration of adoptive children’s cognitive development and sensory-based interventions.

I have enclosed an information sheet if you are interested in finding out more about what this project involves. Alternatively, please feel free to contact me directly to find out more. You can contact me by phone or by email, my contact details are provided below.

If you are considering taking part or would like some more information, please contact me. I will then be able to introduce myself and answer any questions you might have about the project.

Looking forward to hopefully hearing from you soon!

Yours sincerely,

Chloe Robinson
Trainee Clinical Psychologist

Tel: 07434 626636
E-mail: C.A.Robinson-2018@hull.ac.uk

Appendix J: Research information sheet

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Date: 26/05/2020
Version Number: 3

INFORMATION SHEET FOR PARENTS

YOU WILL BE GIVEN A COPY OF THIS INFORMATION SHEET

Exploring Experiences and Perceptions of Cognitive Development in Adoptive Children with Underdeveloped Sensory Systems.

Hello, my name is Chloe and I am carrying out research for my degree in Clinical Psychology. I would like to invite you to participate in my project. Before you decide whether you want to take part, it is important for you to understand why the research is being done and what your participation will involve. Please take time to read the following information carefully and discuss it with others if you wish. Please feel free to contact me (Chloe Robinson) if there is anything that is not clear or if you would like more information. Please also let me know if you would find this information easier to process if verbally presented and I will be happy to contact you and talk this information sheet through with you.

What is the purpose of the study?

There is limited research exploring sensory-based interventions for adoptive children with underdeveloped sensory systems. With this, little is understood about the possible influence of these interventions on adoptive children's development. So far, no study has explored cognitive development in the context of a sensory-based intervention for adoptive children with underdeveloped sensory systems. This study aims to explore adoptive parents' perceptions and experiences of children's cognitive development. We also want to explore how adoptive parents perceive and experience the influence of a sensory-based intervention on their child's cognitive development. We hope that this study will help improve the research base and understanding and consideration of adoptive children's cognitive development and sensory-based interventions.

Why have I been invited to take part?

You are invited to participate in this study because you are an adoptive parent who will be starting a sensory-based intervention, the Building Underdeveloped Sensorimotor Systems (BUSS) programme. Sarah Lloyd gives this information sheet to people who may be interested in participating.

What will happen if I take part?

1. If you agree to take part, please complete the enclosed consent form and email me a scanned copy of your completed consent form using my (Chloe Robinson) contact email address below. If you do not have access to a scanner, please email or ring me and I will take your consent via email message or text message.
2. I will then contact you to arrange a meeting at a convenient date and time. Due to the current lockdown and social distancing restrictions this meeting will need to be completed over Skype or telephone. The meeting will take place approximately four weeks after the final stage of the BUSS programme. It is important I know if you would like to participate well in advance of this point.
3. When I contact you, I will ask you to read the enclosed cognitive development information sheet which defines and explains what cognitive development is. I will ask you to keep in mind your child's cognitive development throughout your participation in the BUSS programme and refer to this information sheet as and when needed. I will send you two text

reminders during your child's participation in the BUSS programme to remind you to keep their cognitive development in mind throughout the programme.

4. During our arranged meeting, we will have an informal interview lasting approximately 30-90 minutes. I will ask you about your perceptions and experiences of your child's cognitive development, and also about how you have perceived and experienced the influence of the BUSS programme on their cognitive development. I will send you a brief version of the information sheet defining and explaining cognitive development for you to refer to if needed during this informal interview. I will need to audio record this interview so that I can listen back over our discussion later when I am writing up my findings. There are no right or wrong answers to the questions I ask you, I am just interested to hear about your own individual perceptions and experiences about your child's cognitive development. Only one adoptive parent is required to attend the meeting, however if both adoptive parents would like to participate in the study and attend the meeting, I will meet and interview both of you together.

Do I have to take part?

Participation is completely voluntary and you should only take part if you want to. Not participating will not disadvantage you in any way, and it will not impact your child's access to the BUSS programme in any way. Once you have read the information sheet, please contact me if you have any questions that will help you make a decision about taking part. If you decide to take part I will ask you to sign the consent form.

What are the possible risks of taking part?

- Taking part in this research will take up approximately 30-90 minutes of your time and this may be an inconvenience for you.
- Some people might find it difficult to understand and talk about their child's cognitive development. You will be provided with information explaining and defining what cognitive development is to help make this easier to understand and talk about.
- Some people might experience emotional distress when talking about their experiences and perceptions of their child's cognitive development, as this may bring to mind difficult issues your child may have struggled with or is currently struggling with. If this happens to you, I will offer support and will terminate the interview, and will direct you to appropriate sources of support and information if needed.
- If at any time during the interview your discussions make the interviewer concerned about the safety of your child (e.g. if they are at risk of being harmed by others or if there is a risk of your child harming others or themselves), the interviewer will have a duty of care to break confidentiality in order to share this information with a safeguarding professional, who would then investigate this to ensure the safety of your child. If you are concerned about this then please feel free to discuss this further with either myself or any other professional mentioned in the contact list below.

What are the possible benefits of taking part?

We cannot promise that you will have any direct benefits from taking part in the study. However, it is hoped that the information you give us will help us to understand more about perceptions and experiences of adoptive children's cognitive development following a sensory based intervention. We hope this understanding will lead to more research being completed to understand and explore adoptive children's development and wellbeing in the context of sensory-based interventions; and more consideration to be given to sensory-based interventions for adoptive children with underdeveloped sensory systems. Sometimes people find it useful and helpful to talk about their experiences with someone outside the family. As I am interested in your child's cognitive development, it may be an enjoyable experience to reflect on how your child has developed over time, and share this with myself in an open and non-judgemental space.

Data handling and confidentiality

Your data will be processed in accordance with the General Data Protection Regulation 2016 (GDPR).

- All of the personal information you provide will be kept strictly confidential. Any information that could be used to identify you will not be used in the research.
- Direct quotes from the discussion may be used in research publications and presentations but you will not be identified in these.
- To protect your anonymity you will be assigned a code or pseudonym so that it will be impossible to identify you from the information you provide.
- To protect the security of the audio recordings an encrypted recording device will be used. After the research is completed, all audio recordings will be destroyed.
- Anonymised transcripts of the recordings will be stored securely in an on-line storage repository at the University of Hull for ten years.
- The only time that information cannot be kept confidential is if you disclose something that suggests that you or someone else is at risk of serious harm. If this happens during the interview I will need to contact appropriate authorities to ensure that you and other people are safe. It is unlikely that this will happen and I will discuss this with you.
- Your contact details will be held securely for the duration of the research. They will be destroyed when the research is complete unless you would like me to contact you with the results of the research, in which case they will be destroyed after you have received this feedback.

Data Protection Statement

The data controller for this project will be the University of Hull. The University will process your personal data for the purpose of the research outlined above. The legal basis for processing your personal data for research purposes under GDPR is a 'task in the public interest'. You can provide your consent for the use of your personal data in this study by completing the consent form that has been provided to you**.** Information about how the University of Hull processes your data can be found at https://www.hull.ac.uk/choose-hull/university-and-region/key-documents/data-protection.aspx

You have the right to access information held about you. Your right of access can be exercised in accordance with the General Data Protection Regulation. You also have other rights including rights of correction, erasure, objection, and data portability. Questions, comments and requests about your personal data can also be sent to the University of Hull Information Compliance Manager (dataprotection@hull.ac.uk). If you wish to lodge a complaint with the Information Commissioner's Office, please visit www.ico.org.uk.

What if I change my mind about taking part?

You are free to withdraw at any point of the study, without having to give a reason. Withdrawing from the study will not affect your treatment, or your child's access to the BUSS programme in any way. You are able to withdraw up until data analysis has commenced which is one month after the informal interview, after which the data will have been anonymised and/or committed to the final report. If you choose to withdraw from the study before this point the data collected will be destroyed.

What will happen to the results of the study?

The results of the study will be summarised in a written thesis as part of a Doctorate in Clinical Psychology. The thesis will be available on the University of Hull's on-line repository https://hydra.hull.ac.uk/. The research may also be published in academic journals or presented at conferences.

Who can I contact if I need to talk to someone?

It is unlikely that you will experience any long-term distress from taking part in the study, however if you feel you would like to talk to someone the following options might be worth exploring:

- Adoption in North and Humber – 0345 305 2576
- Adoption in West Yorkshire – 0113 378 3535
- Adoption support UK helpful - 07904 793 974 and 07539 733079 https://www.adoptionuk.org/helpline
- Your GP
- Your Adoption Support Worker
- SENDIASS (Leeds Special Educational Needs and Disability Information Advice Support Service)- 0113 378 5020
- Your children's school's SENCO (Special Educational Needs Coordinator)

Who should I contact for further information?

If you have any questions or require more information about this study, please contact me using the following contact details.

Chloe Robinson
Clinical Psychology
Aire Building
The University of Hull
Cottingham Road
Hull
HU6 7RX
Tel: 07434 626636
E-mail: C.A.Robinson-2018@hull.ac.uk

What if I have further questions, or if something goes wrong?

If you have any additional questions or concerns that you do not wish to discuss with myself, or if you wish to make a complaint about the conduct of the study, you can contact the University of Hull using the research supervisor's details below for further advice and information:

Dr Annette Schlösser
Clinical Psychology
Aire Building
The University of Hull
Cottingham Road
Hull
HU6 7RX
Tel: +44 (0) 1482 464094
E-mail: a.schlosser@hull.ac.uk

Thank you for reading this information sheet and for considering taking part in this research.

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Appendix K: Research consent form

Version number: 2. Date: 26/05/2020

CONSENT FORM FOR PARENTS

Title of study: Exploring Experiences and Perceptions of Cognitive Development in Adoptive Children with Underdeveloped Sensory Systems
Name of Researcher: Chloe Robinson

Please initial box

1. I confirm that I have read the information sheet dated 26/05/2020 (version 3) for the above study. I have had the opportunity to think about the information on this sheet, ask questions and have had these answered satisfactorily. ☐
2. I understand that my participation is voluntary and that I am free to withdraw up to the point of data analysis (1 month after the interview) without giving any reason, without my legal rights being affected and without my child's place on the BUSS programme being affected. ☐
3. I consent to receiving text reminders from the primary researcher to remind me to keep in mind my child's cognitive development. All texts and contact details will be deleted after the research is complete. ☐
4. I understand that the research interview will be audio recorded and that anonymised verbatim quotes from my interview may be used in research reports and conference presentations. ☐
5. I understand that relevant sections of anonymised data collected during the study may be accessed by the academic supervisor, Dr Annette Schlösser from the Clinical Psychology Doctorate Programme within the University of Hull and field supervisors for this thesis; Sarah Lloyd and Dr Louise Mowthorpe, where it is relevant to my taking part in this research. I give permission for these individuals to have access to my anonymised data. ☐
6. I understand that the information collected about me and my child may be used to support other research in the future, and may be shared anonymously with other researchers. ☐
7. I give permission for the collection and use of my data to answer the research questions in this study. ☐
8. I agree to take part in the above study. ☐

____________________	____________________	____________________
Name of Participant	Date	Signature
____________________	____________________	____________________
Name of Person taking consent	Date	Signature

Appendix L: Information sheet on cognitive development

Version number: 2. Date: 09/02/2020

Cognitive Development

Definition

Cognitive development refers to all the processes that enable us to think about and understand information in the world around us.
As children develop, they begin to gather the skills they need to be able to learn, process, understand, think, respond to and retain information. How this journey happens and changes is cognitive development.

Aspects of cognitive development

Below are the different aspects considered part of cognitive development; these are all the processes, skills and areas that undergo development.

1) To be able to think and understand information our brains first need to have the skills to acquire, learn and retain the information. Therefore, children need to have skills in:

   - Language
   - Memory
   - Attention

   For example:
   If children have not fully developed their memory, they may instantly forget a set of instructions (short term memory underdeveloped), or they may forget these after a longer period of time such (long term memory underdeveloped).
   They may also struggle with their working memory which is the ability to hold information in mind for immediate use. For example, working memory is needed to respond during a conversation, as you need to simultaneously remember and use the information you have heard.

2) Our brains then need the ability to process and make sense of the information we have gathered to understand it. This involves a combination of additional skills in:

   - Processing
   - Reasoning
   - Perception

   For example:
   If children have not fully developed these skills, they may take longer to make sense of information, struggle to organise information and

consider its different elements in depth, and may struggle to interpret this information into a coherent understanding.

3) Then we need the skills to respond and react to this information and store it away for help in future situations. This involves further skills in:

   - Decision making
   - Problem solving
   - Planning
   - Mental flexibility

   For example:
   If children have not fully developed mental flexibility, then they may find switching between two tasks difficult. They may also struggle to think about two different points of view.
   If children have not fully developed planning skills, they may struggle with deciding the order of how to go about completing a task.

4) When understanding how to respond to information we may also need to think about the impact of others and how they might respond to us. This involves using skills in:

   - Regulating emotions and behaviour
   - Monitoring and inhibiting behaviours
   - Theory of mind (thinking about other people's thoughts and feelings and how these might differ to your own)

   For example:
   If children have not fully developed the ability to regulate, monitor and inhibit behaviours then they may struggle to recognise that their behaviours are considered socially unacceptable or disruptive, and they may struggle to control and stop these behaviours.

5) Other aspects which are considered important in children's cognitive development include:

   - Play
   - Imagination
   - Interaction with parents and significant others
   - Interaction with friends
   - Motor control and mobility
   - Overall intelligence
   - Knowledge of concepts such as number
   - Visual spatial intelligence (ability to process and organise visual information to understand spatial relations between objects, the self and world)

Appendix M: **Brief information sheet on cognitive development**

Version number: 2. Date: 09/02/2020

Cognitive Development

Definition

Cognitive development refers to all the processes that enable us to think about and understand information in the world around us.

As children develop, they begin to gather the skills they need to be able to learn, process, understand, think, respond to and retain information. How this journey happens and changes is cognitive development.

Aspects of cognitive development

Below are the different aspects considered part of cognitive development; these are all the processes, skills and areas that undergo development.

1) To be able to think and understand information our brains first need to have the skills to acquire, learn and retain the information. Therefore, children need to have the skills in:
    - Language
    - Memory
    - Attention
2) Our brains then need the ability to process and make sense of the information we have gathered to understand it. This involves a combination of additional skills in:
    - Processing
    - Reasoning
    - Perception
3) Then we need the skills to respond and react to this information and store it away for help in future situations. This involves further skills in:
    - Decision making
    - Problem solving
    - Planning
    - Mental flexibility
4) When understanding how to respond to information we may also need to think about the impact of others and how they might respond to us. This involves using skills in:
    - Regulating emotions and behaviour
    - Monitoring and inhibiting behaviours
    - Theory of mind (thinking about other people’s thoughts and feelings and how these might differ to your own)

5) Other aspects which are considered important in children's cognitive development include:

- Play
- Imagination
- Interaction with parents and significant others
- Interaction with friends
- Motor control and mobility
- Overall intelligence
- Knowledge of concepts such as number
- Visual spatial intelligence (ability to process and organise visual information to understand spatial relations between objects, the self and world)

Appendix N: Interview schedule

Version number: 3. Date: 26/05/2020

Interview information

Prior to the interview the researcher will provide an explanation of the study aims and the purpose of the interview to participants, to reiterate the information participants will have already received prior to the interview (see research information sheet). The researcher will also provide participants with an information sheet defining and explaining cognitive development for the duration of the interview (see brief cognitive development information sheet). Participants will be given time to read this before the interview commences and will have received a similar version of this information sheet prior to consenting to take part in the research (see cognitive development information sheet).

Interview questions

The following questions will be used as a guide during the interview as the researcher will adapt the questions asked depending on participants' responses and depending on participants' understanding of the questions asked. Prompts and follow up questions will be used if participants do not understand the question and if vague answers are provided. The researcher will ask general prompts such as, 'can you tell me a bit more about that', as well as more specific prompts as described below, and will invite participants to explain and elaborate if it is unclear what is being described, or if more information would be helpful for understanding.

If participants struggle to answer a question, or are unsure what to refer to, they will be directed to the information sheet regarding cognitive development, with the researcher saying 'You can use the information sheet to help think about cognitive development and its different aspects'. If participants remain unsure, the researcher will provide examples from the cognitive information sheet received prior to consent to help contextualise cognitive development.

Questions 6 and 7 are not essential for the study aims but provide participants with a space to reflect and end the interview in a positive way.

Question 1:

After reading the first part of this information, the definition of cognitive development, what comes to mind thinking about X *(child's name)*?

Prompts or follow up questions:

- *What comes in to your mind when thinking about their cognitive development over the course of the BUSS programme?*
- *What are your perceptions of their cognitive development?*
- *How have you experienced their cognitive development throughout the process of the BUSS programme?*
- *Have you noticed anything in particular when thinking about their cognitive development throughout the BUSS programme?*

Question 2:

After reading the second part of this information, the description of the different aspects of cognitive development, what comes to mind when thinking about X *(child's name)*?

Prompts or follow up questions:

- *What comes to mind when thinking about these different aspects over the course of the BUSS programme?*
- *What are your perceptions of their development in these different aspects?*
- *How have you experienced the development of these different aspects throughout the process of the BUSS programme?*
- *Have you noticed anything in particular when thinking about these different aspects throughout the BUSS programme?*
- *On seeing this information what speaks to you the most regarding their cognitive development?*

Question 3:

Are there any other aspects that you feel are important to consider when thinking about X's cognitive development that we have not talked about already, or have been missed from the information sheet?

Prompts or follow up questions:

- *What comes in to your mind when thinking about these aspects over the course of the BUSS programme?*
- *What are your perceptions of their development of these aspects?*

- *How have you experienced the development of these aspects throughout the process of completing the BUSS programme?*
- *Have you noticed anything in particular when thinking about these aspects throughout the BUSS programme?*

<u>Question 4:</u>

Have you experienced or perceived any changes in X's cognitive development over the course of the BUSS programme, thinking about their development before, during and after the programme?

<u>Prompts or follow up questions:</u>

- *Do you feel the BUSS programme has impacted their cognitive development?*
- *What role has the BUSS programme played in their cognitive development?*
- *Are there any changes that you have experienced or perceived?*

<u>Question 5:</u>

If X has completed any school/academic work during the course BUSS, have you experienced or perceived any changes in X's cognitive development while they have been engaged with this work?

<u>Prompts or follow up questions:</u>

- *What have you noticed?*
- *Why do you say that?*
- *What have you discussed with school?*

<u>Question 6:</u>

How has the BUSS programme impacted on X's overall development?

<u>Prompts or follow up questions:</u>

- *How do you feel the BUSS programme has impacted on X as a whole?*
- *How do you feel the BUSS programme has impacted on X overall when thinking about all their different abilities and functioning?*

<u>Question 7:</u>

What would you say to other parents who may be considering whether to take part in the BUSS programme? And why?

<u>Prompts:</u>

- *What would be your advice to other parents who are in a similar situation to you and your family?*

Appendix O: **Braun and Clarke's (2006) six phases of thematic analysis**

Phase	Description of the process
1. Familiarise yourself with your data	Transcribing data (if necessary), reading and rereading the data, noting down initial ideas.
2. Generating initial codes	Coding interesting features of the data in a systematic fashion across the entire data set, collating data relevant to each code.
3. Searching for themes	Collating codes into potential themes, gathering all data relevant to each potential theme.
4. Reviewing themes	Checking in the themes work in relation to the coded extracts (Level 1) and the entire data set (Level 2), generating a 'thematic map' of the analysis.
5. Defining and naming themes	Ongoing analysis to refine the specifics of each theme, and the overall story the analysis tells; generating clear definitions and names for each theme.
6. Producing the report	The final opportunity for analysis. Selection of vivid, compelling extract examples, final analysis of selected extracts, relating back of the analysis to the research question and literature, producing a scholarly report of the analysis.

Appendix P: Example of analysis process

Extract of transcript to demonstrate analysis, taken from participant 561 transcript.

Transcript Extract	Initial codes	Initial theme	Final theme
Take turns erm, he was giving them eye contact.	Developing socially	Social development	Emotional, social and behavioural development
He was able to, you know, respond to questions when they were doing activities, he was listening to the information and instructions and then actually carrying, participating in carrying out the activity as well.	Understanding questions, listening, follow instructions, understanding activities	Listening, capacity to engage, understanding	Understand information
So it was for us the changes that we saw were actually really rapid at the beginning. It was really, really quick. How it's almost like it felt like. Like capacity had been taken up with just trying to get his body like brain capacity had been taken up with just trying to get his body to do what he wanted to do and because we were building core strength and going back through the erm the development on a bodily level that actually his body was doing more of what he wanted to do. It wasn't as difficult to sit or walk, you know, walk around an item without bumping into it, or carry something or sit still. And you know use his hand to do an activity that actually he also had more capacity to like	Perceived changes, capacity to learn now	Changes, capacity to engage and learn	Building underdeveloped systems
	Improving core strength	Physical development	Building underdeveloped systems
	Able to sit and engage, developing sensory systems, clumsiness capacity to engage	Capacity to engage and learn. Physical development	Building underdeveloped systems
listen to people and understand what was going on around him and listen to instructions and	Listening, understanding, follow instructions	Listening. Understanding	Understand information
and take turns	Developing socially	Social development	Emotional, social and behavioural development

Extract of transcript to demonstrate analysis, taken from participant 301 transcript.

Transcript Extract	Initial codes	Initial theme	Final theme
So like a lot of like things that scared him on the playground or in doing physically coz it's sisters like very strong. Probably age appropriate like and just does lots of things that he couldn't do and would get really upset and frustrated by it and really overwhelmed by. Now he can do, or at least he tries and doesn't	Less afraid, stronger, able to engage more, emotional regulation, having a go more	Confidence, emotional regulation, engaging more	Confidence in self and abilities. Emotional, social and behavioural development
feel afraid he's gonna get hurt. So like, again, that fear part has been removed because the sensory part and the strength part has replaced like the normal elements that should have been there all along. It literally is crazy to me like I feel like it's just this	Perceived influence, perceived changes, significance to family	Changes	Building underdeveloped systems
huge blockage with his sensory things, once they've been removed, has really allowed him to develop cognitively and emotionally,	Cognitive development, emotional development	Changes, emotional development, cognitive	Emotional, social and behavioural development
which is still really hard, and he will have years of therapy in future for that like you know. And like Sarah has said that to us as well like anger doesn't go away. You have to remind people that. Like he's had a lot of trauma. There’s a lot of anger there and its not going to go away now that he is like more stable sensory wise. And there’s still like a little few things like I said, like the wind, you know, he notices it,	Still development to go, future support perceived	Future support still needed, work in progress	Considering additional support
but he's able to calm down more. But if he's feeling angry and emotional and hungry, and then there's wind, he still like a bit triggered, but but it's less about that. Now we also will like really try and regulate his temperature. So we make sure he’s not wearing too warmer clothes, if it's a hot day, not enough clothes if it's really cold, you know, like there is that part where we are more aware of it. But he is also aware of it and will take a sweater off now. Whereas before he liked that safety of	Able to emotionally, behaviourally and physically regulate	Ability to regulate, sensory development	Emotional, social and behavioural development

having the layers on and I think that he likes to be wrapped up. We used to wrap him up after a cold shower in a towel and he really liked that sense of feeling safe. And so the layers were great, but they made. He'd get really heat wise, overwhelmed and then that would add to his sense of anger and confusion. So sorry I think I’ve gone on there but. I think for us, I think it's one of those that, if I hadn't read Sarah's book and I didn't have an understanding of trauma and the impact it has on the body already. Because being a therapist, I think I'd be like, oh, I mean, the BUSS programme helps but I think there's like a coincidence cos he just growing up but like its not. I'm sure there are elements of that, but like I really do believe that like a huge part of it is because the sensory block has lifted or fixed or whatever, like I guess fixed.	Perceived influence Unblocking sensory systems	Freeing up space	Building underdeveloped systems