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ABSTRACTS

SYSTEMATIC REVIEW OF THE LITERATURE

TITLE: THE EFFECTIVENESS AND ACCEPABILITY OF PARENTING INTERVENTIONS TO REDUCE THE RISK OF CHILD MALTREATMENT IN THE UK: A SYSTEMATIC REVIEW

Objectives:

Evidence regarding the effectiveness and acceptability of parenting programs to reduce maltreatment in the UK is limited; there are no NICE guidelines for these interventions, and it is an area consistently highlighted as needing further research. This systematic review aimed to evaluate the effectiveness and acceptability of parenting interventions in the UK based on reported outcome measures and uptake/ drop-out data.

Method:

Five databases were searched and PRISMA guidelines were followed throughout. Studies were included if they were published in a scientific journal or official report, were based in the UK, evaluated an intervention for reducing the risk of child maltreatment with parents/caregivers of a child aged 0-17, and reported quantitative outcomes relating to the impact of the intervention.

Results:

19 studies were identified for inclusion in this review. The interventions were based on a range of theoretical underpinnings and evaluated for use with heterogeneous populations including specific at-risk samples, maltreating parents, and the general population.

Conclusion:

The existing evidence is not robust enough to draw firm conclusions regarding the effectiveness and acceptability of parenting interventions to reduce child maltreatment in the UK. Further gold-standard research is needed to inform evidence-based guidelines.

SERVICE IMPROVEMENT PROJECT

TITLE: IMPROVING SUPPORT FOR PARENTS WHO ARE ACCESSING TREATMENT IN BERKSHIRE TRAUMATIC STRESS SERVICE

Background: Research suggests that post-traumatic stress disorder (PTSD) can impact upon parenting practices and parent-child relationships. As such, parents accessing psychological treatment for PTSD have specific parenting needs but it is currently unknown how best to meet these needs within services. The aim of this study was to understand the experiential perspectives of parents receiving treatment for PTSD and to make specific recommendations for meeting parents' needs.

Procedure: Semi-structured interviews with 10 parents currently accessing support in a traumatic stress service were conducted. Interviews were transcribed and analysed using an inductive approach. A focus group was held with clinical staff to establish a list of feasible recommendations.

Main findings: Five key themes were identified: i) parental role, ii) parent-child relationships, iii) challenges with service provision, iv) positive service provision and v) future directions for service provision. Recommendations were made in terms of considering parental needs at all stages of service provision: assessment, formulation, intervention and service consultation.

Conclusion: The findings highlight unmet needs for parents currently accessing support for PTSD. A whole-family approach to service provision is required to improve support for parents and their families.

THEORY DRIVEN RESEARCH PROJECT

TITLE: INVESTIGATING THE COGNITIVE AND BEHAVIOURAL PROFILES OF ADOLESCENTS WITH EMETOPHOBIA COMPARED TO PANIC DISORDER

Purpose: Emetophobia (vomit phobia) is often misdiagnosed in clinical populations; one key differential diagnostic profile is panic disorder. The purpose of the present research was to explore key cognitions and safety seeking behaviours in adolescents with emetophobia compared to panic disorder, to contribute to improved clinical assessment and formulation.

Method A cross-sectional, self-report methodology was used with between-group analyses in a community sample of clinically significant emetophobia (*n* = 28), panic disorder (*n* = 23) and healthy control (*n* = 22) adolescents.

Results: The emetophobia group reported greater endorsements of the belief that, when anxious, they will be sick relative to panic disorder participants and healthy controls. Emetophobia participants also reported greater endorsements of the feared aversive consequences of vomiting relative to panic disorder participants and healthy controls. There was no difference between clinical participants in their endorsement of non-sickness related beliefs. There was no significant difference in the reported use of emetophobia- and panic-related safety seeking behaviours in the emetophobia group, whilst the panic group reported significantly greater use of disorder specific safety seeking behaviours relative to emetophobia-specific behaviours.

Conclusions: These findings generally align with cognitive behavioural theories of emetophobia. In addition, adolescents with emetophobia may present with broader, anxiety-related beliefs. This has important implications for accurate clinical assessment, especially when differentiating between emetophobia and panic disorder. More research with clinical populations is required to further our understanding of this under-researched condition.

SYSTEMATIC REVIEW OF THE LITERATURE

THE EFFECTIVENESS AND ACCEPABILITY OF PARENTING INTERVENTIONS TO REDUCE THE RISK OF CHILD MALTREATMENT IN THE UK: A SYSTEMATIC REVIEW

November 2022

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Internal supervisor: Dr Fiona McFarlane

External supervisor: Dr Alice Brady

Proposed journal: Clinical Psychology Review

Rationale: this is a peer-reviewed journal which publishes reviews of a diverse range of topics related to clinical psychology, including community mental health and child development. Papers published in this journal should advance the practice of clinical psychology. See Appendix D for author submission guidelines.

ABSTRACT

Objectives:

Evidence regarding the effectiveness and acceptability of parenting programs to reduce maltreatment in the UK is limited; there are no NICE guidelines for these interventions, and it is an area consistently highlighted as needing further research. This systematic review aimed to evaluate the effectiveness and acceptability of parenting interventions in the UK based on reported outcome measures and uptake/ drop-out data.

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Five databases were searched and PRISMA guidelines were followed throughout. Studies were included if they were published in a scientific journal or official report, were based in the UK, evaluated an intervention for reducing the risk of child maltreatment with parents/caregivers of a child aged 0-17, and reported quantitative outcomes relating to the impact of the intervention.

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19 studies were identified for inclusion in this review. The interventions were based on a range of theoretical underpinnings and evaluated for use with heterogeneous populations including specific at-risk samples, maltreating parents, and the general population.

Conclusion:

The existing evidence is not robust enough to draw firm conclusions regarding the effectiveness and acceptability of parenting interventions to reduce child maltreatment in the UK. Further gold-standard research is needed to inform evidence-based guidelines.

Key words: *child maltreatment; family; parenting; child abuse; safeguarding*

THE EFFECTIVENESS AND ACCEPABILITY OF PARENTING INTERVENTIONS TO REDUCE THE RISK OF CHILD MALTREATMENT IN THE UK: A SYSTEMATIC REVIEW

Child maltreatment (CM) encompasses neglect, physical, sexual, and emotional abuse of any individual who has not yet reached their 18th birthday – including unborn children (Children Act, 2004; National Institute for Health and Care Excellence (NICE), 2017). It is estimated that one in five adults have experienced at least one form of CM, and approximately 50,000 children in England are looked after by their local authority due to experience or risk of abuse or neglect (Office for National Statistics, 2020).

CM is the strongest risk factor associated with developmental psychopathology (Brooker et al., 2001) and can have profound negative impacts throughout the lifecycle including increased risks of attachment disorders, drug misuse, suicide attempts, physical illness, criminal convictions, and poorer educational outcomes (Gilbert et al., 2009a; Mulcahy et al., 2014; Norman et al., 2012). In addition, it has wider costs to society; the average cost of non-fatal CM per victim in the UK is estimated at £83,390, with the largest contributors cited as social care, short-term health, and long-term labour market outcomes (Conti et al., 2017).

In cases where children have been maltreated, parents are most frequently identified as the perpetrators (Knerr et al., 2013). In a UK population-based survey, 7% of respondents reported being physically abused by their parent/carer (Brooker et al., 2001). When compared with non-maltreating parents, maltreating parents are

more hostile and punitive (Burgess & Conger, 1978; Pianta et al., 1989) and react more negatively to ordinary parental challenges (Frodi, 1980).

A developmental-etiological perspective of CM

Belsky's (1993) developmental-etiological perspective of CM, based on Bronfenbrenner's (1977) ecological theory, presents multi-dimensional risk factors for the occurrence of CM that are highly interrelated. There are three main contexts of risk within this model: a) developmental-psychological context (contributions of parent and child factors such as personality, age, and physical health), b) immediate context (contributions of parenting behaviours and the parent-child reaction), and c) the broader context (wider societal attitudes). Belsky hypothesises that those contexts more proximal to the child (a and b) are more influential than the broader context. A recent meta-analysis examining risk factors for CM reported high interrelatedness between risk factors, consistent with Belsky's perspective (Vial et al., 2020).

Belsky (1993) suggests that the most influential factors include parent factors (childhood history of abuse, parents' philosophies of discipline, personality factors, maladaptive attachment styles and negative reactivity), child factors (age, physical health, and behaviour), and parent-child interaction factors (less supportive and responsive parents who are more controlling and hostile). Meta-analyses also indicate that parent- and child-related risk factors are the most important predictors of risk of CM (Assink et al., 2019; Mulder et al., 2018; Stith et al., 2009). Some factors, such as parent-child relationships and attachment difficulties, are more

amenable to change when compared to static risk factors such as childhood history of abuse (Barlow & Schrader McMillan, 2010; Burgess & Conger, 1978; Peterson & Stern, 1997; Pianta et al., 1989). Other dynamic risk factors, such as societal influences, are less amenable to change according to theories informed by the etiological perspective (Sanders & Mazzucchelli, 2022). Therefore, CM prevention programs typically target interventions at parents to target risk factors that are amenable to change.

Parenting interventions

Parenting programs with the aim of reducing maltreatment attempt to decrease the influence of risk factors and promote safe and nurturing relationships between caregivers and children (Centers for Disease Control and Prevention, 2014; World Health Organization, 2009). More specifically, parenting programs aim to reduce the risk of CM by improving parental attitudes, skills, perceived competence, and parent-child relationships, as well as reducing parental distress/psychosocial difficulties and child behavioural problems (Barlow et al., 2006; Montgomery et al., 2009; Vlahovicova et al., 2017). Whilst these programs take various different approaches, they are often grounded in theories such as attachment theory (Bowlby, 1969), social learning theory (Bandura, 1963) and/or learning theory (Skinner, 1950).

Interventions designed to address CM may either be preventative (targeting at-risk families) or curative (targeting families wherein maltreatment behaviours have already been reported). Recent systematic reviews present encouraging evidence for preventative parenting programs (Altafim & Linhares, 2016; van der Put et al.,

2018). However, these reviews do not contextualise the findings within a UK setting. Altafim and Linhares' (2016) review did not include any UK-based studies whilst only 9.8% of the data included in van der Put and colleague's (2018) meta-analysis was taken from European studies (with no reference to the specific country of origin).

Indeed, NICE (2017) has highlighted a lack of knowledge regarding effective interventions to prevent CM in at-risk families within the UK, because much of the existing research does not focus on a UK context. The guidelines have included this topic in their recommendations for future research (NICE, 2017).

Therefore, with the aim of informing evidence-based practice for interventions to reduce CM within the UK, this review will consider:

1. What parenting interventions for reducing CM have been evaluated with a UK population?
2. What outcome measures are reported in relation to evaluating the above interventions? What does this tell us about the effectiveness of parenting interventions for reducing CM in the UK?
3. How acceptable are the evaluated parenting interventions for a UK population?

METHODS

This systematic review followed the Preferred Reporting Items for Systematic Reviews and Mata-Analyses guidelines (PRISMA; Page et al., 2021). A protocol was

registered on PROSPERO before screening studies for inclusion had begun (registration number: CRD42022299938).

Study identification and selection

A search strategy was devised alongside clinicians working in the relevant field (Family Assessment and Safeguarding Service, Oxford) and a librarian. Terms were piloted to ensure relevant papers were identified. Once finalised, five databases (ASSIA, CINAHL, Embase, MEDLINE, PsycINFO and Scopus) were searched using variants of the terms 'child maltreatment', 'parenting intervention' and 'United Kingdom' (see Appendix A for full search terms). The search was conducted on 12th July 2022 and updated on 7th April 2023.

Screening was conducted by two Trainee Clinical Psychologists (HC, first reviewer; JV, second reviewer). Papers were excluded if they did not meet all the criteria outlined in Table 1. Firstly, the titles and abstracts of all papers identified by database searches were screened by the first reviewer to assess suitability, with 20% of these also being screened by the second reviewer. If the title/abstract screening was not conclusive, the paper was included for screening in the next stage. Inter-rater reliability calculations indicated agreement on 95.9% of papers (Cohen's k = 0.83). Disagreements (*n* = 10) were resolved through discussion.

The first reviewer then reviewed the full texts of all potentially relevant studies, and the second reviewer reviewed 25% of these. At this stage, agreement was 97.7% (Cohen's k = 0.87; see Figure 1 for full screening process). Disagreements

were resolved through discussion and consultation with a third reviewer who works clinically in the relevant field. Reference lists of included papers were searched to identify any further relevant studies.

Table 1

Summary of inclusion and exclusion criteria

DIMENSION	INCLUSION CRITERIA
GENERAL	An experimental study reporting novel data. Published in a scientific journal or official report (e.g., department for health and social care reports).
POPULATION	Expectant parents or parents/caregivers of a child aged 0-17 years (I.e., any adult who has main caring responsibility for a child, including adoptive parents, stepparents, or any other main carer). Based in the United Kingdom (all of UK, or one of England/ Wales/Scotland/Northern Ireland)
INTERVENTION	Parent has participated in an evaluated intervention which aims to prevent the risk of CM. The intervention is either named and/or manualised. The intervention can be individual or group format. The intervention may be either preventative (targeting at-risk families or the general population) or curative (targeting families wherein maltreatment has already been reported). Preventative interventions may be either universal (addressing entire population without an identification of individual risk levels), selective (directed towards at-risk individuals) or indicated (targets individuals with early symptoms/behaviours or biological markers predicting high risk)
OUTCOME	Quantitative outcomes are reported. Outcomes relating to the impact of the intervention for the

child/parent/family are reported.

Data extraction

Data were extracted using a template developed by the first reviewer and piloted by the second reviewer (see Appendix B). All data were extracted by the first reviewer, and 50% by the second reviewer – the extracted data were compared to ensure inter-rater reliability. Information was extracted regarding the geographical location, intervention aims, recruitment methods, study design, population demographics, sample size, control of confounding variables, reported outcome measures and associated reliability/validity, participant drop-out rates and any results relating to the efficacy of the intervention.

Assessment of risk of bias

All included papers were assessed for risk of bias using the Downs and Black Checklist for Assessing Quality (Downs & Black, 1998; see Appendix C). This was chosen as it allows for assessing the quality of both randomised and non-randomised studies. The first reviewer assessed all included studies, whilst the second reviewer assessed 30% of studies to ensure inter-rater reliability. An initial weighted Cohen's Kappa statistic showed an agreement level of 0.71. Disagreements on one out of six papers were resolved via discussion between the reviewers, leading to a revised Kappa statistic of 1.00 ('perfect' agreement).

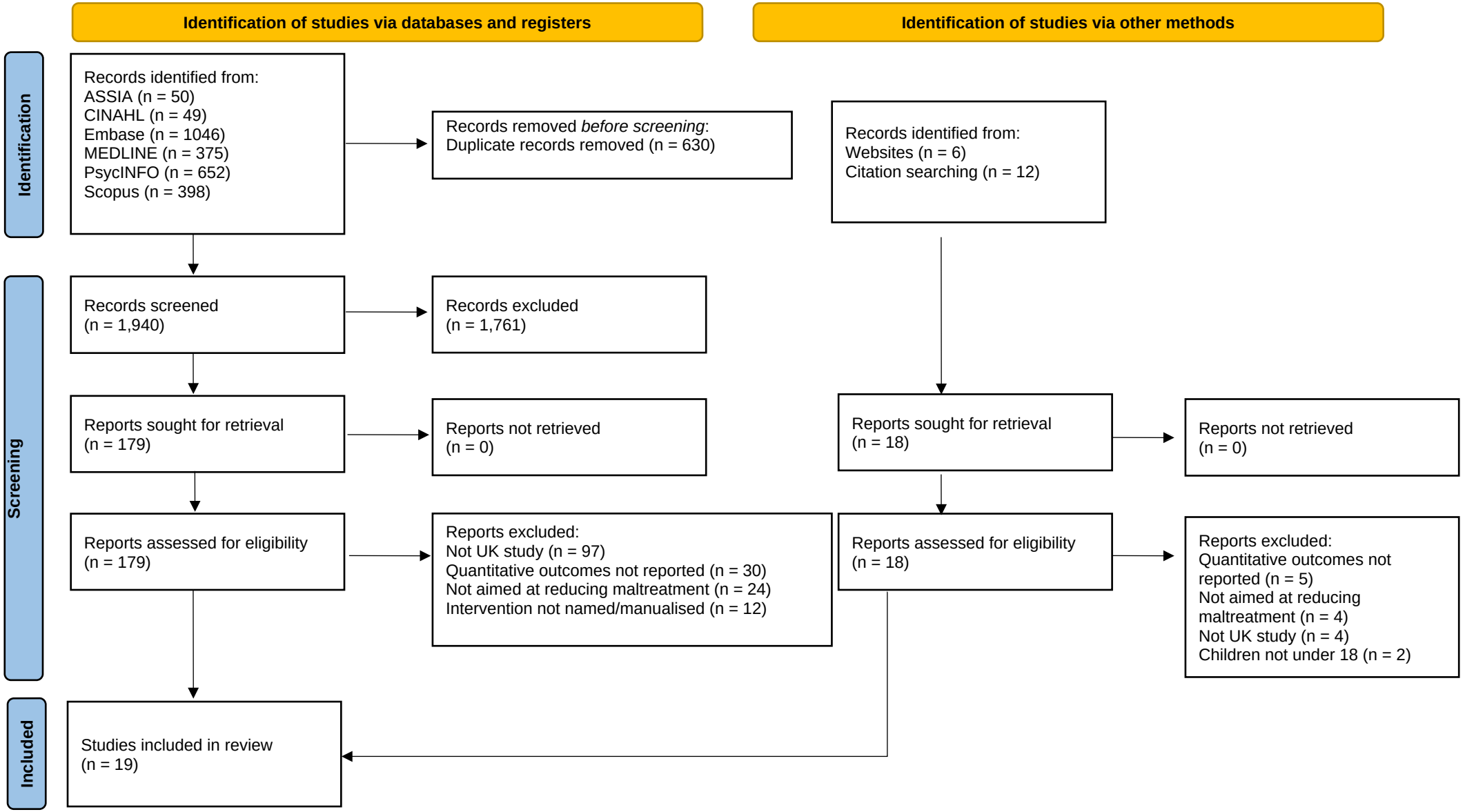


Figure 1: PRISMA flow diagram outlining screening process (adapted from Page et al., 2021)

RESULTS

In total, 19 studies were identified as eligible for inclusion. A narrative synthesis approach was selected as informed by published guidelines (Campbell et al., 2020; Popay et al., 2006). The synthesis is organised by:

1. Overview of included studies' main characteristics
2. Exploration of intervention effectiveness organised by reported outcome measures
3. Exploration of intervention acceptability for a UK population using uptake and drop-out data
4. Overview of quality assessment
5. Overall synthesis summarising the findings of all studies rated as at least 'good' according to Downs and Black's (1998) quality assessment tool

1. Overview of included studies

1.1. Study design and methodology

Table 2 summarises the main characteristics of included studies. All but one were experimental studies published in primary journals; the exception was an experimental study published as an official report for the National Institute for Health Research (Whittaker et al., 2022). Studies used a range of methodologies including randomised controlled trials (RCTs), pilot/feasibility trials, repeated measures designs, service audits and case report.

The sample size in studies ranged from *n* = 1 (Pethica & Bigham, 2018) to *n* = 1645 (Robling et al., 2016). Three studies had significantly larger sample sizes of 723, 1645 and 1501 respectively (Calam et al., 2008; Robling et al., 2016, 2022), and three studies had sample sizes of less than 15 (Downes et al., 2022; Pethica & Bigham, 2018; Puckering et al., 2011). Studies were conducted across all four UK countries (see Table 2 for full breakdown).

1.2. Interventions

Most interventions were aimed at parents from samples at-risk of maltreatment (see Table 2). The evaluated interventions were based on a range of theoretical underpinnings, and many interventions were based on an integration of multiple theoretical approaches. Nineteen different interventions were evaluated across the studies, with three studies reporting separate evaluations of the same intervention (The Parents Under Pressure Program; Barlow et al., 2019; Harnett et al., 2018; Whittaker et al., 2022).

Broadly speaking, the interventions in nine studies had at least some basis in attachment theories (Barlow et al., 2019; Byrne et al., 2019; Bywater et al., 2011; Downes et al., 2022; Harnett et al., 2018; Lucas et al., 2022; Robling et al., 2016; White et al., 2015; Whittaker et al., 2022). Six studies reported on the efficacy of interventions with a psycho-educational/skills-training element (Barlow et al., 2007, 2019; Harnett et al., 2018; Lucas et al., 2022; Pethica & Bigham, 2018; Puckering et al., 2011; Whittaker et al., 2022) whilst emotion-regulation theories informed the interventions in five studies (Barlow et al., 2019; Harnett et al., 2018; Puckering et

al., 2010; White et al., 2015; Whittaker et al., 2022). In four studies, an element of the intervention was based on social learning theory (Attwood et al., 2020; Bywater et al., 2011; Calam et al., 2008; Tsivos et al., 2015), whilst cognitive behavioural theories were also implicated in the interventions in four studies (Calam et al., 2008; Puckering et al., 2010; Rushton et al., 2010; Tsivos et al., 2015). One study was based on theories of social support (Pillai et al., 1982). Table 2 outlines further information regarding the method of delivery for each intervention.

Table 2

Characteristics of Included Studies

AUTHORS	AIMS (EVALUATED INTERVENTION HIGHLIGHTED IN **BOLD**)	STUDY DESIGN	LOCATION	SAMPLE TYPE	COMPARISON CONDITIONS	INTERVENTION DELIVERY – METHOD: LEADERS	SAMPLE SIZE	QUALITY RATING
ROBLING ET AL., 2022	Evaluate the effectiveness of a **family nurse partnership** (FNP) programme in reducing maltreatment and explore moderators, mediators and long-term outcomes.	Follow-up of pragmatic RCT	Across the UK	At-risk: teenage mothers	FNP vs TAU	Home-visiting program: family nurses	*n* = 1501 (Intervention *n* = 752; Control *n* = 749 (with available follow-up data))	Good (24)
BARLOW ET AL., 2019	Evaluate the effectiveness of **Parents under Pressure** (PuP) program for parents engaged in community-based substance abuse treatment.	Pragmatic RCT	Across the UK	At-risk: substance misuse	PuP vs TAU	Home-visiting program: social workers/family support workers	*n* = 100 (Intervention *n* = 52; Control *n* = 48)	Good (23)
TSIVOS ET AL., 2015	Assess the feasibility of delivering **Baby Triple P** for women with postnatal depression and to evaluate the efficacy at reducing depression symptoms and improving mother-infant relationship.	Pilot RCT	Manchester, England	At-risk: post-natal depression	Baby Triple P vs TAU	Home-visiting program: doctoral student	*n* = 37 (Intervention n = 14; Control *n* = 13)	Good (23)
ROBLING ET AL., 2016	Evaluate the efficacy of a **family nurse partnership** (FNP) intervention for first-time teenage mothers.	Pragmatic RCT	Across the UK	At risk: teenage mothers	FNP vs TAU	Home-visiting program: family nurses	*n* = 1645 (Intervention *n* = 823; Control *n* = 822)	Good (22)
BARLOW ET	Evaluate the effectiveness and cost-	Multi-centre	"Two counties	At-risk:	Home visitation vs	Home-visiting	*n* = 131 (Intervention	Good (21)

AUTHORS	AIMS (EVALUATED INTERVENTION HIGHLIGHTED IN **BOLD**)	STUDY DESIGN	LOCATION	SAMPLE TYPE	COMPARISON CONDITIONS	INTERVENTION DELIVERY – METHOD: LEADERS	SAMPLE SIZE	QUALITY RATING
AL., 2007	effectiveness of an intensive **home visitation program** for at-risk families.	RCT	across the UK"	presenting with range of risk factors	TAU	program: health visitors	*n* = 67; Control *n* = 64)	
RUSHTON ET AL., 2010	Evaluate a **cognitive behavioural approach** and an **education approach** compared to usual care for adopters of children late placed from care.	RCT	England	At risk: adoptive parents	Cognitive behavioural vs Education vs TAU	Group program: child and family social workers	*n* = 37 (Intervention group 1 *n* = 10; Intervention group 2 *n* = 9; Control group *n* = 18)	Fair (19)
ATTWOOD ET AL., 2020	Evaluate the effectiveness and acceptability of **non-violent resistance (NVR)** parenting training for young people with substance misuse problems.	Mixed methods repeated measures	South-West England	At-risk: parent of child with substance misuse problem	None	Group program: specialist substance misuse workers	*n* = 18	Fair (17)
BYRNE ET AL., 2019	1.Assess the acceptability of **Lighthouse MBT** Parenting Programme for hard-to-reach parents. 2. Evaluate the effectiveness of the programme in reducing risk of harm to children.	Pilot evaluation study	Buckinghamshir-e, England	At-risk and maltreating parents	None	Group program: MBT-trained professionals	*n* = 16	Fair (17)
BYWATER ET AL., 2011	1.Establish the feasibility of delivery and effectiveness of the **Incredible Years** parenting programme in supporting carers managing difficult behaviours in looked after children 2. Evaluate service use costs for	Feasibility RCT	North and Mid-Wales	At risk: foster carers	Incredible Years vs WLC	Group program: unspecified trained professionals	*n* = 46 (Intervention *n* = 29; Control *n* = 17)	Fair (17)

AUTHORS	AIMS (EVALUATED INTERVENTION HIGHLIGHTED IN **BOLD**)	STUDY DESIGN	LOCATION	SAMPLE TYPE	COMPARISON CONDITIONS	INTERVENTION DELIVERY – METHOD: LEADERS	SAMPLE SIZE	QUALITY RATING
	foster carers and looked after children.							
CALAM ET AL., 2008	Assess changes to child behaviour, dysfunctional parenting, parental anger, depression and self-efficacy following a **public health intervention using television media**.	Repeated measures randomised group design (two intervention conditions)	Across the UK	General population	Standard or technology enhanced viewing condition (with additional web support)	Self-directed intervention: watching a television series delivered by a clinical psychologist	*n* = 723 (Intervention Group 1 *n* = 453; Intervention Group 2 *n* = 270)	Fair (17)
PUCKERING ET AL., 2010	Evaluate the efficacy of **Mellow Babies** group intervention at reducing maternal postnatal depression and improving mother-infant interactions.	RCT	Lanarkshire, Scotland	At risk: post-natal depression	Mellow Babies vs WLC	Group program: counselling psychologist and health visitor	*n* = 17 (Intervention *n* = 11; Control *n* = 6)	Fair (16)
WHITTAKER ET AL., 2022	Assess the feasibility of delivering **Parents under Pressure** (PuP) for opioid dependent fathers and explore the profile of change for fathers, mothers and children.	Mixed-methods feasibility study	Lothian, Scotland	At-risk: substance misuse	None	Home-visitation program: unspecified trained professional	*n* = 25	Fair (16)
LUCAS ET AL., 2022	Assess the impact of a restorative parent training intervention with **immersive video** for adoptive parents, foster carers and special guardians.	Service audit	Birmingham, England	At risk: adoptive/foster carers	None	Group program: unspecified trained professionals	*n* = 22 (adoptive parents *n* = 11; foster carers *n* = 7; special guardians *n* = 4)	Fair (15)
WHITE ET	Explore the effectiveness of **Mellow Bumps** for pregnant women with substantial health	Repeated measures,	Ayrshire and Arran &	At-risk: presenting	Mellow Bumps vs Chill-out in	Group program: unspecified trained	*n* = 35 (Intervention group 1 *n* = 12;	Fair (15)

AUTHORS	AIMS (EVALUATED INTERVENTION HIGHLIGHTED IN **BOLD**)	STUDY DESIGN	LOCATION	SAMPLE TYPE	COMPARISON CONDITIONS	INTERVENTION DELIVERY – METHOD: LEADERS	SAMPLE SIZE	QUALITY RATING
AL., 2015	and social care needs, compared to **Chill-out in pregnancy** and usual care.	part randomisati-on	Glasgow and Clyde, Scotland	with range of risk factors	Pregnancy vs TAU	professional	Intervention group 2 *n* = 9; Control *n* = 14)	
HARNETT ET AL., 2018	1.Evaluate the acceptability and appropriateness of a **Parents under Pressure** intervention to improve child protection outcomes. 2. To evaluate the care pathway's effectiveness at improving child protection outcomes.	Mixed methods repeated measures	Oxfordshire, England	At-risk: presenting with range of risk factors	PuP vs TAU	Home-visitation program: social workers and family support workers	*n* = 68 (Intervention *n* = 35; Control *n* = 33)	Poor (14)
DOWNES ET AL., 2022	Evaluate the efficacy of a group therapy approach, based on the **Nurturing Attachments group**, for adoptive parents.	Service audit	Northern Ireland	At-risk: adoptive parents	None	Group program: clinical/trainee psychologists	*n* = 14	Poor (11)
PETHICA ET AL., 2017	Explore the feasibility of delivering **video interaction guidance** (VIG) to a young mother with an intellectual disability.	Case report	Wales	At risk: learning disability	None	Individual intervention in treatment centre: clinical psychologist	*n* = 1	Poor (8)
PUCKERING ET AL., 2011	Evaluate the effectiveness of **Mellow Parenting** for children with Reactive Attachment Disorder.	Repeated measures Phase ½ (modelling) pilot study	Glasgow, Scotland	At-risk: parent of child with reactive attachment disorder	Three iterative versions of Mellow Parenting	Group program: unspecified trained professional	*n* = 12 (Intervention group 1 *n* = 4; Intervention group 2 *n* = 4; Intervention group 3 *n* = 4)	Poor (6)
PILLAI ET AL., 1982	Evaluate the efficacy of a **family walk-in centre** model at reducing child	Service audit	Cambridgeshire, England	General population	None	Walk-in centre: volunteer led	*n* = 50	Poor (4)

AUTHORS	AIMS (EVALUATED INTERVENTION HIGHLIGHTED IN **BOLD**)	STUDY DESIGN	LOCATION	SAMPLE TYPE	COMPARISON CONDITIONS	INTERVENTION DELIVERY – METHOD: LEADERS	SAMPLE SIZE	QUALITY RATING
	maltreatment.							

TAU: Treatment As Usual
Note: Studies are organised by quality rating (highest to lowest). Where more than one study received the same quality rating, studies are organised alphabetically.

1.3. Participants

Table 3 outlines the characteristics of participants and their children. There were a range of caregivers, including biological, adoptive and foster parents. The average age of parents ranged from 17.9 years (Robling et al., 2016) to 56.8 years (Lucas et al., 2022). The percentage of White British participants ranged from 77% (Tsivos et al., 2015) to 100% (Attwood et al., 2020).

Age data related to the caregivers' child was reported for 14 studies, ranging from pre-birth to 17 years. The gender of participants' children was reported for eight studies, with most of these reporting a 50/50 gender split ±10% (Attwood et al., 2020; Barlow et al., 2019; Byrne et al., 2019; Bywater et al., 2011; Puckering et al., 2011; Tsivos et al., 2015).

Table 3

Participant Characteristics

AUTHORS	RELATIONSHIP TO CHILD*	AGE OF PARENTS (YEARS)	ETHNICITY OF PARENTS	AGE RANGE OF CHILD	GENDER SPLIT OF CHILD
ATTWOOD ET AL., 2020	Not specified	M = 47.3 (range 32-60)	100% White British	14-17 years	83.3% Male
BARLOW ET AL., 2019	Not specified	M = 30.8 (range not reported)	86% White British, 9% Other, 5% missing/refused	<3 years	50/50 gender split ± 10%
BARLOW ET AL., 2007	Biological mothers	Not reported	92.5% White British, 1.5% Black, 3.0% Asian, 3.0% Other	Expectant parents	Not reported
BYRNE ET AL., 2019	Not specified	Not reported	88% White British, 12%	<3 years	50/50 gender split ±

AUTHORS	RELATIONSHIP TO CHILD*	AGE OF PARENTS (YEARS)	ETHNICITY OF PARENTS	AGE RANGE OF CHILD	GENDER SPLIT OF CHILD
			Other		10%
BYWATER ET AL., 2011	Foster carers	M = 46.3 (range 28-61)	Not reported	<18 years (no other limits applied)	50/50 gender split ± 10%
CALAM ET AL., 2008	Main caregiver (biological, adoptive, foster, step, grandparents)	Not reported	Not reported	<18 years (no other limits applied)	63.1% Male
DOWNES ET AL., 2022	Adoptive parents	Not reported	Not reported	Not reported	Not reported
HARNETT ET AL., 2018	Biological mothers	M = 24.0 (range 18-48)	87% White British, 13% Other	Expectant parents	Not reported
LUCAS ET AL., 2022	Adoptive parents, foster carers, special guardians	Adoptive M = 48.4, Foster M = 49.9, Special guardians M = 56.8 (range not reported)	Not reported	Adoptive M = 7.8 (range 4-15), Foster M = 11.0 (range 1-17), Special guardians M = 8.1 (range 3-16)	Not reported
PETHICA ET AL., 2017	Biological mothers	Not reported	Not reported	Not reported	Not reported
PILLAI ET AL., 1982	Not specified	Not reported	Not reported	Not reported	Not reported
PUCKERING ET AL., 2010	Biological mothers	Not reported	Not reported	<3 years	Not reported
PUCKERING ET AL., 2011	Main caregiver (biological, adoptive, foster, step, grandparents)	Not reported	Not reported	3-8 years	50/50 gender split ± 10%
ROBLING ET AL., 2016	Biological mothers	Not reported	88% White, 6% Mixed, 2% Asian, 4% Black	Expectant parents	Not reported
RUSTHON ET AL., 2010	Adoptive parents	M = 17.9 (range 17 – 19)	Not reported	3-8 years	50/50 gender split ± 10%
TSIVOS ET AL., 2015	Biological mothers	M = 28.4 (range 18 – 45)	77% White British. 3.7% Other White Background, 3.7% Other Black Background, 2.7% Other	<3 years	50/50 gender split ± 10%

AUTHORS	RELATIONSHIP TO CHILD*	AGE OF PARENTS (YEARS)	ETHNICITY OF PARENTS	AGE RANGE OF CHILD	GENDER SPLIT OF CHILD
			Mixed Background, 3.7% Bangladeshi, 7.4% Other ethnic background		
WHITE ET AL., 2015	Biological mothers	M = 39.0 (range 27-52)	Not reported	Expectant parents	Not reported
WHITTAKER ET AL., 2022	Fathers (biological, foster and adoptive)	Not reported	Not reported	Not reported	Not reported

Note: Robling et al. (2022) is not included in this study as participant characteristics are covered in data for Robling et al. (2016)

**Where gender of parents is not specified (i.e., mothers/fathers), assume that the gender was mixed*

2. Efficacy

Across the 19 studies, outcomes related to the efficacy of the intervention could be broadly split into four categories: i) parenting specific measures, ii) parent general-wellbeing, iii) child behaviour, iv) child maltreatment.

2.1. Parenting outcomes

Data relating to parenting outcomes was available for 18 studies (see Table 4). The most commonly reported outcomes were parent-child interactions, parenting stress and parent self-efficacy with seven studies measuring outcomes related to each of these domains. Other outcomes focused on parent-infant attachment/bonding, or more general possible indictors of harmful behaviours in parenting, including smoking during pregnancy.

In eight studies, there was evidence of improved parenting outcomes on at least one domain, although six of these studies also reported no significant findings for other parenting measures. The most common domain for improvement was perceived self-efficacy/competence, with significant improvements in four studies (Attwood et al., 2020; Byrne et al., 2019; Calam et al., 2008; Lucas et al., 2022).

In five studies, there was no evidence of improvements on any measures of parenting outcomes. Measures of parent-child interactions were most commonly reported as having no, or non-significant, intervention effects (Barlow et al., 2019; Puckering et al., 2010; Tsivos et al., 2015; White et al., 2015). In two studies, there were trends towards positive intervention effects, but the studies were underpowered (Byrne et al., 2019; Tsivos et al., 2015), whilst four studies did not provide statistical analysis because of small sample sizes (Whittaker et al., 2022) or the audit/case study nature of the study design (Downes et al., 2022; Pethica & Bigham, 2018; Pillai et al., 1982).

Table 4

Main outcomes (parenting)

AUTHORS	INTERVENTION	OUTCOMES REPORTED	COMPARISON	MAIN FINDINGS	INTERVENTION EFFECTIVE?*
ATTWOOD ET AL., 2020	Non-Violent Resistance Training	i) Brief Parental Self-efficacy scale (pSEQ) ii) Systemic Clinical Outcome and Routine Evaluation-15	Pre-post, post-follow-up	i) Significant increase in pSEQ scores post-intervention (p = .003). Significant difference between pre- and follow-up pSEQ scores (p = .006). ii) No significant changes for SCORE-15.	Partial effectiveness: increased self-efficacy.
BARLOW ET AL., 2019	Parents under Pressure	i) Parenting Stress Index – Short Form (PSI-SF) ii) CARE-Index	Intervention vs Control and pre-post	i) Significant group x time interaction effect (p = .04). Significant decrease in PSI-SF scores for intervention group from baseline to post-intervention (p< .01) and baseline to 12-month follow-up (p< .01). ii) No significant difference between the groups.	Partial efficacy: decreased parenting stress.
BARLOW ET AL., 2007	Home visitation based on Family Partnership Model (Davis et al., 2002)	i) CARE-Index ii) Adult Adolescent Parenting Inventory ii) Parenting Sense of Competence Scale	Intervention vs Control and pre-post-follow-up	i) Intervention mothers were significantly more sensitive (p = .04) and cooperative (p= .02) with their babies post-intervention. Ii – vi) No significant differences between the groups.	Partial efficacy: increased maternal sensitivity and attunement.

AUTHORS	INTERVENTION	OUTCOMES REPORTED	COMPARISON	MAIN FINDINGS	INTERVENTION EFFECTIVE?*
		iii) What Being the Parent of a Baby is Like iv) Generalised Self-efficacy Scale v) Parenting Stress Inventory vi) HOME inventory			
BYRNE ET AL., 2019	Lighthouse MBT Parenting Programme	i) Parent Development Interview ii) NICHD Early Child Care Research Network Observation Scales iii) Maternal Efficacy Questionnaire (MEQ) iv) Parenting Stress Inventory-Short Form (PSI-SF)	Pre-post	i) No significant improvement in parental mentalising capacity ii) Significant increase in sensitivity to child's cues (p = .045) was not significant after Bonferroni correction. No other significant changes. iii) Significant increase in parent self-efficacy (p= .018). iv) Significant reduction in PSI-SF (p= .025) was not significant after Bonferroni correction.	Partial effectiveness: increased parental self-efficacy and some trends towards significance that may be significant with larger sample size.
BYWATER ET AL., 2011	Incredible Years	i) Parenting Scale	Pre-post	i) No significant change for intervention condition. Unexpected, significant improvement in parenting competencies for control condition (p = .017).	No
CALAM ET AL., 2008	Public health intervention of	i) Parenting Scale	Pre-post-follow-up	i) Significant improvements in parent competencies from pre-post intervention (p	Yes – effectiveness.

AUTHORS	INTERVENTION	OUTCOMES REPORTED	COMPARISON	MAIN FINDINGS	INTERVENTION EFFECTIVE?*
	televised Triple P program	ii) Parental Anger Inventory iii) Parent Problem Checklist iv) Parenting Task Checklist		< .001) and pre-intervention to follow-up (p <.001). ii) Significant reduction in parenting anger problems and intensity from pre-post intervention (p < .001) and pre-intervention to follow-up (p < .001). iii) Significant improvement in parenting conflict from pre-post intervention (p< .001) and pre-intervention to follow-up (p < .001). iv) Significant improvements to parent confidence in coping with difficult child behaviours from pre-post intervention (p < .001) and pre-intervention to follow-up (p < .001).	
DOWNES ET AL., 2022	Adapted version of Nurturing Attachments group	i) The Carer Questionnaire	No comparison	i) No statistical analyses reported. 100% of parents reported increase in understanding (a lot), 100% increase in confidence (somewhat or a lot), 100% increase in coping (a little, somewhat, a lot), 100% reduction in stress (a little, somewhat, a lot).	Evidence of improvements but unable to determine effectiveness as no statistical analysis completed.
LUCAS ET AL., 2022	Restorative parent training intervention with immersive video	i) Tool to Measure Parenting Self-Efficacy (TOPSE) ii) Self-reported understanding of behaviours associated with early life	Pre-post	i) Significant improvements in empathy and understanding (p = .019) and learning and knowledge (p < .001) subscales of TOPSE. No significant change in emotion and affection	Partial effectiveness: improvements in most areas of self-efficacy and all self-perception

AUTHORS	INTERVENTION	OUTCOMES REPORTED	COMPARISON	MAIN FINDINGS	INTERVENTION EFFECTIVE?*
		trauma and neglect (ELTN) iii) Self-reported competence at dealing with behaviours associated with ELTN iv) Self-reported empathy for children who have experienced ELTN		subscale of TOPSE. ii) Significantly improved understanding of behaviours associated with ELTN ($p < .001$) iii) Significantly greater perceived competence at dealing with behaviours associated with ELTN ($p < .001$). iv) Significantly greater empathy for children who have experienced ELTN ($p < .001$).	ratings related to ELTN.
PETHICA ET AL., 2017	Video Interaction Guidance	i) Self-assessment of parenting ii) Sensitive interaction ratings via video recordings	Pre-post	i)Increased confidence in listening to children. No statistical analysis completed (case study). ii)Increase in attuned interactions over time. No statistical analysis completed (case study).	Evidence of improvements but unable to determine effectiveness as no statistical analysis completed.
PILLAI ET AL., 1982	Family walk-in centre	i) Self-reported improvements after 3 months	No comparison	i)18% reported improved child care, 8% improved child/parent relationship, 6% increased confidence of mother, 6% increased self-awareness of mother, 4% reduction in child behaviour problems, 10% stated no improvements.	Limited evidence of improvements but unable to determine effectiveness as no statistical analysis completed.
PUCKERING ET AL., 2010	Mellow Babies	i) Mellow Parenting observation scale of mother-infant interactions	Intervention vs Control at end of treatment	i) Overall significantly greater mother-infant positive interactions following intervention compared to control ($p = .015$). Specifically, significantly greater positive anticipation (p	Partial effectiveness – improvements in some mother-infant interactions.

AUTHORS	INTERVENTION	OUTCOMES REPORTED	COMPARISON	MAIN FINDINGS	INTERVENTION EFFECTIVE?*
				= .02) and positive responsiveness (p = .018), and significantly less negative autonomy (p = .018) and negative control (p =.007) in the intervention group compared to control. No significant differences in positive cooperation, positive distress, positive control, negative anticipation, negative responsiveness, negative cooperation and negative distress.	
PUCKERING ET AL., 2011	Mellow Parenting	i) Parenting Daily Hassles Scale ii) Parent-Child Interaction observations	Pre-post	i) No significant improvement over time. ii) No significant improvement over time.	No
ROBLING ET AL., 2016	Family Nurse Partnership	i) Smoking at late pregnancy ii) Pregnancies within 24 months	Intervention vs Control at end of treatment	I and ii) No significant difference between groups.	No
ROBLING ET AL., 2022	Family Nurse Partnership	i) Subsequent pregnancies	Intervention vs Control at up to 5-year follow-up	i) No significant difference between groups.	No
RUSTHON ET AL., 2010	Cognitive behavioural and educational interventions	i) Expression of Feelings questionnaire ii) Parent Sense of Competence Scale	Pre-post-follow-up and intervention vs control	i) No statistically significant differences between groups. ii) Significantly increased Satisfaction with Parenting score at 6-month follow-up for interventions vs controls (p < .007). No	Partial effectiveness: increased satisfaction with parenting.

AUTHORS	INTERVENTION	OUTCOMES REPORTED	COMPARISON	MAIN FINDINGS	INTERVENTION EFFECTIVE?*
		iii) Daily Hassles Scale		significant differences for Efficacy scores. iii) No statistically significant differences between groups.	
TSIVOS ET AL., 2015	Baby Triple-P	i) Postpartum Bonding questionnaire (PBQ) ii) What Being the Parent of a New Baby is Like iii) Brief Parenting Beliefs Scale-baby version (BPBS-b) iv) CARE-Index	Intervention vs Control	i-iv) No significant group differences between intervention and control. Some trends towards significance in favour of the intervention group for PBQ, BPBS-b and mother-infant interactions.	No – but some trends towards significance that may be significant with larger sample size.
WHITE ET AL., 2015	Mellow Bumps and Chill-out in pregnancy	i) Mellow Parenting Observation System ii) Cortisol assays	Interventions vs Control	i) No significant differences between the intervention groups and control group for positive or negative mother-infant interactions. ii) Sample size was too small to analyse.	No
WHITTAKER ET AL., 2022	Parents under Pressure	i) The Parenting Sense of Competence Scale ii) Paternal Antenatal Attachment Scale iii) Maternal Antenatal Attachment Scale	Pre-post	"The sample was too small to draw conclusions about the impact of the intervention on outcomes".	Unable to determine

AUTHORS	INTERVENTION	OUTCOMES REPORTED	COMPARISON	MAIN FINDINGS	INTERVENTION EFFECTIVE?*
		iv) Emotional Availability Scale v) Conflict Tactics Scale vi) EuroQol-5 Dimensions			

** Efficacy is reported where an intervention was evaluated under experimental, controlled conditions, whilst effectiveness is reported where an intervention was evaluated under 'real-world' conditions.*

2.2. *Parent general wellbeing*

Outcomes related to parent general wellbeing were reported in 12 papers (see Table 5). The most commonly measured and reported wellbeing outcomes related to anxiety and low mood. Other outcomes included measures of social support/relationship quality, as well as emotion regulation and self-esteem.

In six studies, there were improvements in parent general wellbeing for at least one of the measured domains. The most common significant intervention effects were related to improvements in mood (depression, anxiety and/or stress) in six studies (Barlow et al., 2019; Bywater et al., 2011; Calam et al., 2008; Harnett et al., 2018; Puckering et al., 2010, 2011). There were trends towards significance for improvements in mood following Baby-Triple-P intervention (Tsivos et al., 2015), and for emotion regulation following Parents under Pressure for substance misusing fathers (Whittaker et al., 2022). It is possible that these trends would have reached significance with a larger sample size. Three interventions yielded no improvements to parent wellbeing (Barlow et al., 2007; Byrne et al., 2019; White et al., 2015).

Table 5

Main outcomes (parent general wellbeing)

AUTHORS	INTERVENTION	OUTCOMES REPORTED	COMPARISON	MAIN FINDINGS	INTERVENTION EFFECTIVE? *
BARLOW ET AL., 2019	Parents under Pressure	i) Difficulties in Emotional Regulation Scale ii) Personality Assessment Inventory – Borderline Scale iii) Depression, Anxiety and Stress Scale (DASS)	Intervention vs Control and pre-post	i)Significant group x time interaction effect (p <.01). Significant improvements in emotion regulation for intervention group from baseline to post-intervention (p< .01) and baseline to 12-month follow-up (p< .05). ii) Significant group x time interaction effect (p <.05). Significant reductions in borderline personality traits for the intervention group from baseline to post-intervention (p < .01) and from baseline to 12 month follow-up (p < .05). iii) Significant group x time interaction effect (p <.05). Significant improvements in mood for intervention group from baseline to post-intervention (p = .05) and from baseline to 12-month follow-up (p < .05).	Yes – efficacy
BARLOW ET AL., 2007	Home visitation based on Family Partnership Model (Davis et al., 2002)	i) General Health Questionnaire ii) Edinburgh Postnatal Depression Questionnaire iii) Social Support Questionnaire	Intervention vs Control and pre-post-follow-up	i) No significant differences between the groups. ii) No significant differences between the groups.	No

AUTHORS	INTERVENTION	OUTCOMES REPORTED	COMPARISON	MAIN FINDINGS	INTERVENTION EFFECTIVE? *
		iv) Rosenberg Self-Esteem		iii) Significant reductions in social support for the control group over time (p > .004). iv) No significant differences between the groups.	
BYRNE ET AL., 2019	Lighthouse MBT Parenting Programme	i) Patient Health Questionnaire-9 ii) Generalised Anxiety Disorder-7 iii) Clinical Outcomes in Routine Evaluation Scale	Pre-post	i-iii) No significant differences between the groups.	No
BYWATER ET AL., 2011	Incredible Years	i) Becks Depression Inventory	Pre-post	i) Significant decrease in depression symptoms for the intervention group from baseline to post-intervention (p < .05).	Yes–- effectiveness
CALAM ET AL., 2008	Public health intervention of televised Triple P program	i) Depression Anxiety and Stress Scale ii) Relationship Quality Index	Pre-post-follow-up	i) Significant improvements in mood from pre-post intervention (p < .001) and pre-intervention to follow-up (p <.001). ii) No significant differences between the groups.	Partial effectiveness– improvements in mood.
HARNETT ET AL., 2018	Parents under Pressure	i) Depression Anxiety and Stress Scale ii) Multidimensional Scale of Perceived Social Support	Pre-post	i) Significant decrease in depression, anxiety and stress symptoms for the intervention group from baseline to post-intervention (p< .01).	Partial effectiveness – improvements in mood and perceived social support.

AUTHORS	INTERVENTION	OUTCOMES REPORTED	COMPARISON	MAIN FINDINGS	INTERVENTION EFFECTIVE? *
		iii) Alcohol Use Disorders Identification Test		ii) Significant increase in perceived social support for the intervention group from baseline to post-intervention (p < .01). iii)No statistically significant differences between groups.	
PUCKERING ET AL., 2010	Mellow Babies	i) Edinburgh postnatal depression scale	Intervention vs Control at end of treatment	i) Significantly less symptoms of depression in the intervention group compared to control (p = .005).	Yes–- effective
PUCKERING ET AL., 2011	Mellow Parenting	i) Hospital Anxiety and Depression Scale	Pre-post	i) Significant improvement in anxiety and depression scores from pre to post-intervention (p = .045).	Yes–- effective
ROBLING ET AL., 2016	Family Nurse Partnership	i) Reported levels of social support ii) Partner-relationship quality iii) General self-efficacy	Intervention vs Control at end of treatment	i – iii) “Small improvements” in social support for the intervention condition (p = .023). ii) “Small improvements” in relationship quality for the intervention condition (p = .002). iii) “Small improvements” in self-efficacy for the intervention condition (p = .011).	No – authors report “small differences” but do not cite these as statistically significant differences despite large sample size
TSIVOS ET AL., 2015	Baby Triple-P	i) Becks Depression Inventory ii) Oxford Happiness Inventory	Intervention vs Control	i) No statistically significant differences between groups at post-treatment or from baseline to follow-up.	No - but some trends towards significance that may be significant

AUTHORS	INTERVENTION	OUTCOMES REPORTED	COMPARISON	MAIN FINDINGS	INTERVENTION EFFECTIVE? *
					with larger sample size
				i) No statistically significant differences between groups at post-treatment or from baseline to follow-up. Trend towards significance in the intervention group at post-treatment and follow-up.	
WHITE ET AL., 2015	Mellow Bumps and Chill-out in pregnancy	i) Adult Wellbeing Scale ii) Edinburgh Postnatal Depression Scale	Interventions vs Control	i and ii) No statistically significant differences between groups.	No
WHITTAKER ET AL., 2022	Parents under Pressure	i) Difficulties in Emotion Regulation Scale	Pre-post	i) "The sample was too small to draw conclusions about the impact of the intervention on outcomes". Reported improvement in emotion regulation for 46.7% (*n* = 7) of fathers at end of treatment and 36% (*n* = 4) of fathers at follow-up.	No–- but some trends towards significance that may be significant with larger sample size.

** Efficacy is reported where an intervention was evaluated under experimental, controlled conditions, whilst effectiveness is reported where an intervention was evaluated under 'real-world' conditions.*

2.3. Child behaviour

Among the ten studies that included outcomes related to child behaviour (see Table 6), the most commonly reported measures were of general child behaviour. Other measures related to changes in infant development, socio-emotional outcomes and the young person's substance misuse behaviours.

Three datasets reported at least some significant improvements in child behaviour (Bywater et al., 2011; Calam et al., 2008; Robling et al., 2016, 2022), whilst five interventions yielded no improvements on child behaviour related outcomes (Barlow et al., 2007, 2019; Puckering et al., 2011; Rushton et al., 2010; Whittaker et al., 2022). There were no emerging patterns regarding specific domains where changes were/were not observed. A further study reported too high a level of missing data to complete analysis of child behaviour outcomes (Attwood et al., 2020).

Table 6

Main outcomes (child behaviour)

AUTHORS	INTERVENTION	OUTCOMES REPORTED	COMPARISON	MAIN FINDINGS	INTERVENTION EFFECTIVE? *
ATTWOOD ET AL., 2020	Non-Violent Resistance Training	i) Young Person's Substance Misuse Outcome Record	Pre-post-follow-up	i) Levels of missing data were too high to allow analyses.	Unable to determine
BARLOW ET AL., 2019	Parents under Pressure	i) Brief Infant and Toddler Socio-emotional adjustment scale	Intervention vs Control and pre-post	i) No statistically significant differences between groups.	No
BARLOW ET AL., 2007	Home visitation based on Family Partnership Model (Davis et al., 2002)	i) Brief infant-toddler social and emotional assessment ii) Bayley Scales of Infant Development iiii) Infant Temperament Scale iv) Infant Wellbeing Scale	Intervention vs Control and pre-post-follow-up	i– iv) No statistically significant differences between groups.	No
BYWATER ET AL., 2011	Incredible Years	i) Eyberg Child behaviour Inventory-Intensity ii) Strengths and Difficulties Questionnaire	Pre-post	i) Significant reduction in the intensity of child behavioural problems for the intervention group from baseline to post-intervention ($p < .001$). ii) Significant reduction in child emotional	Yes–- effectiveness

AUTHORS	INTERVENTION	OUTCOMES REPORTED	COMPARISON	MAIN FINDINGS	INTERVENTION EFFECTIVE? *
				problems for the intervention group from baseline to post-intervention ($p < .001$).	
CALAM ET AL., 2008	Public health intervention of televised Triple P program	i) Eyberg Child behaviour Inventory	Pre-post-follow-up	i) Significant reduction in the problem and intensity of child behaviours from pre-post intervention ($p < .001$) and pre-intervention to follow-up ($p <.001$).	Yes–- effectiveness
PUCKERING ET AL., 2011	Mellow Parenting	i) Relationships Problems Questionnaire (RPQ) ii) Strengths and Difficulties Questionnaire (SDQ)	Pre-post	i) No significant change over time. ii) No significant change over time.	No
ROBLING ET AL., 2016	Family Nurse Partnership	i) Maternally reported child cognitive development ii) The Early Language Milestone	Intervention vs Control at end of treatment	i) Significant improvements in language development ($p <.001$) for the intervention condition, but no significant difference for cognitive development. ii) No significant difference between the groups.	Partial efficacy – improvements in language development but no other domains.
ROBLING ET AL., 2022	Family Nurse Partnership	i) Special educational needs ii) Early Years Foundation Stage Profile	Intervention vs Control at up to 5-year follow-up	i) No significant difference between the groups. ii) Children of participants in the intervention condition were more likely to reach the expected standard of reading at Key Stage 1 compared to controls ($p = .05$).	Partial efficacy – improvements in attainment at Key Stage 1.

AUTHORS	INTERVENTION	OUTCOMES REPORTED	COMPARISON	MAIN FINDINGS	INTERVENTION EFFECTIVE? *
RUSHTON ET AL., 2010	Cognitive behavioural and educational interventions	i) Changes in emotional distress, misbehaviour and attachment ii) Strengths and Difficulties Questionnaire	Pre-post-follow-up and intervention vs control	i) No significant difference between the groups post-intervention or at follow-up. ii)No significant differences between baseline and post-intervention scores, or between baseline and six-month follow-up scores. No significant difference between interventions and controls.	No
WHITTAKER ET AL., 2022	Parents under Pressure	i) Strengths and Difficulties questionnaire ii) Brief Infant Toddler Social and Emotional Assessment	Pre-post	i–- ii)“The sample was too small to draw conclusions about the impact of the intervention on outcomes”.	No

** Efficacy is reported where an intervention was evaluated under experimental, controlled conditions, whilst effectiveness is reported where an intervention was evaluated under ‘real-world’ conditions.*

2.4. Child maltreatment

Specific measures of CM were reported in five studies (see Table 7). All but one of these studies used local authority data including child protection outcomes and child in need status. Other outcome measures included hospital admission data and a specific questionnaire measuring risk of child abuse.

One study reported significant reductions in the risk of child abuse at post-treatment and follow-up (Barlow et al., 2019). In two studies, there was some evidence of improvements in CM outcomes, but it is not possible to draw conclusions due to the small sample size in one study (Whittaker et al., 2022), and a lack of comparative statistical analysis of pre-post measures in another (Harnett et al., 2018). One study reported negative effects of the intervention, as there were higher rates of safeguarding concerns in the intervention compared to control condition (Robling et al., 2022). However, as the authors report, it is possible that these effects are due to surveillance bias rather than a true negative impact of the intervention. In the five-year follow-up to this study, no significant effects of the intervention were reported for outcomes relating to CM (Robling et al., 2022).

Table 7

Main outcomes (child maltreatment)

AUTHORS	INTERVENTION	OUTCOMES REPORTED	COMPARISON	MAIN FINDINGS	INTERVENTION EFFECTIVE? *
BARLOW ET AL., 2019	Parents under Pressure	i) Risk Abuse Scale from the Brief Child Abuse Potential Inventory (BCAP).	Intervention vs Control and pre-post	i) Significant group x interaction effect ($p < .01$). Significant reductions in child abuse risk potential for the intervention group from baseline to post-treatment ($p < .05$) and from baseline to 12-month follow-up ($p < .05$).	Yes–- efficacy
HARNETT ET AL., 2018	Parents under Pressure	i) Safeguarding outcomes	Pre-post	i) Of mothers in the intervention group, 42% of their infants showed improvements in child protection status compared to 14% in control condition. Due to small sample size no statistical analysis was completed.	Evidence of improvements but unable to determine effectiveness as no statistical analysis completed.
ROBLING ET AL., 2016	Family Nurse Partnership	i) Emergency attendance or admission within 24 months of birth ii) Child safeguarding concerns raised.	Intervention vs Control at end of treatment	i) No significant difference between groups. ii) Rates of safeguarding concerns were higher for the intervention than control condition ($p = .005$).	No – negative effect of intervention reported (though possibly due to surveillance bias).
ROBLING ET AL., 2022	Family Nurse Partnership	i) Child in need status ii) Referral to CSCS iii) Child protection plan	Intervention vs Control at up to 5-year follow-up	i-vi) No significant difference between groups.	No

AUTHORS	INTERVENTION	OUTCOMES REPORTED	COMPARISON	MAIN FINDINGS	INTERVENTION EFFECTIVE? *
		implemented iv) Looked after status v) Recorded injuries vi) Non-attendance rates for hospital appointments			
WHITTAKER ET AL., 20022	Parents under Pressure	i) The Brief Child Abuse Potential Inventory ii) Social work child protection data	Pre-post	i) "The sample was too small to draw conclusions about the impact of the intervention on outcomes". Reported reduced child abuse potential 28.6% (n=4) of fathers at end of treatment, maintained at follow-up.	No - but some trends towards significance that may be significant with larger sample size.

**Efficacy is reported where an intervention was evaluated under experimental, controlled conditions, whilst effectiveness is reported where an intervention was evaluated under 'real-world' condition.*

3. Acceptability of Interventions

Drop-out data was reported for 15 studies (see Table 8). Of the studies that did not report drop-out data, one was a case study and therefore drop-out data was not relevant (Pethica & Bigham, 2018), whilst drop-out data would have been helpful to report in the other three studies (Byrne et al., 2019; Bywater et al., 2011; Pillai et al., 1982). Reported drop-out rates ranged from 3% (Barlow et al., 2007) to 53.4% (Calam et al., 2008). Ten of the 14 studies had drop-out rates of greater than or equal to 10%. Many studies did not report specific reasons for drop-out during the intervention. Of those that did report reasons for drop-out, reasons included being non-contactable, relapsing drug/alcohol use, being involved in criminal proceedings, moving areas, and finding questionnaires too difficult and/or intrusive to respond (Barlow et al., 2007, 2019; Harnett et al., 2018; Robling et al., 2016; White et al., 2015; Whittaker et al., 2022).

Intervention uptake data was reported for 9 studies, with percentage declining to participate ranging from 2.6% (Tsivos et al., 2015) to 31.3% (Rushton et al., 2010).

Table 8

Intervention uptake and drop-out data

AUTHORS	INTERVENTION	UPTAKE DATA FOR INTERVENTION CONDITION(S)	DROP-OUT DATA FOR INTERVENTION CONDITION(S)
ATTWOOD ET AL., 2020	Non-Violent Resistance Training	Not reported	11.1% did not complete intervention. Reasons for drop-out not reported.
BARLOW ET AL., 2019	Parents under Pressure	25.2% excluded prior to randomisation (9.4% declined, 7.9% did not meet inclusion criteria, 3.1% could not be contacted, 0.79% missed).	3% did not complete intervention. Reasons for drop-out not reported.
BARLOW ET AL., 2007	Home visitation based on Family Partnership Model (Davis et al., 2002)	69.8% excluded prior to randomisation (34.9% excluded by researchers, 27.7% declined to be screened for eligibility, 7.2% refused to take part after eligibility screening).	32% did not complete intervention (did not attend 6+ sessions). Reasons for drop-out not reported.
BYRNE ET AL., 2019	Lighthouse MBT Parenting Programme	Not reported	Not reported
BYWATER ET AL., 2011	Incredible Years	Not reported	Not reported
CALAM ET AL., 2008	Public health intervention of televised Triple P program	Not reported	53.4% did not return post-intervention data (intervention completion not reported). Reasons for drop-out not reported.
DOWNES ET AL., 2022	Adapted version of Nurturing Attachments group	Not reported	28.6% did not return post-intervention measures (intervention completion not reported). Reasons for drop-out not reported.

AUTHORS	INTERVENTION	UPTAKE DATA FOR INTERVENTION CONDITION(S)	DROP-OUT DATA FOR INTERVENTION CONDITION(S)
HARNETT ET AL., 2018	Parents under Pressure	11.4% excluded prior to intervention (all exclusions due to pregnancy termination)	12.1% did not complete the intervention (9.1% terminated pregnancy, 3.0% transferred to different local authority).
LUCAS ET AL., 2018	Restorative parent training intervention with immersive video	10.7% excluded prior to intervention (all exclusions declined to participate).	12% did not complete the intervention. Reasons for drop-out not reported.
PETHICA ET AL., 2017	Video Interaction Guidance	±	±
PILLAI ET AL., 1982	Family walk-in centre	Not reported	Not reported
PUCKERING ET AL., 2010	Mellow Babies	Not reported	9.1% did not complete intervention. Reasons for drop-out not reported.
PUCKERING ET AL., 2011	Mellow Parenting	Not reported	Not reported
ROBLING ET AL., 2016	Family Nurse Partnership	49% excluded prior to randomisation (22% declined to participate, 19.6% did not meet eligibility criteria, 6.3% could not be contacted, 1.1% no reason reported).	20.0% did not complete intervention (9.2% due to incomplete data, 10.8% due to withdrawal or left GP practice).
ROBLING ET AL., 2022	Family Nurse Partnership	See above data from Robling et al., (2016).	See above data from Robling et al., (2016).
RUSTHON ET AL., 2010	Cognitive behavioural and educational interventions	53.5% excluded prior to group allocation (31.3% declined to participate, 17.5% could not be contacted, 3.75% placement disrupted).	10% did not complete intervention. Reasons for drop-out not reported.
TSIVOS ET AL., 2015	Baby Triple-P	28.9% excluded prior to randomisation (26.3% did not meet criteria, 2.6% declined to	14.3% did not complete intervention.

AUTHORS	INTERVENTION	UPTAKE DATA FOR INTERVENTION CONDITION(S)	DROP-OUT DATA FOR INTERVENTION CONDITION(S)
		participate).	Reasons for drop-out not reported.
WHITE ET AL., 2015	Mellow Bumps and Chill-out in pregnancy	11.4% excluded prior to randomisation (5.7% withdrew, 5.7% failed to contact).	34.3% did not complete intervention (5.7% withdrew, 14.3% failed to contact, 2.9% withdrawn on advice of healthcare professional.
WHITTAKER ET AL., 2022	Parents under Pressure	20% of fathers excluded prior to intervention (all declined to participate).	20% did not complete intervention (16% became ineligible after enrolment, 4% withdrew).

FU: Follow-up.
± Not relevant: case study

4. Quality Assessment

The overall quality of studies according to the Downs and Black checklist (Downs & Black, 1998) is reported in Table 9. No studies were rated as ‘excellent’, five as ‘good’, nine as ‘fair’ and five as ‘poor’ suggesting that a large number of the studies had methodological issues.

The reporting for most studies was generally adequate; the most common downfall was that almost half (n=8) of studies failed to report actual probability values (Barlow et al., 2019; Calam et al., 2008; Downes et al., 2022; Pethica & Bigham, 2018; Pillai et al., 1982; Puckering et al., 2011; White et al., 2015; Whittaker et al., 2022). Quality of reporting regarding the generalisability of studies was variable. The most common weakness was not adequately demonstrating that the subjects who

opted to participate in the study were representative of the entire recruitment population, which only two studies did (Barlow et al., 2007; Calam et al., 2008).

Reporting quality for the internal validity (bias) of studies was similarly variable, with only two studies making clear that attempts were made to blind participants to experimental conditions (Barlow et al., 2019; Calam et al., 2008). Another significant downfall was demonstrating the reliability and validity of main outcome measures, which eight studies failed to do adequately (Barlow et al., 2007, 2019; Byrne et al., 2019; Downes et al., 2022; Lucas et al., 2022; Pethica & Bigham, 2018; Pillai et al., 1982; Puckering et al., 2011).

Regarding the internal validity (confounding and selection bias), there was also large variability in quality. Appropriate methods of randomisation were documented in eight studies (Barlow et al., 2007, 2019; Calam et al., 2008; Puckering et al., 2010; Robling et al., 2016, 2022; Rushton et al., 2010; Tsivos et al., 2015), but only three studies demonstrated that randomised assignment was concealed from both patients and healthcare staff until completion of recruitment (Barlow et al., 2019; Robling et al., 2016, 2022). Less than half (n = 8) of studies reported a power calculation to calculate appropriate sample size (Attwood et al., 2020; Barlow et al., 2007, 2019; Lucas et al., 2022; Robling et al., 2016, 2022; Rushton et al., 2010; Tsivos et al., 2015).

Table 9

Quality Assessment rated according to Downs and Black's (1998) checklist.

AUTHORS	REPORTING (RANGE 0-11)	EXTERNAL VALIDITY: GENERALISABILITY (RANGE 0-3)	INTERNAL VALIDITY: BIAS (RANGE 0-7)	INTERNAL VALIDITY: CONFOUNDING (RANGE 0-6)	POWER (RANGE 0-1)	TOTAL (RANGE 0-28)	QUALITY RATING
ATTWOOD ET AL., 2020	8	1	5	2	1	17	FAIR
BARLOW ET AL., 2019	10	1	5	6	1	23	GOOD
BARLOW ET AL., 2007	9	3	4	4	1	21	GOOD
BYRNE ET AL., 2019	8	2	5	2	0	17	FAIR
BYWATER ET AL.,	9	1	5	2	0	17	FAIR

AUTHORS	REPORTING (RANGE 0-11)	EXTERNAL VALIDITY: GENERALISABILITY (RANGE 0-3)	INTERNAL VALIDITY: BIAS (RANGE 0-7)	INTERNAL VALIDITY: CONFOUNDING (RANGE 0-6)	POWER (RANGE 0-1)	TOTAL (RANGE 0-28)	QUALITY RATING
2011 CALAM ET AL., 2008	6	3	6	2	0	17	FAIR
DOWNES ET AL., 2022	6	0	4	1	0	11	POOR
HARNETT ET AL., 2018	6	2	4	2	0	14	POOR
LUCAS ET AL., 2018	7	2	4	2	0	15	FAIR
PETHICA ET AL., 2017	5	0	1	2	0	8	POOR
PILLAI ET AL., 1982	3	0	1	0	0	4	POOR

AUTHORS	REPORTING (RANGE 0-11)	EXTERNAL VALIDITY: GENERALISABILITY (RANGE 0-3)	INTERNAL VALIDITY: BIAS (RANGE 0-7)	INTERNAL VALIDITY: CONFOUNDING (RANGE 0-6)	POWER (RANGE 0-1)	TOTAL (RANGE 0-28)	QUALITY RATING
PUCKERING ET AL., 2010	7	1	5	3	0	16	FAIR
PUCKERING ET AL., 2011	4	0	2	0	0	6	POOR
ROBLING ET AL., 2016	9	1	5	6	1	22	GOOD
ROBLING ET AL., 2022	11	1	5	6	1	24	GOOD
RUSTHON ET AL., 2010	8	1	5	4	1	19	FAIR
TSIVOS ET AL.,	9	2	6	5	1	23	GOOD

AUTHORS	REPORTING (RANGE 0-11)	EXTERNAL VALIDITY: GENERALISABILITY (RANGE 0-3)	INTERNAL VALIDITY: BIAS (RANGE 0-7)	INTERNAL VALIDITY: CONFOUNDING (RANGE 0-6)	POWER (RANGE 0-1)	TOTAL (RANGE 0-28)	QUALITY RATING
2015 WHITE ET AL., 2015	7	2	4	2	0	15	FAIR
WHITTAKER ET AL., 2022	9	1	4	2	0	16	FAIR

Note: Quality rating is assessed using values: excellent (26-28); good (20-25); fair (15-19); and poor (<14; Hooper et al., 2008).

5. Synthesis of high-quality studies

The highest quality studies in this review (i.e., rated as ‘good’) were: i) Barlow et al., 2019; ii) Barlow et al., 2007; iii) Robling et al., 2016; iv) Robling et al., 2022; and Tsivos et al., 2015. As discussed, Robling and colleagues (2016, 2022) papers report analyses from the same study population, with the latter reporting longer-term follow-up data. Therefore, discussions regarding intervention effectiveness and acceptability will refer to these two studies as one. Studies will be synthesised in terms of their effectiveness and acceptability according to a developmental-etiological perspective of CM (Belsky, 1993; Bronfenbrenner, 1977).

5.1. Effectiveness

Robling and colleagues’ (2016, 2022) evaluated the efficacy of the Family Nurse Partnership home-visitation model, with a main theoretical basis in attachment theories. The results for this evaluation were mixed. In terms of parent factors, there were no significant intervention effects on behaviours including smoking, but there were small improvements post-intervention for social support, relationship quality and self-efficacy. Child related risk factors did reduce both at end of treatment, with improvements in language development, and 5-year follow-up, with improvements in attainment at Key Stage 1. However, parent-child related risk factors were reported to increase following intervention, with significantly greater rates of safeguarding concerns in the intervention condition compared to control condition at end of treatment (although this finding may be due to surveillance bias and was no longer significant at five-year follow-up; Robling et al., 2022).

The Parents under Pressure intervention was evaluated for substance misusing parents in Barlow and colleagues' (2019) paper. This intervention is based upon a dynamic model of attachment theory, behavioural parenting skills and adult psychopathology. Parent-related risk factors, including emotion regulation abilities, borderline personality traits and mood, improved following intervention and were maintained at 12-month follow-up. A direct measure of child abuse risk also reported significant reductions for the intervention condition at end of treatment and 12-month follow-up. However, child-related risk factors, as measured by a socio-emotional adjustment outcome, did not change post-intervention.

The Baby Triple-P intervention was evaluated in Tsivos and colleagues' (2015) study. This intervention draws on cognitive behavioural, developmental, and social learning theories. Due to the small sample size, it was difficult to infer efficacy of the intervention. However, there were some potential observed reductions in parent-child related risk factors as the authors reported a trend towards significance for improved mother-infant interactions and postpartum bonding. Similarly, there was a trend towards significance for increased happiness in the intervention condition suggesting some reductions in parent-related risk factors, although there were no significant reductions in depression symptoms.

Finally, Barlow and colleagues' (2007) evaluation of a home visitation program based on the Family Partnership Model (Davis et al., 2002) demonstrated some positive results. The program includes elements to enhance infant-parent interaction and skills-training of parent's problem-solving abilities. The results

suggest that the intervention may be effective in reducing parent-child related risk factors in the immediate context, as there were significant improvements in maternal sensitivity and attunement following intervention. The intervention was not effective at reducing parent factors (as measured by mood, self-esteem, and social support outcomes) or child factors (as defined by a measure of child socio-emotional adjustment).

Taken together, these findings suggest that parenting interventions aimed at reducing CM target parent-, child- and/or parent-child related risk factors in line with the developmental-etiological perspective of CM (Belsky, 1993; Bronfenbrenner, 1977).

5.2. Acceptability

Each of the studies rated as 'good' provided data regarding intervention uptake and drop-out. The percentage of participants who declined an invitation to participate was variable, ranging from 2.6% for the evaluation Baby Triple-P (Tsivos et al., 2015), to 27.7% in Barlow et al.'s (2007) evaluation of a home visitation program. This home visitation program also had the highest rates of non-completion (32%), compared to only 3% of participants not completing the Parents under Pressure intervention (Barlow et al., 2019).

DISCUSSION

Summary of findings

The aim of this review was to explore the efficacy and acceptability of parenting interventions to reduce CM in the UK based on reported outcome measures and uptake/drop-out rates. Nineteen studies were identified from a systematic search, resulting in a heterogeneous sample with interventions based on a range of theoretical underpinnings and evaluated with a range of samples (at risk, maltreating and general population). Quality assessment ratings suggested that the majority of studies were less than 'good' quality according to Downs and Black's (1998) checklist, resulting in an overall synthesis of only four separate datasets.

Effectiveness

Studies rated as 'good' quality suggested that various interventions with different theoretical underpinnings resulted in reductions in some parent-, child and/or parent-child related risk factors of CM. Due to the heterogeneity of included studies, it was not possible to identify specific mechanisms for change in parenting interventions with positive effects.

Although the specific outcome measures used in these studies were varied, all evaluations measured parenting outcomes such as perceived self-efficacy, parenting stress or maternal sensitivity. All but one also measured intervention effects using child behaviour outcomes, including socio-emotional adjustment and cognitive/educational development outcomes. Most also evaluated outcomes in relation to improved parent wellbeing, including measures of mood, perceived social support and personality scales. Only two out of the four datasets evaluated the

interventions based on more specific measures of CM. All studies reported positive findings in relation to at least one of the reported outcome measures, but no study reported significant positive findings for all outcome measures.

It is notable that only two of four datasets rated as ‘good’, and only five of all 18 included datasets, included a direct measure of CM. Whilst this may be initially surprising, given that the overall aim of the intervention is to reduce CM, this finding is consistent with a briefing from the World Health Organisation (WHO; 2009). The WHO emphasised that parental programs aimed at reducing maltreatment should aim to improve child behaviour and parental skills/strategies alongside enhancing parent-child relationships, with the secondary consequence of reducing CM potential. This allows for earlier intervention to prevent CM using either universal programs targeting known risk factors, or programs targeting visible and more accessible risk factors such as child behaviour or parent mental health. Therefore, with these aims in mind, it follows that the main outcomes of many studies will be more directly related to the mechanisms of the intervention (e.g., measures of child behaviour, parenting and parent-child relationships; Altafim & Linhares, 2016; World Health Organization, 2009).

Samples included a wide variety of at-risk populations (e.g., substance misusing parents, mothers with postnatal depression, foster parents), as well as some interventions targeting a general population sample. This heterogeneity makes it difficult to draw inferences regarding the effectiveness of interventions for the UK population as a whole, because effectiveness could vary depending on the target population. Despite this, in studies rated as ‘good’ quality, all interventions had some

positive effects which may suggest that parenting interventions can be helpful for a range of target populations, although limited available data does not allow this inference to be made confidently.

In general, the data suggests that UK-based parenting interventions to reduce CM demonstrate positive effects when targeting various parent-, child- and/or parent-child related risk factors. Indeed, the Munro Review, published by the Department for Education, highlights the importance of keeping the child at the centre of the child protection system (Munro, 2011). It is therefore important that interventions do not focus solely and specifically on reducing parent-related risk factors (e.g., mood or perceived self-efficacy). This is reflected in the interventions included in the current review, as although many interventions did include components targeting parent-related risks, they also focused on child- or parent-child related factors.

Dynamic risk factors were not addressed in any of the included interventions, likely because they are less amenable to change (Sanders & Mazzucchelli, 2022). Whilst this makes sense in the context of evaluating parenting interventions (as compared to broader public health/policy interventions), it is important to consider the inter-related nature of dynamic and static risk factors in contributing to CM. This can be illustrated using the timely example of child poverty: at present, 3.9 million children are living in poverty in the UK (Department for Work and Pensions, 2022) and this figure is predicted to rise further (Joseph Rowntree Foundation, 2022). In considering parental substance misuse as a risk factor for CM, research demonstrates that parental substance abuse accompanied by poverty is more likely to lead to contact with child protection services than when parents misuse

substances in a position of affluence (Bywaters et al., 2016). This example demonstrates that it is not possible to separate dynamic from static risk factors. Thus, with included interventions being evaluated for use with hugely heterogeneous populations, it is important to hold in mind that efficacy/effectiveness will be affected by dynamic risk factors (e.g., poverty) that may be more prevalent in some samples compared to others.

Acceptability

Acceptability of interventions, as measured by uptake and drop-out rates, for studies rated as 'good' quality was also variable. Whilst in one study, only 2.6% of potential participants declined to participate, in another more than 25% declined. Uptake rates are likely to vary in line with study design (e.g., RCTs compared to case reports/audits), however all studies rated as 'good' were RCTs and therefore this is unlikely to have contributed to the variability in uptake rates. Uptake rates were lowest for an intervention targeting a population presenting with a range of different risk factors (72.3%), with higher uptake rates for interventions targeting a specific at-risk group (range: 78 – 97.4%). This may suggest that interventions with a specific target population are more likely to encourage uptake, though it is not possible to determine the reasons for this; it could be driven by population-based factors (e.g., certain populations are more motivated to participate) or study-design factors (e.g., more targeted recruitment methods when recruiting one specific population).

Rates of intervention non-completion also varied (range: 3 – 32%) which may be, in part, also due to heterogeneity in the nature of the study population. The relatively low uptake and high drop-out rates align with existing research suggesting that the uptake of evidence-based parenting interventions for reducing CM is often poor (Karatekin, 2014; Landers et al., 2018; Leckey et al., 2021; Levey et al., 2017). This is perhaps unsurprising considering the stigma faced by maltreating parents (Faver et al., 1999), and because multiple stressors simultaneously contribute to an increased risk of CM and increased risk of disengagement in parenting programs, including poverty and low parenting motivation (Gilbert et al., 2009b; Landers et al., 2018). Unfortunately, due to the limited amount of 'good' quality studies in this review, it was not possible to make causal inferences about high vs low acceptability of interventions.

Strengths and Limitations

To the best of our knowledge, this is the first review to focus specifically and solely on interventions evaluated with a UK-based population – an area highlighted as needing further research in the NICE guidelines (2017). Despite this, it is important to note that several UK-based studies were excluded from this review due to not meeting eligibility criteria (e.g., qualitative studies or targeting parents of children over the age of 18). These exclusions mean that some possibly relevant data may have been missed from the synthesis. This may have been especially relevant for evaluating the acceptability of interventions, as analysis of qualitative accounts of parent's experiences of the intervention was beyond the scope of this review. Indeed, using only uptake and drop-out data to assess the acceptability of

interventions is not always reliable when comparing between research trials and routine clinical practice (e.g., service audits/case series). It is difficult to ascertain whether participants in a research trial may have opted not to take part because of the nature of the research, such as because they do not want to complete a large battery of outcome measures regularly, or whether they declined to participate for intervention-related factors, such as because they did not want to commit to the number of sessions for the intervention.

The limited available UK-based literature means that this review did not include multiple evaluations of the same interventions, so reported findings could not be confirmed based on replication within the literature. Furthermore, this did not allow for an exploration of whether findings would be replicable in different study contexts or populations (e.g., adoptive vs biological parents, at-risk vs maltreating parents etc.). This makes it difficult to identify mechanisms of change and highlights the need for further evaluative interventions in the UK.

There was a clear lack of ethnic diversity in the included study samples, which is both a weakness of included studies and reflects a much broader issue of under-representation of ethnic groups in UK clinical research (Redwood & Gill, 2013). It would have been helpful to explore and understand cultural contexts and the impact that these may have on effectiveness and acceptability data. Belsky's (1993) developmental-etiological perspective of CM specifically highlights the role of societal-cultural contexts within CM. Indeed, a survey of participants from 72 countries highlighted variations in what constitutes CM; whilst sexual or physical abuse by a caretaker was cited consistently across cultures, there was broad

regional variation in other factors such as physical discipline (Daro, 2006; Raman & Hodes, 2012). Exploring how ethnicity and culture impact upon effectiveness data for parenting interventions in the UK is essential and is particularly pertinent for clinicians working in areas of greater ethnic diversity, such as in London where only 43.4% of the population identify as White British (compared to 78.4% for England and Wales overall; Office for National Statistics, 2019).

It is unfortunate that a large proportion of the Ided studies were rated less than ‘good’ quality. However, this may have been partly due to the quality assessment rating tool used. Downs and Black (1998) checklist was selected and used because it allows for easy comparison between randomised and non-randomised intervention trials. However, the tool is not most suited to assessing the quality of case study and/or case series designs because of the weighting given to randomisation and group allocations in assessing quality. Despite this, the high number of less than ‘good’ quality studies emphasises the need for high quality clinical research trials in the field.

Future Directions

In 2009, the World Health Organisation highlighted the need for more rigorous evaluations of programs to reduce CM worldwide (World Health Organization, 2009). The current review highlights a disappointing lack of contribution from UK-based researchers to meet this need. Considering the distinct lack of high-quality research evaluating parenting interventions to reduce CM in the UK, it is imperative that future research in this field employs gold standard research methods to conduct

randomised controlled trials. Research designs should allow for the evaluation of interventions compared to control groups, but also comparisons across parenting interventions by employing more than one experimental condition. Trials should also evaluate the role of culture when exploring effectiveness/acceptability data, to further understand the role of societal-cultural contexts within a UK-based population. It would be helpful for evaluations of acceptability to identify and assess particular predictors of disengagement in the UK, to allow for more targeted engagement work with hard-to-reach parents. Research of this quality could then be considered in the context of informing NICE guidelines to allow for a consistent, evidence-based approach to reducing CM across the UK.

The variability of reported outcome measures in the current review is likely, in part, due to variations in study populations. For example, a measure of infant child-behaviour will likely be different to a measure of older children's behaviour. However, to allow for easier cross-comparison between trials, it is important that the most reliable and valid measures of the factors associated with CM are identified. This may be in part informed by the outcome measures reported in trials of 'good' quality herein, whilst future research should seek to establish gold-standard measures of assessing risk of CM.

Finally, analyses of qualitative outcomes was beyond the scope of the current review. It would be beneficial for a separate review to analyse these findings in the UK literature using a qualitative approach such as thematic or meta-ethnographic analysis.

Conclusion

The aim of this review was to explore the effectiveness and acceptability of parenting interventions to reduce CM in the UK. Nineteen studies were included in the review, whilst the final analysis synthesised four interventions evaluated in ‘good’ quality studies. The studies rated as ‘good’ suggested that interventions with a variety of theoretical underpinnings resulted in reductions in some parent-, child and/ or parent-child related risk factors of CM. These studies also reported varying acceptability according to uptake and drop-out data. Variations in the samples, theoretical underpinnings and outcome measures used prevented any conclusive statements regarding the effectiveness and acceptability of interventions. More research is needed to inform evidence-based guidelines for parenting interventions to reduce CM in the UK.

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SERVICE IMPROVEMENT PROJECT

IMPROVING SUPPORT FOR PARENTS WHO ARE ACCESSING TREATMENT IN BERKSHIRE TRAUMATIC STRESS SERVICE

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External supervisor: Dr Dorothy King

Proposed journal: European Journal of Trauma & Dissociation.

Rationale: this is a peer-reviewed journal which publishes literature on post-traumatic stress disorder and complex PTSD in order to foster exchange among professionals. The journal accepts manuscripts related to clinical treatment of trauma in both adults and children, and one of the main goals of the journal is to "enable an evolution and transformation of clinical and psychotherapeutic practices in the treatment of the sequalae of psychological trauma". It is also one of the journals included within the JISC publishing agreement to allow for open-access publication. See Appendix H for author submission guidelines.

ABSTRACT

Background: Research suggests that post-traumatic stress disorder (PTSD) can impact upon parenting practices and parent-child relationships. As such, parents accessing psychological treatment for PTSD have specific parenting needs but it is currently unknown how best to meet these needs within services. The aim of this study was to understand the experiential perspectives of parents receiving treatment for PTSD and to make specific recommendations for meeting parents' needs.

Procedure: Semi-structured interviews with 10 parents currently accessing support in a traumatic stress service were conducted. Interviews were transcribed and analysed using an inductive approach. A focus group was held with clinical staff to establish a list of feasible recommendations.

Main findings: Five key themes were identified: i) parental role, ii) parent-child relationships, iii) challenges with service provision, iv) positive service provision and v) future directions for service provision. Recommendations were made in terms of considering parental needs at all stages of service provision: assessment, formulation, intervention and service consultation.

Conclusion: The findings highlight unmet needs for parents currently accessing support for PTSD. A whole-family approach to service provision is required to improve support for parents and their families.

Key words: *posttraumatic stress disorder; intergenerational effects; parent; family; parenting*

IMPROVING SUPPORT FOR PARENTS WHO ARE ACCESSING TREATMENT IN BERKSHIRE TRAUMATIC STRESS SERVICE

1. INTRODUCTION

NHS data suggests that of all adults with PTSD, 31.5% live in a household with at least one child (NHS Digital, 2014). Parental PTSD contributes to increased levels of parental stress, lower levels of parenting satisfaction, more frequent negative parenting practices, and less optimal parent-child relationships (Christie et al., 2019). Furthermore, research suggests that the offspring of adults with PTSD are more easily distressed and face increased difficulties in psychosocial development (van Ee et al., 2016). This highlights the importance of healthcare policies that provide tailored support for families where a parent is experiencing PTSD, and treatment guidance with an increased consideration of parent-child relationships.

Social learning theory (Bandura, 1963) suggests that the intergenerational transmission of traumatisation may occur as children observe and learn their parent's emotional and behavioural reactions, including intense emotions and avoidance (Lang & Gartstein, 2018). The Crossing Bridges Family Model (Falkov, 1998) illustrates how parental mental health can be linked with their child's wellbeing in three ways. Firstly, parental mental health problems can have adverse effects on the child's mental health and development. Secondly, a child whose parent has mental health problems may face negative adjustments in adulthood, including their own transition to being a parent. Finally, a child's emotional/behavioural/physical illness difficulties may exacerbate their parent's mental illness. The Social Care

Institute for Excellence (2011) outlined the implications that this model has for healthcare practitioners, including carefully considering parent's needs and improving access to support services for the family.

The mechanisms outlined in Falkov's Crossing Bridges Family Model (1998) are relevant within literature suggesting that children of holocaust survivors have increased levels of PTSD symptoms (Payne & Berle, 2021). Fonagy (1999) proposes an attachment model of transgenerational transmission of holocaust trauma in which transmission is mediated by a vulnerability to dissociative states as a result of attachment styles emerging from frightened or frightening caregiving (which itself is trauma-related). This phenomenon has also been observed in survivors of the Armenian genocide (Kupelian et al., 1998), those who have experienced domestic violence and/or child abuse (Frazier et al., 2009), daughters of breast cancer survivors (Wellisch & Hoffman, 1998) and black descendants of slaves (Wilkins et al., 2013).

In line with this research, the National Institute for Health and Care Excellence (NICE) guidelines recommend that family members of people with PTSD should be provided with information and support and should be involved in their loved one's treatment where appropriate (NICE, 2018b). Limited evidence suggests that involvement of families in their loved one's treatment can reduce parenting difficulties and improve close others' mental health, although NICE does not cite any specific interventions to support family members (NICE, 2018a). More generally, the involvement of families in service engagement has been outlined as a priority in the NHS Long Term plan (NHS, 2019).

1.1. Service Context

The Berkshire Traumatic Stress Service (BTSS) provides trauma-focused therapy for adults with PTSD or Complex PTSD (C-PTSD); the service does not offer formal care coordination. Anecdotally, clinicians in BTSS reported that a large number of patients were parents, but were unaware of specifically how many and did not have any specific resources or therapeutic provisions for these parents. Therefore, in collaboration with a clinical psychologist working in the service (DK), three main research questions were developed:

1. How many patients in the BTSS are parents?
2. What information and support would parents receiving treatment from BTSS value?
3. What information and support do clinicians working in the BTSS believe would be feasible to deliver for parents/children?

2. METHODS

2.1. Audit

Clinical records of all patients currently open to the service were searched via the electronic patient record database, Rio. To assess i) the accuracy of the recording system and ii) whether clinicians are aware of the parental status of their patients, the key clinician was approached via email to ask whether their patient has

children. The clinician's response was compared to the data recorded on the clinical system.

2.2. Qualitative Data: Participants and Sampling

Patients who were parents/guardians were identified and recruited by staff in BTSS. The inclusion criteria were: i) has at least one child/dependent (of any age); ii) ability to provide informed consent to partake; and iii) currently receiving treatment in BTSS. There were no exclusion criteria. Ten patients (8 female, 2 male) participated, at which point data saturation was reached. The average age was 41.8 years and most participants were of white ethnicity (*n* = 8; see Table 1 for full demographic data). Participants had experienced a range of different traumas including physical abuse, intimate partner violence, medical trauma and sexual abuse. All participants had experienced more than one traumatic event.

Table 1

Demographic characteristics of participants and their children

Variable	***n* = 10**
Gender of participant (%)	
Male	2 (20.0)
Female	8 (80.0)
Mean age (SD)	41.8 (10.2)
Ethnicity (%)	
White	8 (80.0)
Asian	1 (10.0)
Mixed – White & Black Caribbean	1 (10.0)
Mean number of children (SD)	2.7 (1.2)
Gender of children (%)	
Male	12 (44.4)
Female	15 (55.6)
Mean age of children (SD)	18.4 (11.1)

2.2.1. Procedure and Data Analysis

The study was approved by Berkshire Healthcare NHS Foundation Trust Quality Improvement team (registration number: 8434). A service user focus group (FG), attended by four service users, was held to collaboratively develop an interview topic guide (see Appendix E).

BTSS staff were sent the inclusion criteria for the study and participants were identified as suitable by their allocated clinician. Those who expressed interest were sent an information sheet prior to participating (Appendix F) and participants

provided written informed consent. A staff FG was held at the mid-point of recruitment to identify and address any barriers to recruitment.

Interviews were held from November 2021 – February 2022 using Microsoft Teams or via telephone for those without internet access. All interviews were between 50-60 minutes long, conducted by HC, and recorded using an encrypted audio device. Recordings were transcribed and all identifiable information was removed at the point of transcription.

Interview data were analysed using an inductive approach to thematic analyses at the semantic level (Braun & Clarke, 2006). HC identified themes within the transcripts following the methods outlined by Braun and Clarke. A second researcher (JE) assessed inter-rater reliability by reviewing two interview transcripts alongside the thematic framework. Any interpretative differences were discussed with the third researcher (CA) for final discussions. All analysis was carried out using NVivo 12 (QSR International Pty Ltd., 2020).

Following completion of the thematic framework, a FG was held with staff in BTSS to present the findings and assess the feasibility of suggestions for improvement (a topic guide was designed with a staff member, DK; see Appendix G). The FG was recorded and transcribed, although formal qualitative methods were not followed because the FG yielded only a single dataset. The findings informed the final research recommendations.

3. RESULTS

3.1. Audit

At time of audit (March 2022), 126 patients were open to the team and actively receiving treatment. Of these, 80 patients (63.4%) were identified as being parents via their clinician. However, only 39 (48.8%) of these individuals were identified as being parents on Rio, meaning that 41 (51.3%) had not been correctly recorded (see Table 2 for full audit data).

Table 2

Audit data regarding the parental status of patients accessing treatment in BTSS, and accuracy of BTSS's electronic patient data

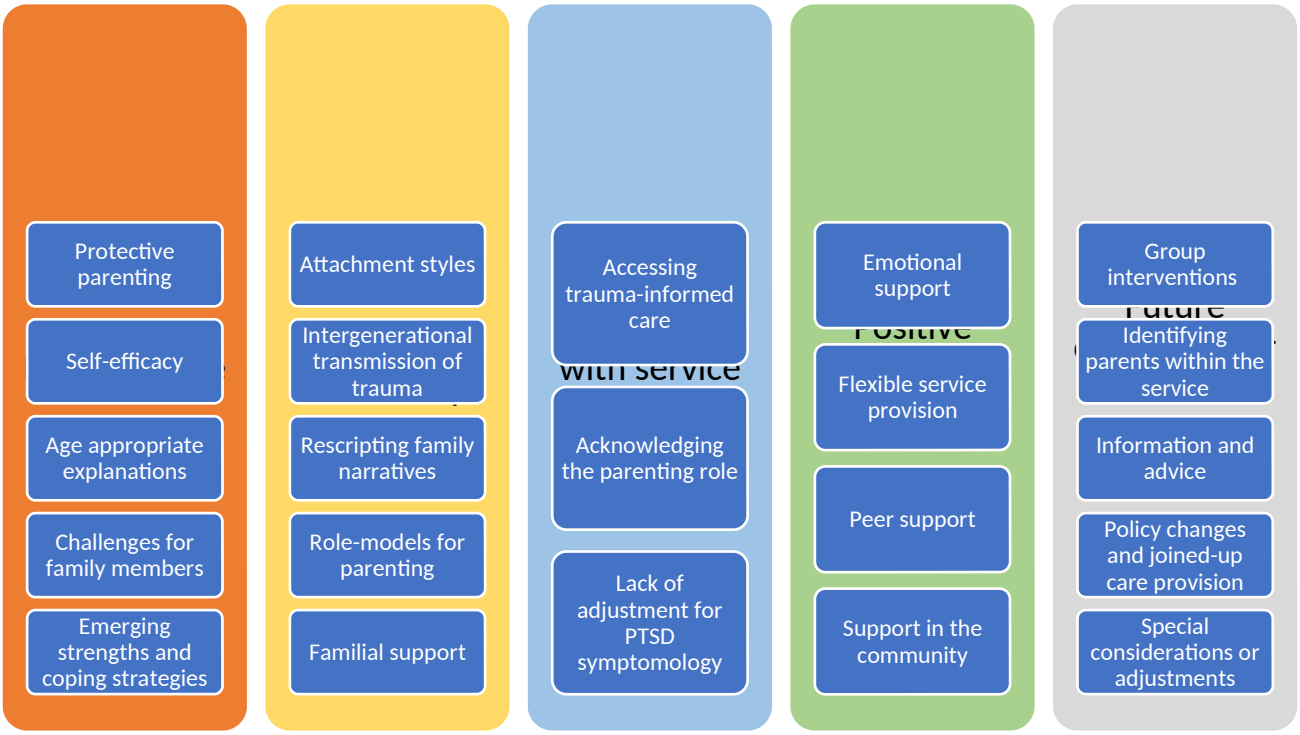
Variable	*n* (%)
Parental status	***n* = 126**
Parents	80 (63.4)
Not parents	46 (36.5)
Accuracy of recording data	***n* = 80**
Correctly identified as parents on Rio	39 (48.8)
Failure to correctly identify as parents on Rio	41 (51.3)
Age of children	***n* = 80**
Under 18	50 (62.5)
Over 18	26 (32.5)
Both over and under 18	4 (5.0)

3.2. Qualitative Findings

Five higher-order themes emerged from the ten datasets, alongside 22 lower-order themes (see Figure 2).

Figure 2

Higher and lower-order themes generated from interviews using thematic analysis



3.2.1. Parental role

Parents described engaging in protective parenting strategies, including hypervigilance to threat and ensuring their child is in a safe space at all times, to minimise the risks of physical, emotional or psychological harm.

> "I struggle with the girls….mainly with regards to trying to keep them safe if you like, so uhm I find it hard to manage situations like sleepovers, going out anywhere." – *P7, female*

Parents described self-efficacy and determination in their efforts to support their own recovery and provide support for their children. This included parents educating themselves on PTSD and parenting, actively approaching services to access appropriate emotional/financial support and seeking opportunities for peer support. Further utterances related to creative efforts, including creating an appointment system where the child could book in time to speak to their parent, and starting a mental health podcast.

> "I've done a course on mental health first aid. Basically given me the understanding of what the f*** mental health truly is…then I knew how to explain what was going on with me." – *P6, male*

Accounts included parents attempts to provide their children with age-appropriate explanations of mental health and trauma. Parents reflected on the decision-making process of whether to share their diagnosis with their children. Some utterances reflected positive experiences and confidence in explaining to their children, whilst some parents reflected on the challenges and worries about how children may perceive their symptoms.

> "I think for any age you can find age appropriate ways to explain these things. I think aged from 5 my children would be able to understand." – *P10, female*

> "I haven't told them that I've got PTSD and I choose not to until they're probably older teenagers. I personally don't want to." – *P3, female*

Participants reflected upon challenges for family members, such as feeling overwhelmed, drained, lonely, defensive, guilty, anxious, angry and suicidal. Further utterances related to feeling like a failure as a parent. This node included reflections on shame in disclosing traumatic experiences or asking for help and perceived judgments from other parents or professionals. Parents reflected on practical, emotional and cognitive limitations hindering their parenting abilities, including financial difficulties, executive functioning deficits, homelessness, lack of educational opportunities, lack of time to spend with their children and challenges in romantic relationships. Parents reflected upon challenges that their children have faced, including worrying about their unwell parent, feeling anger towards the traumatic event/perpetrator and withdrawal from family/friends.

> "I think the biggest fear is not being able to talk to someone because you're scared they will judge you." – *P2, female*

> "I was never very good at holding down relationships because I just didn't know how to have one, my belief system came from one of abuse." – *P1, female*

> "[daughter] struggled a lot, I know she was having nightmares, I know she was scared for me." – *P3, female*

Parents shared accounts of emerging strengths and coping strategies engaged in after trauma, both for the individual and their families. This included the perceived closeness of their family and friends, increased empathy, kindness, resilience, independence, and openness. Further utterances described their child's academic and/or professional achievements. Participants reflected upon helpful and unhelpful strategies used to cope, including drug and alcohol use, grounding

techniques, safe spaces, sports and exercise, faith-based practices and reflective practice.

> "I realised that actually this is a lifelong thing I need to do…so I do practice grounding and mindfulness and all those things on a daily basis." – *P1, female*

> "I functioned because I was a drug addict." – *P4, male*

3.2.2. Parent-child relationships

Parents described relational aspects of the parent-child relationship, including reflections on attachment styles, and their efforts to build and maintain bonds with their children, as well as perceived difficulties in being separated from their children due to the impact of PTSD and associated anxieties specifically around safety.

> "…I really felt like I struggled to bond with her and it's just that my head just wasn't there and then I just feel terrible for that." – *P9, female*

> "I know my children went through separation anxiety for like a year and a half where they had to see me all the time, they was looking for me when we were separated, because they were anxious." – *P10, female*

Parents reflected upon the intergenerational transmission of trauma from their own parent's life experiences (previous generations) as well as the further transmission to their own children (future generations).

> "My biggest fear because I saw my father's mental health … my biggest fear was is that generational?" – *P8, female*

Participants reflected upon their attempts at rescripting family narratives of previous generations and accounts of new narratives in their families.

> "My parents never would say 'I love you'…so in a way, I feel like I try and do the absolute opposite so you know whenever they go to bed I'll say 'I love you.'" – *P7, female*

Individuals described the challenges in becoming parents themselves when they did not have figures providing role models for parenting in their lives, either due to the absence of a parental figure, or because their parental figure was perceived to be abusive, neglectful and/or unable to meet their emotional needs. A small number of utterances related to learning from positive role-models for parenting in their family lives or the broader community.

> "…I didn't have parenting growing up, I had no nurturing at all, none whatsoever, so that makes it hard to nurture, because you're never sure how." – *P5, female*

> "Romany travellers…have very, very strong family values … I was able to be in a community where my parenting was being mirrored all over, I was seeing the same parenting." – *P1, female*

Participants described accessing familial support, including parents feeling motivated to seek support for their mental health for the benefit of their children. Further utterances related to the support provided by the wider family network, including grandparents. Whilst most utterances reflected positive experiences of seeking support from family members, some parents reflected upon a lack of understanding from family members or perceived inappropriate responses including trying to 'fix' the problem rather than providing emotional support.

"…cos they say that 'you was the best dad' and that keeps me alive you know." – *P4, male*

"…they wanna just try and fix it. They want to make it right. And, actually I don't want that" – *P9, female*

3.2.3. Challenges for service provision

Participants described the difficulties in accessing trauma-informed care for themselves and their family members within the NHS, social care and external agencies. Perceived challenges included appropriate services not existing, staff not being appropriately trained, overly-stringent referral criteria, poor communication between services and long waiting lists. Financial barriers included difficulties sourcing funding for childcare or accessing unemployment support, and services being ringfenced or terminated due to a lack of funding. Parents reflected specifically upon the shortcomings in support from primary care health teams including GPs and health visitors, such as perceived missed opportunities to diagnose PTSD and signpost to appropriate services and offering only medical interventions without psychological support. Some participants described the perceived impact of COVID-19, including the limitations of online consultations, cancellations of support services and the impact of lockdown on mental health.

"I think with the GPs … where their job is almost to signpost and to direct, I think it was mainly, I feel let down by the GP service." – *P3, female*

"Social services say they understand but they've only done this little course of mental health and that's it." – *P6, male*

> "to use COVID as an excuse not to do your standard checks is just not good enough." – *P9, female*

Parents reflected upon the perceived failure of support services in acknowledging the parenting role and the specific needs of this population.

> "…when big events happen in people's lives, people focus on the individual and the children sort of get pushed to the back." – *P3, female*

Individuals described perceived failures of services to appropriately acknowledge the challenges faced by parents with PTSD and a lack of adjustments made for PTSD symptomology, such as difficulties completing administrative tasks, memory impacting upon ability to remember appointments, difficulties in being honest when asking for help and challenges with childcare arrangements when attending appointments.

> "you can have it really counting against you if you don't see an email. Emails can be so overwhelming" – *P10, female*

> "I can't say, you know, 'well actually yeah I am really struggling, I need help' because that makes you feel like, you know, you're not good enough." – *P2, female*

3.2.4. Positive service provision

This node includes parents' reflections on perceived high quality service provision, including flexible service provision, whereby parents appreciated adjustments made to accommodate PTSD symptoms, including acknowledging

disability rights, and providing support for administrative tasks, and considering difference and diversity within the interventions provided.

> "They were aware of the different experiences from different backgrounds like Asian, Caribbean, you know, just having different kind of experiences." – *P10, female*

Parents described the emotional support received from service providers, including feeling listened to and validated, feeling contained by the structure of interventions provided, and service providers being appropriately trained in providing trauma-informed care.

> "I feel like you guys have been the virtual hug that I needed when I was feeling really rubbish." – *P9, female*

Participants highlighted the positive effects of peer support for parents with PTSD, including a sense of belonging and empathy for each other, feeling validated, sharing advice and a sense of achievement from helping others. A very small number of utterances described the limitations of peer support in creating a sense of difference when one individual perceives their trauma as more extreme than others.

> "…peer support is often a very strong tool because everybody there has, you've got that empathy with each other" – *P1, female*

> "…it becomes a support network within yourselves while you're getting your treatment." – *P6, male*

Parents reflected upon positive experiences of provisions of support in the community, including from health visitors, charities, schools, police forces, job centres, social workers, children's services and faith-based communities.

"…the school were brilliant." – *P7, female*

"When [daughter] was born I had loads of support and stuff with her and the health visitor was coming round and telling me what I was doing well and things like that." – *P2, female*

3.2.5. Future directions for service provision

Parents suggested ideas for improving service provision, specifically in the context of the services provided by BTSS.

Parents were enthusiastic about ideas for providing group interventions within the service, with an opportunity to facilitate peer support whilst also providing some skills training/advice from professionals. Some utterances reflected on the perceived benefits of allowing children to also attend, in order to provide a structured time for parents to bond with their children and meet other families. Further utterances highlighted the importance of this being offered to parents of children of all ages (i.e., not just for young children). Some parents suggested that the space could be informal, such as an organised walk, or a coffee morning.

"…a coffee morning or something where you can get the parents together and it's lead by a practitioner." - *P1, female*

> "I think the strongest thing I feel about is the bonding time with other adults and with your children." – *P2, female*

> "…maybe some mindfulness and different activities that you could do with your children." – *P3, female*

Participants highlighted the benefits of identifying parents within the service as soon as possible, in order to assess the specific needs of the parent and their children.

> "So saying, 'right we're gonna talk about your kids today, so what kids you got?...and how old are they? What do they do? What schools do they go to? Do you get on with them? Are they good kids? Do they behave? Do they not behave? Do they stress you out? What do they do that stresses you out? Is there anything we could do to help with them stressing you out?'" – *P4, male*

All participants referenced the importance of providing specific information and advice to parents, including information for parents regarding how PTSD might impact upon their parenting, specific tools or techniques that may help the parent and/or child and age-appropriate explanations for children explaining how PTSD might affect their parent (including triggers and dissociation), and signposting to local support services. Ideas for how this information could be communicated included in the form of a booklet, workbook, session with a psychologist, storybook or group intervention. One participant reflected upon how booklets might be overwhelming, and direct support from a professional was perceived as more beneficial for this participant.

> "Parents need to understand, whether that's in a booklet or in a session … there is going to be a link between their trauma and the way they parent." – *P1, female*

> "Sometimes you just need a number for an agency to contact and information on what they do, it makes it a little easier." – P3, female

Parents shared their reflections on the value of introducing policy changes and joined-up service provision, both to increase financial support for parents, and to improve communication between services to reduce burden on the unwell individual. Suggestions included having a 'link' staff member in BTSS who worked with other local services including the council and local hospitals.

> "…just having some sort of link so that when something bad happens, having one of you guys at the hospital and you go and speak to the person." – *P9, female*

Participants described ideas for how the service could make special considerations or adjustments for parents accessing support, including reduced administration and paperwork (e.g., communicating with phone calls rather than emails), providing a flexible service (e.g., allowing parents to arrive late or leave early to group interventions), allowing parents to bring their child(ren) with them to appointments, offering home visits and providing access to grounding activities. Some parents also reflected on the importance of the service being aware that some parents will be hesitant to share their parenting challenges due to a fear of their child being taken away from them, and the need for the service to reassure parents that this is unlikely.

> "…like saying I'd prefer to be phonecalled rather than emailed, or please remind me if things are important." – *P10, female*

> "…if someone has got an appointment they could bring the child with them." – *P4, male*

3.3. Service Reactions

The above findings were presented to staff from BTSS during an hour-long FG attended by 7 staff members who were either clinical psychologists (*n* = 4) or assistant psychologists/ research assistants (*n* = 3). Staff were asked to consider the feasibility of participant's suggestions for service improvement, with considerations focused around: funding issues, staff capacity, therapy-specific factors and administrative issues.

Funding issues related to seeking approval from commissioners ("*We'd have to kind of run it past our commissioners that they would approve using resource and that money that they're giving to the service for that need, which isn't what they pay us for at the moment").* Attendees reflected on staff's capacity to head-up large projects, such as the initiation of a new group *("It's probably one of those things of like who has the capacity to start a project like that and put it into action? That's where the too much work comes in.").* In discussing therapy-specific factors, clinicians reflected on the difficulty of inviting parents to bring their children to sessions ("*And if you're going to have your eyes closed, talking through a trauma, you're, you know, I don't think it would be ideal").* Staff considered administrative issues if children were to attend group interventions ("*it'll be, you know, administrative things like that, getting everybody's child DBS checked and that sort of thing. Your risk assessments for the building.").*

Staff discussed feasible steps forward whilst considering the above constraints, including improved communication with parents ("*Maybe it's about the*

messages we send to parents…so they don't feel like there's more pressure for to do just another additional thing"), harnessing peer support (*"a social in the building and they come in and have tea and biscuits you know, it's more of a chat drop in type thing")* and sharing information with parents (*"It could be about you know, how do you explain this to a child?...How do you help your children to understand?"*). Staff also shared that group interventions would be most feasible to implement if restricted to parents-only (*"Maybe the adults only…would be more feasible").*

4. DISCUSSION

4.1. Summary of findings

The majority (63.4%) of patients currently receiving support from BTSS are parents. Our findings highlight the experiential perspectives of parents who have PTSD or C-PTSD and identified specific needs for this population.

Notably, parents reflected upon experiences of challenges within building a nurturing parent-child relationship, including perceived intergenerational transmission of trauma and reflections on challenging attachment issues. Indeed, research indicates that within families in which a parent has experienced trauma, attachment styles tend to be more insecure and family members have more difficulties with emotional expression (Dashorst et al., 2019; Sagi-Schwartz et al., 2003).

Consistent with published literature, the findings demonstrated considerable challenges for individuals navigating the parental role, including protective parenting.

Literature highlights relational patterns within traumatised parents, including an overprotecting, constricting pattern of parents becoming preoccupied with their fears (Scheeringa & Zeanah, 2001). However, two further patterns were identified by Scheeringa and Zeanah (2001): i) withdrawn, unresponsive, unavailable pattern, and ii) re-enacting, endangering, frightening pattern. Our findings did not highlight relational patterns of this nature, although it is possible that due to the nature of recruitment, with parents actively volunteering to participate in the study, those who were either withdrawn, or frightening, would be less likely to participate.

Despite challenges, individuals also shone a light on the positives of parenting with PTSD, including familial support driving individuals to seek treatment for their PTSD symptoms. This aligns with recently published research highlighting that veteran parents' experiences of the effect of PTSD on family life increased motivation for support-seeking (Pollmann & Skovdal, 2022). It is important for services to consider how support-seeking and motivation to engage may be mobilised by paying attention to parents' experiences of how PTSD has affected their family.

Importantly, this study explored the experiences of parents accessing services, which highlighted a number of barriers to accessing high-quality care for this population, including services failing to provide trauma-informed care and failing to adjust for the impact of PTSD symptoms. These challenges highlight the importance of services making greater efforts to provide trauma-informed care, as recommended in the NHS Long Term Plan (NHS, 2019). Service providers may learn from some of the positive experiences described by parents, including flexible

service provisions, emotional support and services facilitating peer support for parents who have experienced trauma.

In addition to moving towards a trauma-informed model of care, The Care Act (Department of Health, 2014) highlights the importance of delivering a whole-family approach to service provision to coordinate support for individuals and their family. Indeed, in Camden borough, a ‘Whole Family Service’ has been commissioned (NHS England, 2019). The service offers specialist interventions focused on complex trauma and attachment issues and liaises with other services to provide the most appropriate intervention(s) for the whole family. This provides an example of how trauma care can be provided in the context of a whole-family approach, to align with the gold-standard care outlined in the Care Act, the NICE guidelines and the NHS Long Term plan (Department of Health, 2014; National Institute for Health and Care Excellence, 2018b; NHS, 2019).

4.2. Recommendations

The parental role, alongside the needs of parents and their families, should be considered at all stages of the treatment journey with BTSS including assessment, formulation and intervention. BTSS should also engage in consultations with other service providers and commissioners to improve support for parents and their families. Full recommendations are outlined in Table 3; these recommendations were presented in a feedback session to BTSS staff in August 2022.

Table 3

Recommendations for service development following service-user interviews and consultation with clinicians in BTSS

Stage of service provision	Recommendation
Assessment	Ask direct questions about the specific needs of the individual in relation to parenting with PTSD.
	Ask if the children are accessing support via other services (e.g., CAMHS, social services, charities).
	Signpost to relevant external support services for the parent and/ or their children (e.g., Young Carers).
	Ensure that parental status is correctly recorded within electronic patient data.
Formulation	Develop a collaborative understanding of how parenting and PTSD symptoms may interact in a bi-directional relationship, with the parenting role and parent-child relationships impacting upon PTSD symptoms and vice versa.
	Highlight the impact of parental role and parental stress within the broader PTSD formulation, and share this with parents where possible.
Intervention	Provide adaptations to address maintaining factors identified at formulation (e.g., treatment avoidance due to fear of children being removed from their care).
	Provide adaptations to address practical factors affecting engagement, including offering flexible service provision so that parents can access treatment at a time and place to facilitate childcare arrangements.
	Consider involving children in supporting treatment strategies for those with older children, such as encouraging families to complete grounding exercises together.
	Provide optional access to age-appropriate psychoeducational materials for parents to use with their children.
	Provide an opportunity for the child to attend a session with their parent and BTSS therapist to discuss any questions and/or worries.

Stage of service provision	Recommendation
	Provide a space to facilitate peer support for parents, such as a rolling monthly ‘coffee morning’.
	Provide educational materials for parents including information on how PTSD affects parenting, support on explaining PTSD to children in an age-appropriate manner, and signposting to relevant support services.
	Consider offering systemic family therapy interventions within the service for individuals where a systemic need has been identified.
Service consultation	Develop links with child services, including CAMHS and social services, to consider how the services may work together to provide support for the whole family.
	Work with commissioners to provide joined-up service provision for parents and their children.
	Develop links with external agencies, such as Recovery College, charities (e.g., Young Carers and Cruse bereavement care), that could work together with BTSS to facilitate support for the whole family.

4.3. Limitations

By nature, qualitative research is at risk of bias; this was reduced by having an independent researcher (JE), with no prior knowledge of the study, assess inter-rater reliability. Parents were invited to take part regardless of their child’s age, which ranged from 10 months to 35 years. This meant that parents had a broad range of experiences, but for those with older children, they were often reflecting on experiences more than 30 years ago meaning that some data may be affected by memory bias. It would have been helpful to measure illness duration and time since diagnosis in order to establish whether there were variations in participant’s

experiences dependent upon when they first encountered support from mental health services.

Whilst we did reach data saturation, the sample was considerably lacking in diversity, with most participants being white, female and middle-aged. It is worth noting that 80% of all clients currently open to BTSS for treatment are classified as white, and therefore the ethnicity of our sample was representative of the current population accessing support in BTSS.

Although we did invite participants who did not speak English (by offering a translator), all participants were fluent in English. It would have been helpful to interview non-English speakers to establish whether experiences vary for these individuals. Some patients declined to participate due to experiencing difficult relationships with their children and perceived shame associated with their parenting, further biasing the sample. It would have been helpful to use the initial FG with service users to explore any potential barriers to participation and address these barriers as best possible before starting recruitment, to increase the diversity of the sample.

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THEORY DRIVEN RESEARCH PROJECT

INVESTIGATING THE COGNITIVE AND BEHAVIOURAL PROFILES OF ADOLESCENTS WITH EMETOPHOBIA COMPARED TO PANIC DISORDER

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Rationale: this is a peer-reviewed journal which publishes literature contributing to our understanding of emotional and behavioural disorders using cognitive, behavioural and psychophysiological methods/models. The journal accepts studies with healthy, at risk and subclinical samples, as well as clinical samples. In particular, the journal encourages the submission of "theoretical reviews of mechanisms that contribute to psychopathology". It is also one of the journals included within the JISC publishing agreement to allow for open-access publication. See Appendix N for author submission guidelines.

ABSTRACT

Purpose: Emetophobia (vomit phobia) is often misdiagnosed in clinical populations; one key differential diagnostic profile is panic disorder. The purpose of the present research was to explore key cognitions and safety seeking behaviours in adolescents with emetophobia compared to panic disorder, to contribute to improved clinical assessment and formulation.

Method A cross-sectional, self-report methodology was used with between-group analyses in a community sample of clinically significant emetophobia (*n* = 28), panic disorder (*n* = 23) and healthy control (*n* = 22) adolescents.

Results: The emetophobia group reported greater endorsements of the belief that, when anxious, they will be sick relative to panic disorder participants and healthy controls. Emetophobia participants also reported greater endorsements of the feared aversive consequences of vomiting relative to panic disorder participants and healthy controls. There was no difference between clinical participants in their endorsement of non-sickness related beliefs. There was no significant difference in the reported use of emetophobia- and panic-related safety seeking behaviours in the emetophobia group, whilst the panic group reported significantly greater use of panic-related safety seeking behaviours relative to emetophobia-specific behaviours.

Conclusions: These findings generally align with cognitive behavioural theories of emetophobia. In addition, adolescents with emetophobia may present with broader, anxiety-related beliefs. This has important implications for accurate clinical assessment, especially when differentiating between emetophobia and panic disorder. More research with clinical populations is required to further our understanding of this under-researched condition.

Key words: *Emetophobia; panic disorder; adolescents; specific phobia; vomiting*

INVESTIGATING THE COGNITIVE AND BEHAVIOURAL PROFILES OF EMETOPHOBIA COMPARED TO PANIC DISORDER AMONG ADOLESCENTS

Emetophobia is a marked, persistent, and out-of-proportion fear of vomit that causes significant distress and avoidance of situations that may induce vomiting (American Psychiatric Association (APA), 2013). It is classified as a 'Specific Phobia (Other Type)' (APA, 2013), and occurs predominantly in women, with a chronic course and few periods of remission (Lipsitz et al., 2001). The mean age of onset is 9.8 years (Veale & Lambrou, 2006), and it is associated with decreased quality of life and negative impacts upon educational and occupational outcomes (Keyes et al., 2018).

Due to not being classified as a distinct disorder, research regarding emetophobia is limited. Sufferers are often misdiagnosed as having health anxiety, obsessive compulsive disorder (OCD), panic disorder (PD), social phobia or anorexia nervosa (Boschen, 2007). One study specifically enquiring about a clinical diagnosis of emetophobia reports a prevalence rate of 0.1% (Becker et al., 2007), but this rate may be an underestimate due to misdiagnosis (Boschen, 2007). A Dutch community sample self-reported a fear of vomiting in up to 7% of women and 1.8% of men (Van Hout & Bouman, 2012), although it is unclear what proportion of respondents would meet clinical criteria for emetophobia.

Cognitive behavioural theories

Boschen (2007) suggests that predisposing factors interact with cognitive and behavioural mechanisms to maintain emetophobia. In the acute phase, catastrophic misappraisal of gastrointestinal cues as indicating imminent vomiting increases anxiety. The model proposes four maintenance factors: i) hypervigilance to gastrointestinal cues, ii) negative cognitions about the meaning of vomiting, iii) avoidance of nausea-inducing situations and iv) selective attention to evidence that confirms vomit expectancies and failure to obtain disconfirming information.

Veale's (2009) model adds to Boschen's (2007) model by suggesting that emetophobia is maintained by overt and covert safety seeking behaviours (SSBs) which unintentionally reinforce fears through increasing self-focused attention and preoccupation, and prevent disconfirmation of beliefs. Similar to Boschen's (2007) model, in the acute phase, Veale highlights the misinterpretation of internal cues as signifying imminent vomiting, further highlighting the presence of catastrophic beliefs when individuals with emetophobia experience anxiety.

Emetophobia and panic disorder

PD is characterised by repeated, unexpected and/or spontaneous panic attacks alongside a persistent fear of having another panic attack (APA, 2013). Models of emetophobia (Boschen, 2007; Veale, 2009) highlight similar processes to those occurring in PD (Clark, 1986). Specifically, both emetophobia and panic models highlight the presence of catastrophic beliefs within the cognitive profile of the disorders. The crucial difference between the theories is that both Boschen's (2007) and Veale's (2009) model suggest that catastrophic cognitions in

emetophobia will be specifically centred around vomiting, whereas Clark's (1986) model suggests that PD patients could present with one or more catastrophic misinterpretations which are linked to one, or a range of, feared outcomes; this may include vomiting but also includes (and is not limited to) fainting, having a stroke and/ or going crazy. Furthermore, as highlighted in clinical diagnostic manuals, PD is characterised by the subjective spontaneous nature of panic attacks, alongside the persistent fear of having another attack, whilst emetophobia is not accompanied by these distinguishing features (APA, 2013).

The cognitive behavioural theory of emetophobia has not been extensively tested. One self-report questionnaire-based study with adults with emetophobia, PD or healthy controls (HCs) reported overlaps in catastrophic misinterpretations of observed internal cues and specific feared consequences illustrated by the cognitions "I will lose control", "I will become ill" and "I will choke" for the two clinical groups (Veale & Lambrou, 2006). However, this study did not consider the presence of the specific cognition "I will be sick" which is highlighted as central in cognitive behavioural theories of emetophobia. Professionals working clinically with young people with emetophobia and PD report that whilst both groups present with catastrophic misinterpretations and SSBs, in PD these are related to one or more of a wide range of concerns regarding physiological responses, whilst in emetophobia they are centralised around feared consequences of vomiting (S. Walters, personal communication, 18 February, 2021).

Research in adults suggests that the use of SSBs in emetophobia is specifically motivated by a desire to prevent the risk of vomiting (Veale et al., 2015),

suggesting that the behaviours used by patients with emetophobia will be more centred around prevention of vomiting compared to in PD where there is a broader spectrum of feared outcomes and resulting SSBs (Salkovskis et al., 1996).

The importance of understanding specific cognitions and behaviours in adolescents with emetophobia

Given that the average age individuals with emetophobia first recognise it as a problem is 11.6 years (Veale & Lambrou, 2006), they are likely to first present to treatment services well before adulthood. It is particularly important to examine the presence of specific cognitions and SSBs in adolescent emetophobia, and to distinguish between the cognitive and behavioural profiles of emetophobia compared to panic disorder, to enhance specificity of clinical assessment for young people. However, at present, existing, validated symptom measures for emetophobia, such as the Specific Phobia of Vomiting Inventory (SPOVI; Veale et al., 2013), do not assess commonly occurring catastrophic cognitions in emetophobia. Whereas existing measures, such as the Agoraphobic Cognitions Questionnaire (ACQ; Chambless et al., 1984; Clark et al., 1994), are validated for assessing the frequency and belief ratings of common catastrophic cognitions for individuals with PD.

Early identification of emetophobia symptoms, leading to early intervention, is important because the disorder can persist for an average of 22 years (Lipsitz et al., 2001). A pilot randomised controlled trial has shown that cognitive behavioural therapy (CBT) for emetophobia, based on Veale's (2009) model, is more effective than wait-list control in adults (Riddle-Walker et al., 2016).

Meta-analyses highlight the efficacy of CBT treatment protocols for adolescents with PD (Ishikawa et al., 2007; Wang et al., 2017), and the clear understanding of the panic model has led to the development of briefer treatments for PD in adolescents (Waite et al., 2022). Investigating the specific cognitions and behaviours reported by adolescents with emetophobia could be a helpful first step in confirming whether the theorised cognitive and behavioural processes occur in this sample, and thus informing specific targets for assessment and formulation-led intervention.

Aims and hypotheses

The present study aims to contribute to our clinical understanding of specific catastrophic cognitions and SSBs reported by adolescents with emetophobia and evaluate the extent of the overlap between cognitions and behaviours in adolescents presenting with PD and emetophobia.

Primary hypotheses:

1. When experiencing **anxiety**, the emetophobia group will endorse the belief that they will be sick (but not other non-sickness related beliefs) more frequently and with higher belief ratings relative to both panic and HC groups.
2. When experiencing **sickness/nausea**, the emetophobia group will report feared aversive consequences of vomiting more frequently and with higher belief ratings compared to panic and HC groups.

Secondary hypothesis:

3. The emetophobia group will more frequently use SSBs intended to control their feared outcome of vomiting relative to panic and HC groups, whilst the panic group will more frequently use a broader range of SSBs linked to their feared outcomes relative to emetophobia and HC groups.

METHODS

Design

This study used a cross-sectional self-report methodology. The study was approved by the Medical Sciences Interdivisional Research Ethics Committee at University of Oxford (Ethical Approval Reference: R79000/RE001; see Appendix J). Participants in three groups (emetophobia, PD and HC) completed a battery of questionnaires online.

Questionnaires

Questionnaire selection and amendment

Where possible, validated measures were selected for use. However, due to the lack of research in this area, it was not possible to use validated questionnaires to measure emetophobia-specific cognitions and behaviours in adolescents. Instead, amended versions of existing PD measures of cognitions and behaviours were used. Table 1 lists all measures used.

The questionnaires selected for amendment were the ACQ (Chambless et al., 1984; Clark et al., 1994) and the Safety Seeking Behaviours Questionnaire (SSBQ; Clark & Salkovskis, 2009); these measures are currently being used in a large scale

randomised controlled trial for the treatment of anxiety in adolescents (Taylor et al., 2019) and are frequently used in clinical settings (Clark and Salkovskis, 2009). The ACQ (Chambless et al., 1984; Clark et al., 1994) was selected due to its' specificity in measuring **anxiety-related** catastrophic cognitions and was amended by adding additional items to measure specific cognitions related to the feared outcome of vomiting. The ACQ helpfully distinguishes between frequency and belief ratings for each catastrophic cognition, whereas the SPOVI only assesses frequency. Similarly, the Safety Seeking Behaviours Questionnaire (SSBQ; Clark & Salkovskis, 2009) was selected for its specificity in measuring **anxiety-related** SSBs, allowing a broader assessment of the SSBs endorsed by individuals with emetophobia and panic, and not explicitly linking the behaviour to the underlying function (i.e., reducing chance of vomiting) which is done in the SPOVI. This is important to identify areas where the behavioural profiles in emetophobia and panic disorder may overlap, despite possibly different underlying mechanisms.

The questionnaires were amended by taking the validated measures and inserting additional items identified by clinicians with extensive experience of working with emetophobia, other specific phobias and anxiety disorders (SW and PS). The suggested items were reviewed by a young person with diagnosed emetophobia.

Study measures

Information regarding gender, ethnicity and age was collected. All participants then completed the battery of questionnaires. Internal consistency for each scale was calculated for the current sample.

Table 1

Questionnaires used for data collection

Questionnaire	Information about the questionnaire
The Revised Children's Anxiety and Depression Scale (RCADS; Chorpita et al., 2000)	A 47-item, youth self-report questionnaire that is suitable for people aged 8 to 18 years. The measure has subscales including separation anxiety disorder, social phobia, generalised anxiety disorder, PD, OCD and major depressive disorder. The measure has been shown to have good test-retest reliability at one week (Chorpita et al., 2005), as well as good convergent and concurrent validity (Chorpita et al., 2005; Esbjørn et al., 2012) and good internal consistency (Donnelly et al., 2019). Clinical cut-offs can be calculated using T-scores.
The Specific Phobia of Vomiting Inventory (SPOVI; Veale et al., 2013)	A 14-item, Likert-scale measure of emetophobia symptoms validated for use in adults. In the absence of a validated measure for adolescent emetophobia, the SPOVI was selected as it is used by clinicians treating emetophobia in adolescents (Fix et al., 2016). In young adult students (mean age = 19.04 years), the measure has good internal consistency, convergent and divergent validity (Maack et al., 2018). The total score is calculated by adding all 14 items with a maximum possible score of 56, and a clinical cut-off score has been established as 10 and above.
Panic Disorder Severity Scale for Children and Adolescents (PDSS-C; Elkins et al., 2014; Shear et al., 1997)	A version of the Panic Disorder Severity Scale (PDSS; Shear et al., 1997), suitable for young people aged 11 to 17 years. The measure assesses symptoms of PD including panic frequency, distress associated with panic attacks, severity of anticipatory anxiety, agoraphobia and avoidance, fear associated with physical symptoms and interference in school and social activities. The measure has been shown to have good convergent and discriminant validity, as well as acceptable internal consistency and test-retest reliability (Elkins et al., 2014).
The Agoraphobic Cognitions Questionnaire (ACQ) – amended (Chambless et al., 1984; David M. Clark et al., 1994)	A measure of frequency and belief ratings for 18 catastrophic cognitions commonly reported by individuals with PD when experiencing anxiety. Research has confirmed high construct and discriminant validity for the ACQ in adults (Chambless et al., 1984) and, although there is no psychometric data available for ACQ in adolescents, it is currently being used in a randomised controlled feasibility trial for adolescents with anxiety disorders (Taylor et al., 2019). In lieu of a validated measure of emetophobia cognitions, the ACQ was modified to reflect additional cognitions centred around the feared outcome of vomiting when an individual experiences nausea (see Appendix K).
The Safety Seeking Behaviours Questionnaire (SSBQ) – amended	A 15-item, Likert-scale measure that can be used to identify panic-related SSBs. Again, although psychometric data is not available for the use of this measure in adolescents, it is being used in Taylor and colleague's (2019) feasibility trial. In lieu of a validated questionnaire specifically

Questionnaire	Information about the questionnaire
(Clark & Salkovskis, 2009)	measuring SSBs in emetophobia, the SSBQ was modified to incorporate SSBs commonly reported by individuals with emetophobia (see Appendix K). In consultation with clinicians working in the field, the amended SSBQ was split into two scales: i) panic-specific SSBs, ii) emetophobia-specific SSBs (see Appendix K).

Participants and Study Procedure

A community sample was recruited via social media, charities and youth clubs. Inclusion criteria were: i) aged between 11-17 years of age, and ii) has ability to read/write in English. Participants were excluded if they had received a diagnosis of autism spectrum disorder, a learning disability, suicidal intent or recurrent self-harm. Participants accessed study materials online using Qualtrics software (Qualtrics, 2005). Once consent was obtained from both parent and young person, the young person could then navigate through the questionnaires. Debriefing information was presented on each page of the questionnaire, and again upon completion. Expert by experience involvement is outlined in Appendix L.

Analyses

Sample size calculation

Veale and Lambrou (2006) reported a large effect size for the comparison of feared consequences of vomiting between emetophobia, PD and HC groups in adults. G*Power analysis stipulated that to detect a large effect size (Cohen, 1988) for a one-way ANOVA with 80% power and alpha level 0.05, a minimum of 66 participants were needed (22 participants per group).

Grouping participants

Participants were allocated to conditions according to their scores on the RCADS and SPOVI. Those scoring above clinical cut-off on the SPOVI were allocated to the emetophobia condition, regardless of scores on the RCADS, whilst

those scoring above clinical cut-off on the panic scale of the RCADS but below cut-off on the SPOVI were allocated to the panic group. Those scoring below cut-off on both measures were allocated to the HC group.

To ensure that participants in the emetophobia group were not scoring highly for symptoms of panic, researchers worked with clinicians to identify which of the nine panic items on the RCADS were most indicative of and specific to PD (see Appendix M). Four highly panic-specific items were identified, and those in the emetophobia group were excluded from analyses if they scored highly (>8) on the totals of clinician-identified items on the RCADS panic subscale (n=15).

Missing data

Missing value pattern analysis suggested a random arrangement of missing values. For participants where responses were missing for an entire questionnaire (*n* = 5), the participant was removed from the dataset entirely. After removal of these participants, there were no incomplete responses to questionnaires and no missing data. One outlier was removed because their total score on the ACQ was more than three standard deviations from the next nearest value for participants in their group (HCs).

The final overall sample size was 73 (28 emetophobia, 23 panic, 22 HCs).

Hypotheses testing

Analysis of Variance (ANOVA) was used to compare group means on each of the measures; if data were not sufficiently normally distributed, the Kruskal-Wallis

test was used instead. Planned orthogonal contrasts were completed in line with specific hypotheses to compare emetophobia, panic and HC groups. Where homogeneity of variance was indicated, Fisher's Least Significant Difference (LSD) test was used, whilst Dunnett's T3 test was used when homogeneity of variance was not indicated.

RESULTS

Descriptive statistics

Age

The mean average age in years across groups was 14.99 (SD = 1.69). There was a main effect of group on age ($F_{(2, 70)}$ = 7.14, p = .002) with the emetophobia group being significantly older than the panic group (p = .007) and the HC group (p .007). There was no significant difference of age between panic and HC groups (p = .988). Table 2 presents all descriptive statistics organised by group.

Gender

There was a significant association between group and gender (χ2 (2, 72) = 14.78, p = < *.001).* Using partitioned Chi-squared analyses, it was found that the emetophobia group had a significantly greater proportion of females compared to the panic group (χ2 (1, 50) = 8.00, p = .005) and the HC group (χ2 (1, 49) = 15.42, p = < .001). There was no significant difference in gender between the HC and panic groups (χ2 (1, 45) = 1.84, p = .175).

Ethnicity

Overall, the ethnicity of participants was 76.7% white (*n* = 56). Due to small numbers, a Chi-squared of white vs all other ethnic groups (AOEG) combined was performed. This revealed no significant group difference for ethnicity (χ2 (2, 73) = 2.12, *p* = .346).

Mental health presentations

One-way ANOVAs for total scores on RCADS subscales other than panic revealed group differences for all subscales (*p* < .001). Clinical groups scored significantly higher than HCs for all subscales (*p* < .001). The emetophobia group scored significantly higher than the panic group on the obsessive-compulsive disorder subscale (*p* = .010); there were no other significant differences between clinical groups for separation anxiety (*p* = .176), generalised anxiety (*p* = .778), social phobia (*p* = .092) or low mood (*p* = .940).

Panic disorder symptom severity

A one-way ANOVA comparing total scores on the PDSSC revealed a significant main effect of group ($F_{(2, 70)}$ = 70.60, *p* = < .001). Levene's test indicated a problem with homogeneity of variance between groups (*p* = < .001), therefore Dunnett's T3 post-hoc comparison was used. This revealed that the HC group scored significantly lower on the PDSSC compared to the emetophobia (*p* < .001)

and panic groups ($p < .001$). There was no significant difference between the emetophobia and panic groups according to Dunnett's T3 post-hoc tests ($p = .086$).

Table 2

Descriptive information by group

Characteristic	Emetophobia (*n* = 28)	Panic (*n* = 23)	HC (*n* = 22)	χ2	*F*	*df*	*p*
Age				-	7.14	2	.002*
	15.86[a] (SD = 1.01)	14.52[b] (SD = 1.73)	14.36[b] (SD = 1.92)				
Gender				16.34	-	4	.003*
Female	27 (96.4%)	17 (73.9%)	12 (54.5%)				
Male	-	6 (26.1%)	10 (45.5%)				
Another identity	1 (3.6%)	-	-				
*Emetophobia vs Panic***				8.87	-	2	.012*
*Emetophobia vs HCs***				16.23	-	2	<.001*
*Panic vs HCs***				1.84	-	1	.175
RCADS subscale score							
Separation anxiety	8.61[a] (SD = 4.44)	11.00[a] (SD = 4.49)	1.95[b] (SD = 2.40)	-	31.60	2	<.001*
GAD	12.36[a] (SD = 3.14)	12.09[a] (SD = 3.29)	3.55[b] (SD = 3.78)	-	50.58	2	<.001*
Social phobia	16.96[a] (SD = 5.19)	19.70[a] (SD = 4.82)	7.31[b] (SD = 6.99)	-	29.56	2	<.001*
OCD	10.18[a] (SD = 3.47)	7.65[b] (SD = 3.37)	1.82[c] (SD = 3.38)	-	37.99	2	<.001*
Low mood	13.71[a] (SD = 5.35)	13.83[a] (SD = 5.69)	5.00[b] (SD = 4.74)	-	21.10	2	<.001*
Ethnicity***				2.12	-	2	.346
White	24 (85.7%)	16 (69.6%)	16 (72.7%)				
Mixed/multiple ethnic groups	2 (7.1%)	4 (17.4%)	4 (18.2%)				
Asian	-	3 (13.0%)	2 (9.1%)				
'Other'	2 (7.1%)	-	-				
AOEG combined	4 (14.3%)	7 (3.0%)	6 (27.3%)				
PDSSC Total Score				-	70.60	2	<.001*
	11.75[a] (SD = 5.80)	14.87[a] (SD = 4.12)	0.41[b] (SD = 0.01)				

Note HC: HCs, GAD: Generalised Anxiety Disorder, OCD: Obsessive Compulsive Disorder.
*Significant at $p \leq .05$
** Partitioned chi-squared analyses were used to compare between groups due to significant group difference in gender
***Due to small cell size, Chi-squared analysis compared white ethnicity to any other ethnic group (AOEG) combined
[a,b,c] Means that do not share the same superscript horizontally are significantly different on multiple comparison ($p \leq .05$)

Internal consistency of scales

Cronbach's alpha was calculated with a range of 0.85 – 0.97 suggesting all scales had acceptable to excellent consistency (see Table 5). This is important given that the measures selected for use, asides from the PDSSC, have not been validated in an adolescent sample.

Table 5

Internal consistencies for each scale used in analyses

Scale	Cronbach's Alpha
ACQ: Original Items (Frequency)	0.85
ACQ: Original items (Belief)	0.85
ACQ: Additional Items (Frequency)	0.91
ACQ: Additional items (Belief)	0.90
PDSSC	0.97
SSBQ: Panic-related items	0.86
SSBQ: Sickness-related Items	0.87

Primary Hypotheses: Cognitions

Endorsements of catastrophic beliefs when experiencing anxiety

A Kruskal-Wallis test was performed to investigate group differences on the single item of "I am going to be sick" on the ACQ (ACQ item 1). This revealed a significant group difference in terms of both frequency, $H_{(2)} = 38.36$, $p < .001$, and belief ratings, $H_{(2)} = 29.02$, $p < .001$. After Bonferroni corrections, pairwise comparisons indicated that ratings of this cognition in emetophobia participants was

significantly higher than in both panic (Frequency: p = < .001; Belief: p = < .001) and HC groups (Frequency: p = < .001; Belief: p = < .001). There was no significant difference between the panic and HC conditions after Bonferroni correction was applied (Frequency: p = .151; Belief: p = .185).

A one-way ANOVA comparing average mean scores on ACQ items 2-18 revealed a significant main effect of group on other non-sickness related items in terms of both frequency ($F_{(2, 70)}$ = 26.93, p = < .001) and belief ratings ($F_{(2, 70)}$ = 39.84, p = < .001). Levene's test indicated a problem with homogeneity of variance between groups (p = .003), therefore Dunnett's T3 post-hoc comparison was used. This indicated that the HC group scored significantly lower compared to both emetophobia (Frequency: p = < .001; Belief: p < .001) and panic groups (Frequency: p = < .001; Belief: p = < .001). There were no significant differences between the panic and emetophobia groups (Frequency: p = .060; Belief: .262). Table 3 shows ACQ scores and statistical outcomes by group for the primary hypotheses.

Endorsements of cognitions related to feared aversive consequences of vomiting when experiencing sickness/nausea

A one-way ANOVA comparing mean scores on newly added, sickness-related ACQ items revealed a significant main effect of group on frequency ($F_{(2, 70)}$ = 33.16, p < .001) and belief ratings ($F_{(2, 70)}$) = 38.23, p = < .001). LSD post-hoc comparisons revealed that the emetophobia group reported these thoughts more frequently and with higher belief ratings compared to the panic group (Frequency: p < .001; Belief: p < .001) and HCs (Frequency: p < .001; Belief: p < .001). There was no significant

difference between the panic and HC groups in terms of frequency of cognitions (p = .117), but the panic group reported significantly higher belief ratings (p = .003).

Table 3

ACQ measure scores and statistical outcomes by group

Variable	Emetophobia (n = 28)	Panic (n = 23)	HC (n = 22)	*F*	H	*df*	*p*
Anxiety-related cognitions							
ACQ Section 1 Item 1**							
Belief: Mdn (IQR)	77.5[a] (44.5)	40.0[b] (65)	0.0[b] (26.00)	-	29.02	2	<.001*
Belief: M (SD)	73.68 (SD = 25.48)	37.83 (SD = 36.52)	14.55 (SD = 24.01)	-	-	-	-
Frequency: Mdn (IQR)	4.0[a] (1.75)	2.0[b] (2)	1.0[b] (1.00)	-	38.36	2	<.001*
Frequency: M (SD)	4.14 (SD = 0.97)	2.35 (SD = 1.37)	1.36 (SD = 0.85)	-	-	-	-
ACQ Section 1 Items 2-18							
Belief	36.01[a] (SD = 15.37)	29.65[a] (SD = 11.50)	5.86[b] (SD = 7.62)	39.84	-	2	<.001*
Frequency	2.20[a] (SD = 0.70)	1.83[a] (SD = 0.36)	1.11[b] (SD = 0.33)	26.93	-	2	<.001*
Nausea-related cognitions							
ACQ Section 2 Items 1-11							
Belief	59.95[a] (SD = 22.55)	31.36[b] (SD = 17.20)	14.56[c] (SD = 13.93)	38.23	-	2	<.001*
Frequency	3.45[a] (SD = 1.04)	2.00[b] (SD = 0.57)	1.60[b] (SD = 0.83)	33.16	-	2	<.001*

Note HC: HCs. ACQ Section 1 Item 1 measures the frequency and belief ratings in response to item "I am going to be sick". ACQ Items 2-18 measure the frequency and belief ratings of other possible, non-sickness related catastrophic beliefs when experiencing anxiety. ACQ Section 2 Items 1-11 measures the frequency and belief ratings of newly proposed cognitions related to feared aversive consequences of vomiting when experiencing sickness/ nausea. Frequency ratings are from 1-5 and belief ratings from 0-100 with higher scores indicating higher frequency/belief ratings.

*Significant at p < .05

** Median, range and H statistics are reported where non-parametric Kruskal-Wallis tests were used. The mean and standard deviation are also reported to allow comparison across variables though these figures were not used in statistical tests.

[a,b,c] Means that do not share the same superscript horizontally are significantly different on multiple comparison ($p \leq .05$)

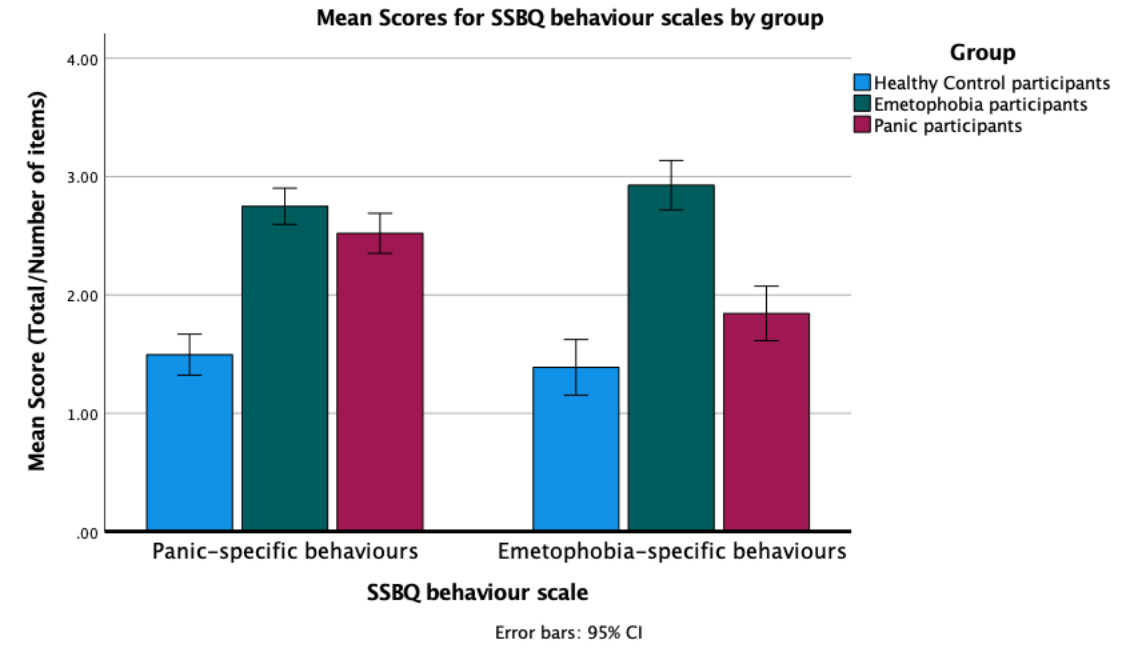
Secondary hypothesis: Behaviours

Endorsement of safety seeking behaviours used when experiencing anxiety

A mixed-model ANOVA was used to investigate interaction effects between diagnostic group and SSBs. There was a main effect of the behaviours scale ($F_{(1, 70)} = 13.10$, $p < .001$). There was also a main effect of group ($F_{(2, 70)} = 67.00$, $p < .001$). These effects were modified by significant interaction between behaviours scale and group ($F_{(2, 70)} = 20.92$, $p < .001$; see Figure 1). Table 4 shows the behaviour measure scale scores by group.

Figure 1

A graph of the interaction effect between scores on SSBQ behaviour scales (panic- and emetophobia-specific safety seeking behaviours) and group



As there was a significant interaction effect, simple main effects analyses were conducted. For between group comparisons, there was a main effect of group on panic-specific behaviours ($F_{(2, 70)}$ = 63.52, p < .001). LSD post-hoc comparisons revealed that on the panic-specific SSBs subscale, there was a significant difference between the panic and emetophobia group (p = .050). HCs scored significantly lower than both panic (p < .001) and emetophobia (p < .001) groups. There was also a main effect of group on emetophobia-specific behaviours ($F_{(2, 70)}$ = 51.96, p < .001). LSD post-hoc comparisons indicated a significant difference between the emetophobia and panic group (p < .001). There was also a significant difference between HCs and both emetophobia (p < .001) and panic (p = .007) groups.

For within group comparisons, paired samples t-tests were performed across the three groups separately. These revealed that the panic group scored significantly higher on panic-specific SSBs relative to emetophobia-specific SSBs, t(22) = 6.64, p

< .001. There were no within group differences between panic- and emetophobia-specific SSBs in the emetophobia group ($t(27) = -1.67$, $p = .051$) or the HC group ($t(21) = -1.59$, $p = .063$).

Table 4

Behaviour measure scale scores by group

Variable	Emetophobia (*n* = 28)	Panic (*n* = 23)	HC (*n* = 22)
Panic-specific safety seeking behaviours	2.75[a] (SD = 0.41)	2.52[b] (SD = 0.67)	1.50[c] (SD = 0.42)
Emetophobia-specific safety seeking behaviours	2.93[a] (SD = 0.56)	1.84[b] (SD = 0.58)	1.39[c] (SD = 0.51)

Note: HC: Healthy Controls. Panic-specific and emetophobia-specific safety seeking behaviours are classified according to clinician-identified subscales on the SSBQ.

[a,b,c] Means that do not share the same superscript horizontally are significantly different on post-hoc comparison ($p \leq .05$)

Exploratory analysis: the relationship between beliefs, behaviours and symptom-specific measures

Given the pattern of results found, and the differences between emetophobia and panic, two further exploratory analyses was performed to investigate how participant's beliefs and behaviours were related to emetophobia symptoms (SPOVI) and separately for panic symptoms (PDSSC) using multiple regression analyses.

Multiple Linear Regression 1: Scores on SPOVI

With the dependent variable as SPOVI total score, sickness and panic-related ACQ items (belief ratings) were entered into block 1, and emetophobia and panic-specific SSBQ items were entered into block 2. Both sets of predictors were

significant. 61.5% of the variance on the SPOVI was explained by block 1 ($F_{(2, 70)}$ = 55.90, p < .001, R^2 = .615). An extra 8.5% of variance was explained when block 2 was added to the regression ($F_{(4, 68)}$ = 39.64, p < .001, R^2 = .700).

For block 1, the panic-related ACQ beliefs were not significant on their own (p = .737). The significance in this block was accounted for entirely by sickness-related beliefs (p < .001). When behaviour subscales were added to the model, panic-related beliefs remained not significant (p = .621) and sickness-related beliefs remained significant (p < .001); panic-specific behaviours were also not significant (p = .211) whilst emetophobia-specific behaviours were significant (p < .001). There were no problems with collinearity for this model (VIF < 3.3 for all coefficients).

Multiple Linear Regression 2: Scores on PDSSC

With the dependent variable as PDSSC total score, sickness- and panic-related ACQ items (belief ratings) were entered into block 1, and emetophobia and panic-specific SSBQ items were entered into block 2. Both sets of predictors were significant. 45.2% of the variance on the PDSSC was explained by block 1 ($F_{(2, 70)}$ = 28.83, p < .001, R^2 = .452). An extra 8.2% of variance was explained when block 2 was added to the regression ($F_{(4, 68)}$ = 19.49, p < .001, R^2 = .534).

For block 1, the sickness-related ACQ beliefs were not significant on their own (p = .349). The significance in this block was accounted for entirely by panic-related beliefs (p < .001). When behaviour subscales were added to the model, sickness-related beliefs remained non-significant (p = .203) and panic-related beliefs

remained significant (p = .005). There was a significant effect with the addition of both panic-specific SSBQ items (p = .002) and emetophobia-specific SSBQ items (p = .010). There were no problems with collinearity for this model (VIF < 3.3 for all coefficients).

DISCUSSION

This study was designed to examine the presence of specific catastrophic cognitions and SSBs in adolescents experiencing symptoms of emetophobia compared to PD (benchmarked against HCs). The theoretical prediction that the emetophobia group would exhibit greater endorsements of the belief that they will be sick was upheld; however, other non-sickness related beliefs were comparable between the two clinical groups. As predicted, the emetophobia group reported greater endorsements of cognitions related to the negative consequences of vomiting relative to panic and HC groups. The emetophobia group reported use of both emetophobia- and panic-related SSBs, whilst the panic group reported significantly greater use of disorder specific SSBs. An exploratory analysis suggested that emetophobia-specific beliefs and behaviours are linked to the intensity of emetophobia symptoms, with a broadly comparable finding in the PD group for panic-specific beliefs and behaviour.

These results are mostly consistent with previous research. A systematic review of 24 studies examining emetophobia in a majority adult population suggested that emetophobics frequently report cognitions related to the feared aversive consequences of vomiting when nauseous (Keyes et al., 2018).

The significantly greater use of emetophobia-specific SSBs in the emetophobia compared to panic group is consistent with a published case series reporting that between 50-80% of adults with emetophobia display SSBs motivated by preventing risk of vomiting (Veale et al., 2015). Interestingly, our within-group analyses revealed no significant difference in the emetophobic's use of emetophobia- vs panic-specific SSBs. Veale and colleagues (2015) suggest that emetophobic patients were motivated by a desire to reduce uncertainty by checking the risk of themselves or others vomiting. This may serve as a form of hypervigilance and/or threat monitoring, a behaviour that is frequently observed in patients with PD (Salkovskis, 1991). Therefore, our finding of high use of "panic-specific" SSBs in emetophobics may be, in part, explained by the fact that strategies intended to control threat in emetophobia are simply a more specific form of those used to control other threats in PD offering further support of the role of the vicious cycle maintaining symptoms in emetophobia.

Theoretical implications

The results of the present study are consistent with theories specifying that catastrophic cognitions centred around the feared outcome of vomiting are more prevalent in emetophobic patients (Boschen, 2007; Veale, 2009). However, we found that clinical groups were not significantly different in terms of their endorsement of *non*-sickness related catastrophic cognitions, suggesting that those with emetophobia may additionally experience more generalised catastrophic cognitions in addition to "I will be sick". Veale and Lambrou (2006) identified overlapping cognitions in adults with PD and emetophobia, including "I will lose control" and "I will choke". From the exploratory analysis conducted here, although beliefs and

behaviours relevant to panic probably play a role in emetophobia, they are not strongly associated with symptom severity when analysed alongside disorder-specific beliefs and behaviours. Conversely, when considering panic symptom severity, disorder-specific beliefs and behaviours as well as sickness-related behaviours account for symptom severity. This may suggest that while there is clearly overlap in the cognitive behavioural profile of these two conditions, emetophobia-specific beliefs may hold a key to informing differential diagnosis and a cognitively informed treatment plan.

Limitations

The recruitment of a community sample and use of psychometric measures to assign participants to diagnostic groups means that the study group may not be entirely representative of clinical samples. However, the use of community samples is consistent with similar literature in adult populations (e.g., Van Hout & Bouman, 2012; Veale & Lambrou, 2006).

Some questionnaires were not validated for use in an adolescent sample, and some measures were amended for the existing study and hence not directly validated. Despite this, encouragingly, Cronbach's alpha was between 0.86-0.91 for amended scales. It would be helpful for future research to establish the convergent and discriminant validity of amended questionnaires to establish overall construct validity with a large sample of young people.

In interpreting these findings, it is important to consider that emetophobia and PD are highly comorbid presentations (Sykes et al., 2016) and there is possible

comorbidity in our sample. This was, in part, controlled for by removing emetophobia participants who scored particularly highly on panic-specific items of the RCADS, leading to a large proportion (*n* = 15) of our emetophobia group being excluded. Despite this, descriptive statistics revealed that the emetophobia and panic groups were not significantly different in terms of their scores on the PDSSC (a measure of PD severity). This does not necessarily mean that our sample were comorbid; cognitive behavioural models of emetophobia point to the panic cycle as being central to the disorder in that individuals feel anxious, notice bodily sensations of nausea and misinterpret these to mean imminent vomiting which leads to increased anxiety and reliance on SSBs. Therefore, individuals with emetophobia are likely to score highly on measures of panic attack severity, but the distinction is that the belief driving panic is always related to nausea and fear of imminent vomiting. In future, it would be beneficial for studies to screen for the experience of spontaneous panic attacks; this is highlighted in the DSM-5 as one of the specific criteria distinguishing panic attacks in other mental health disorders from panic attacks in PD (APA, 2013). Excluding emetophobic adolescents with additional spontaneous panic attacks, which are distinct from panicking about emetophobia-specific concerns, could help to address the issue of misdiagnosis.

Finally, there were some demographic differences between the groups, though these differences were largely consistent with observations in clinical populations (e.g., majority female gender in emetophobia; Lipsitz et al., 2001).

Research implications

A replication and extension with more tightly defined clinical samples is an obvious next step. Extension could be based on the identified role of imagery in adult emetophobia; research suggests that memories of past aversive consequences of vomiting are re-experienced when the individual feels nauseous (Price et al., 2012; Veale, Murphy, et al., 2013), and that feared aversive consequences of vomiting are linked to this re-experiencing (Keyes et al., 2018). Further research on the role of imagery related cognition in addition to the verbal mode used in the present study could open up therapeutic strategies such as imagery restructuring which have been used in adult OCD (Veale, Page, et al., 2015). It would also clarify whether imagery might mediate the link found between physical sensations and cognitions in research with young adults (Höller et al., 2013).

Whilst the current study provides support for cognitive behavioural theories of emetophobia in an adolescent sample, it does not provide further information regarding the specific cognitive and behavioural mechanisms beyond what is already understood for emetophobia and PD. Future research could access a large sample of emetophobic participants to assess whether there are meaningful links between reported catastrophic cognitions and resulting SSBs, as has been observed in PD (Salkovskis et al., 1996). Furthermore, in PD literature, Rapee and colleagues (1986) experimentally induced bodily sensations in PD patients through a single gas inhalation and assessed resulting catastrophic cognitions in participants who were either: i) given an explanation of the expected effects of inhalation, or ii) given no explanation. They reported that those given no explanation reported greater catastrophic cognitions and greater symptoms of panic, providing support for the cognitive mediation of the affective panic component within panic attacks. Future

research could use physiological procedures to induce nausea in patients with emetophobia to confirm the existing theories' proposed cognitive mediation.

Clinical implications

Clinicians should be aware of the potential overlap and high comorbidity between emetophobia and PD. In assessment it is important to accurately identify the individual's key cognitions; if they are centred around the feared aversive consequences of vomiting and a frequent anxious cognition of "I will be sick", it may be more likely that this young person is presenting with emetophobia. Identifying SSBs (and the underlying motivating cognition) will help establish whether the individual is presenting with the types of behaviours highlighted here as emetophobia-specific (as these were not endorsed as frequently by PD participants, despite emetophobia participants also endorsing panic-specific behaviours).

Treatment should be formulation-led with an incorporation of catastrophic cognitions and SSBs to develop clear treatment targets. Given that our findings generally align with the cognitive behavioural models of emetophobia (Boschen, 2007; Veale, 2009), formulation should be guided by these models. The current study helps to identify clinical targets for treatment in terms of: i) specific catastrophic cognitions to challenge, and ii) specific SSBs to drop. However, our findings do not identify novel cognitive or behavioural mechanisms to target clinically. Therefore, in the absence of a child-specific CBT protocol for emetophobia, treatment targets should be addressed using developmental adaptations of strategies found to be effective in adults. Furthermore, our findings suggest that for some individuals,

aspects of CBT for PD could be incorporated into emetophobia treatment depending on their individualised formulation.

Conclusion

Sickness-related catastrophic cognitions and SSBs were found to be specific to the clinical presentation of adolescents with emetophobia. There appear to be additional, broader anxiety-related catastrophic beliefs and SSBs endorsed by adolescents with emetophobia. This finding extends research with adult samples, confirming that there is considerable overlap between emetophobia and panic. However, the finding that sickness-related catastrophic cognitions and feared aversive consequences are significantly more prominent in emetophobic participants points to an important distinction between emetophobia and PD and has implications for the accurate identification and assessment of adolescents with emetophobia presenting to mental health services. Further research should focus on the recruitment of adolescents with emetophobia from clinical settings, to add to our current understanding of this condition in young people.

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EXECUTIVE SUMMARY/DISSEMINATION DOCUMENT

Background

Emetophobia is defined as a marked, persistent, and out-of-proportion fear of vomit leading to active avoidance of situations that may induce vomiting and causing significant distress for the affected individual. Research suggests that the disorder predominantly affects women and is usually onset just before or during adolescents. At present, emetophobia does not exist as a specific diagnosis within diagnostic manuals, but rather falls under the 'Specific Phobia (Other Type)' classifications. This may, in part, explain why research in this area is so limited.

In adults, there is some evidence in support of cognitive behavioural theories of emetophobia. These theories highlight some key cognitive and behavioural processes. Namely, the theories suggest that individuals catastrophically misinterpret internal cues (e.g., nausea) which increases anxiety and creates a sense of imminent vomiting. The theories suggest that an individual's fears are maintained because of hypervigilance of internal cues (i.e., increased self-focused attention to bodily sensations), negative beliefs about the feared consequences of vomiting, avoidance of situations that might induce vomiting and selective attention to information that confirms their feared consequences (whilst ignoring or failing to obtain information that disconfirms their feared consequences). The most recent cognitive behavioural model specifically highlights the role of safety seeking behaviours in emetophobia; these are strategies intended to control the threat of

vomiting, but unintentionally reinforce fears through increased self-focused attention and preventing disconfirmation of feared consequences/negative beliefs.

Emetophobia can often be misdiagnosed in clinical populations, with one key differential diagnostic profile being panic disorder. Indeed, cognitive behavioural theories of panic disorder similarly highlight the role of catastrophic misinterpretations and safety-seeking behaviours. However, in emetophobia, the theories suggest that a crucial difference is that catastrophic beliefs are more specifically centred around the feared outcome of vomiting (whereas in panic disorder there is a much broader range of feared outcomes such as fainting, having a heart attack, or going crazy). In addition, limited research in the adult population suggests that safety seeking behaviours in emetophobia are more specifically motivated by a desire to prevent the risk of vomiting, whereas in panic disorder these behaviours are linked to a broader spectrum of feared outcomes. Despite these initial ideas, it is difficult to confirm the specificity of the cognitive behavioural mechanisms in emetophobia due to a distinct lack of research with this population.

It is particularly important to improve our understanding of the beliefs and behaviours in young people with emetophobia, given that the age of onset is generally before/during adolescent years. Therefore, the aim of this study was to contribute to our clinical understanding of specific beliefs and safety seeking behaviours reported by adolescents with emetophobia. In addition, the overlap between cognitive and behavioural processes in emetophobia compared to panic disorder was examined by comparing adolescents presenting with emetophobia, panic disorder and healthy controls (i.e., those without symptoms of panic disorder or emetophobia).

Methods

A cross-sectional, self-report methodology was used. Seventy-three participants (28 emetophobia, 23 panic disorder and 22 healthy controls) took part in the study. They were recruited using online platforms including Twitter, Facebook, Instagram and TikTok. Participation required responding to six questionnaires:

- A questionnaire gathering background information regarding gender, ethnicity and age
- A questionnaire assessing symptoms of separation anxiety disorder, social phobia, generalised anxiety disorder, panic disorder, obsessive compulsive disorder and major depressive disorder
- A questionnaire assessing symptoms of emetophobia
- A questionnaire assessing symptoms of panic disorder
- An amended version of a questionnaire which was originally designed to measure cognitions associated with panic disorder. The original questionnaire was amended alongside experts in the field to include additional items relevant to individuals with emetophobia
- An amended version of a questionnaire which was originally designed to measure behaviours associated with panic disorder. The original questionnaire was amended alongside experts in the field to include additional items relevant to individuals with emetophobia

Results

We found that, as expected, adolescents with emetophobia endorsed the catastrophic belief that they will be sick more frequently and with higher belief ratings relative to panic disorder participants and healthy controls when they experienced anxiety. In addition, the emetophobia participants also reported feared aversive consequences of vomiting more frequently and with higher belief ratings relative to panic disorder participants and healthy controls when they experienced nausea. Despite our expectations, there was no difference between emetophobia and panic disorder participants in their endorsement of non-sickness related catastrophic beliefs when experiencing anxiety which suggests that adolescents with emetophobia may experience a broader range of catastrophic cognitions (not just thoughts around being sick). In terms of behaviours, we found that participants with panic more frequently reported use of panic-specific safety seeking behaviours (e.g., sitting down), whilst participants with emetophobia reported using emetophobia-specific safety seeking behaviours (e.g., swallowing more) and panic-specific safety seeking behaviours.

Conclusions

Our findings generally align with cognitive behavioural theories of emetophobia. However, in addition, adolescents with emetophobia may present with broader, anxiety-related catastrophic beliefs and safety seeking behaviours which may explain why there is frequent misdiagnoses between these conditions. We found that sickness-related catastrophic cognitions and feared aversive consequences are significantly more present in emetophobic participants – it is important for clinicians working in the field to be aware of this distinction in order to contribute to differential diagnostic profiles. Researchers in the field should continue to conduct research with

this population to explore the underlying cognitive and behavioural mechanisms in young people with emetophobia.

CONNECTING NARRATIVE

Building a Thesis

Laying the foundations: developing research interests

I was particularly drawn to the Clinical Psychology Doctorate at University of Oxford due to the strong research element on this course. Since my undergraduate degree in experimental psychology, I have held an appreciation for contributing to the theoretical underpinnings of clinical practice through conducting research. This appreciation was further cemented in my clinical and research experiences prior to starting training. Integrating new research into clinical practice was something that I was excited to do during training.

When choosing my research topics, I reflected on what was important to me both personally and professionally. I realised that it is impossible to separate these dimensions, because my personal experiences have contributed so much to shaping my professional identity. One of the most pertinent observations in my personal life has been the generational shift in privilege within my family which has drawn my attention to areas of intergenerational trauma, attachment literature and general research into children and young people's mental health. My foundations in experimental psychology encouraged me to develop as a scientific practitioner, motivating me to conduct research that contributes new theoretical information to our clinical practice. These values are what ultimately lead to the formulation of my research questions to focus on contributing to our understanding of cognitive and

behavioural theories of a hugely under researched disorder in adolescents (emetophobia), alongside a focus on family mental health and intergenerational trauma in my other two research projects.

Developing a concrete methodology: expert by experience involvement

Patient and public involvement, alongside co-production of research, was a huge element of the research I conducted prior to training. In developing my research methodology during the course, I was keen for these methods to be moulded alongside experts by experience. Despite my enthusiasm, I was acutely aware of how much more challenging it felt to cultivate meaningful expert by experience involvement, and to avoid tokenistic gestures of involvement, whilst also working to tight research deadlines, compared to when I worked in an entirely research-focused role with more flexibility around the timings of research outputs. I am proud of how I managed to achieve this in my service improvement project by working collaboratively with service users to develop my research interview questions. This co-production of interview questions allowed me to ask questions that more accurately captured the needs of the study population, ultimately leading to more meaningful data analysis and outcomes. I wish that even more elements of my research in this thesis could have been co-produced, though will take my enthusiasm for co-production into future roles as a clinical psychologist and researcher.

Scaffolding my development: research supervision

As someone who is interested in family mental health, intergenerational trauma and attachment, I have also held in mind the importance of building professional relationships to cultivate impactful scientific research and develop my research skills whilst maintaining my personal wellbeing. I have taken something from each individual relationship in terms of developing my theoretical understanding, research skills, scientific writing and statistical knowledge. In addition, and perhaps more importantly for my professional development going forward, I have also taken something from each individual relationship in terms of 'how to be a good research supervisor'. I have felt lucky to have so many distinct examples of this from each of my supervisors, who all had their unique styles and strengths. The overarching theme in my research supervisions has been one of genuine interest and enthusiasm for the areas that we have conducted research in. This enthusiasm has led to an inherent drive to push myself to achieve our research goals, whilst feeling scaffolded and held up by a safe and containing supervisory relationships.

Paving the way: future research

The above reflections have mostly touched upon the earlier stages of 'building a thesis'. More recently, I have been thinking about how my experiences have paved the way for my future clinical and research practice as a qualified practitioner. In my specialist placement within the Horizon CAMHS team working with children and families affected by sexual harm, I have started to apply the knowledge I have developed throughout the process of conducting doctoral research by working towards the evaluation of a compassion focused therapy group for parents of children who have experienced sexual harm. I am pleased to have the opportunity to

do this in the final stages of training, to further build upon my skills as a scientific practitioner and create momentum for continuing this work as a qualified clinical psychologist. I am excited to continue contributing to the field through theoretically-driven research, quality improvement projects and co-production of both clinical and research practice.

ACKNOWLEDGEMENTS

I am hugely grateful to the young people, parents and families who gave their time to contribute ideas for research development and/or participate in these projects.

Thank you to all my research supervisors – Fiona, Dot, Sasha, Ciorsdan, Alice B, Alice F (and Paul for additional help!) - for being enthusiastic and supportive throughout the ups and downs of research. Thank you especially to Fiona for being a constant, stable and encouraging figure during the past three years – I hope I can emulate some of your incredible leadership qualities throughout my career.

The past three years have helped me to appreciate how we shape, and are shaped by, the people around us. This thesis is a product of those closest to me, and especially my family. Mam and dad – thank you for believing I was good enough for "Oxford outside Foxford", and for keeping me going in so many ways throughout my (never-ending) years of studying. To Jack and Sarah, for bringing out my inner "Hermione". And to George – if you've got this far, you finally know what my thesis is about … thank you for pushing me to be the best version of myself, keeping me grounded and making everything more fun along the way.

APPENDICES

Appendix A: SRL - Search Strategy

SOURCES TO BE SEARCHED:
ASSIA, CINAHL, Embase, MEDLINE, PsycInfo, Scopus

SEARCH TERMS:

Parenting Intervention: Parenting-Intervention* OR Parent*-Train* OR Parent*-Programme* OR Parent*-Educat* OR Parent-Effectiveness-Train* OR Parent-Sensitivity OR Parent-mentali* OR Parent*-self-efficacy OR Parent*-stress OR Parent-Child-Relation* OR parents-under-pressure OR building-blocks OR Triple-P OR Lighthouse OR Webster-Stratton

AND

Child Maltreatment: Maltreat* OR Abuse* OR Neglect* OR Violence OR Violent OR Battered-Child-Syndrome OR Safeguarding OR Child-protection OR Child-safeguarding

AND

UK population: United-Kingdom OR UK OR Great Britain OR Britain OR England OR Scotland OR Wales OR Northern-Ireland

Appendix B: SRL - Data Extraction Template

Cochrane Developmental, Psychosocial and Learning Problems[1]

Data collection form for intervention reviews: RCTs and non-RCTs

Version 3, April 2014 – **Modified for use by Hannah Cribben on 6th September 2022**

Notes on using data extraction form:

- Be consistent in the order and style you use to describe the information for each report.
- Record any missing information as unclear or not described, to make it clear that the information was not found in the study report(s), not that you forgot to extract it.
- Include any instructions and decision rules on the data collection form, or in an accompanying document. It is important to practice using the form and give training to any other authors using the form.

[1] The Cochrane Developmental, Psychosocial and Learning Problems Review Group is jointly registered with the Campbell Collaboration.

1.General Information

Date form completed *(dd/mm/yyyy)*	
Name of person extracting data	
Study ID *(surname of first author and year first full report of study was published e.g. Smith 2001)*	
Study Title	
Study Authors	
Study author contact details	
Publication type *(e.g., full report, abstract, letter)*	
Study funding sources *(including role of funders)*	
Possible conflicts of interest *(for study authors)*	
Notes:	

2. **Characteristics of included studies**

2.1Methods

	Descriptions as stated in report/paper	**Location in text**
Aims of the study *(primary and secondary)*		
Design *(e.g. case study, case series, quasi-experimental, RCT, pilot/feasibility study)*		
Follow-up time points *(yes – specify how many and when – or no)*		
Start date		
End date		
Duration of participation *(from recruitment to last follow-up)*		
Ethical approval needed/ obtained for study *(from recruitment to last follow-up)*		
Notes:		

2.2 Participants (parent characteristics)

	Description *Include comparative information for each intervention or comparison group if available*	**Location in text**

Type of sample *(general population of parents, at-risk parents, maltreating parents)* **If relevant: specify risk factors identified *(e.g., substance abuse or teenage pregnancies)***		
Population description *(from which study participants are drawn)*		
Setting *(including location and social context)*		
Inclusion criteria		
Exclusion criteria		
Method of recruitment of participants *(e.g., phone, mail, clinic patients)*		
Unit of allocation *(by individuals or cluster/ group e.g., are both parents allocated to the same intervention as a cluster, or are parents allocated to intervention/control as individuals)*		
Informed consent obtained *(yes, no or unclear)*		
Total no. randomised *(or total pop. at start of study for non-RCTs)*		
Clusters *(if applicable, no., type, no. people per cluster)*		
Baseline imbalances *(e.g., gender, age, size of groups)*		

Withdrawals and exclusions *(if not provided below by outcome)*		
Age of parent participants (average)		
Gender of parent participants		
Race/Ethnicity		
Relationship to child (*biological parents, foster parents, adoptive parents etc)*		
Other relevant sociodemographics		
Subgroups measure (*e.g., main groups could be FNP vs controls and subgroups could be mother/father or age)*		
Notes:		

2.3 Participants (child characteristics)

	Description *Include comparative information for each intervention or comparison group if available*	**Location in text**
Age category of child *(e.g., unborn child, <2 years, 0-11 years)*		
Age of child (average)		
Gender of child		

Notes:

2.4 Intervention groups

Intervention Group 1 **copy and paste for other intervention groups if necessary**

	Description as stated in report/paper	**Location in text**
Name of intervention		
Method of group allocation *(e.g., randomised, naturalistic)*		
No. of participants in group		
Theoretical basis of intervention *(include key references)*		
Specific intervention practices/content *(e.g., parenting skills, parent self-confidence, attitudes towards parenting, knowledge of typical child development, parent-parent relationships, parent-child relationships, attachment, mentalisation, mental health problems, social/ emotional support, child wellbeing, child skills, practical support)*		
Method of delivery *self-help, professional-led, group, 1:1*		
Location of delivery *(e.g. home, telephone, online, treatment centre)*		
Providers of intervention *(e.g. profession, training, supervision, gender etc)*		
Specific intervention delivery techniques *(e.g., modelling, role-play, video-feedback, monitoring, education, cognitive skills training etc)*		

Timing - *Duration of intervention* - *Frequency of sessions* - *Length of sessions* - *Overall no of sessions*		
Fidelity to intervention *(is each component of intervention being delivered in a comparable manner to all study participants over time?)*		
Co-interventions *(e.g., medications and/or other psychological interventions)*		
Economic information if provided *(i.e. intervention cost, changes in other costs as result of intervention)*		
Compliance *(no. of people who dropped out and at what stage)*		
Notes:		

Control Group 1 **copy and paste for other control groups if necessary**

	Description as stated in report/paper	**Location in text**
Type of control group *(e.g., treatment as usual – specify what – no treatment, waiting list, other - specify)*		
Method of group allocation *(e.g., randomised, naturalistic)*		
No. of participants in group		

Theoretical basis of control intervention *(if relevant)*		
Description of control intervention *(include sufficient detail for replication)*		
Timing (if relevant): - *Duration of TAU/ wait list* - *Frequency of TAU sessions* - *Length of TAU sessions* - *Overall no of TAU sessions*		
Notes:		

2.5 Outcomes

Copy and paste table for each outcome.

Outcome 1

	Description as stated in report/paper	**Location in text**
Type of outcome *(self-report parents, observation, official report data, other)*		
Outcome name		
Time points measured *(specify whether from start or end of intervention)*		
Time points reported		
Outcome definition *(with diagnostic criteria if relevant)*		
Person measuring/ reporting		
Unit of measurement *(if relevant)*		

Scales: upper and lower limits *(indicate whether high or low score is good)*		
Is outcome/tool validated? *(yes/no/unclear)*		
Notes:		

3. Data and analysis

Copy and paste the appropriate table for each outcome, including additional tables for each time point and subgroup as required.

For randomised or non-randomised trials with a <u>continuous outcome</u>

	Description as stated in report/paper						**Location in text**
Comparison *(what groups are being compared)*							
Outcome							
Subgroup *(if any)*							
Time point *(specify from start or end of intervention)*							
Results *Mean, SD, number of participants*	Intervention			Comparison			
	Pre	Post	FU	Pre	Post	FU	
Differences between timepoints? - *Pre-post* - *Post-FU* - *Pre-FU*							
Any other results reported - *Odds ratio* - *Assumed risk estimate* - *Risk difference* - *P value* - *CI* - *Power and sample size calculations* - *Level of power achieved*							

Missing data - *No. missing ppts and reason* - *How was missing data handled (intention to treat/imputation or exclusion?)*		
Statistical methods used and appropriateness of these *(e.g. adjustment for correlation)*		
Notes:		

For randomised or non-randomised trials with an '<u>other' (i.e., non-continuous) outcome</u>

	Description as stated in report/paper	**Location in text**
Comparison		
Outcome		
Subgroup		
Time point *(specify from start or end of intervention)*		
Type of outcome		
Results *Mean, SD, number of participants*		
Differences between timepoints? - *Pre-post* - *Post-FU* - *Pre-FU*		

Any other results reported - *Odds ratio* - *Assumed risk estimate* - *Risk difference* - *P value* - *CI* - *Power and sample size calculations* *Level of power achieved*		
Missing data - *No. missing ppts and reason* *How was missing data handled (intention to treat/imputation or exclusion?)*		
Statistical methods used and appropriateness of these *(e.g. adjustment for correlation)*		
Notes:		

4. Other information

	Description as stated in report/paper	**Location in text**
Key conclusions of study authors		
Study strengths		
Study limitations		
Study recommendations		
References to other relevant studies		
Correspondence required for further study information *(from whom, what and when)*		
Notes:		

Appendix C: SRL - Quality Appraisal Tool - Downs and Black's (1998) Checklist for Assessing Quality

	Domain	Response	Notes
REPORTING	1. Is the hypothesis/aim/objective of the study clearly described? **(Yes = 1, No = 0)**		
	2. Are the main outcomes to be measured clearly described in the Introduction or Methods section? **(Yes = 1, No = 0)**		
	3. Are the characteristics of the patients included in the study clearly described? **(Yes = 1, No = 0)**		
	4. Are the interventions of interest clearly described? **(Yes = 1, No = 0)**		
	5. Are the distributions of principal confounders in each group of subjects to be compared clearly described? **(Yes = 2, Partially = 1, No = 0)**		
	6. Are the main findings of the study clearly described? **(Yes = 1, No = 0)**		
	7. Does the study provide estimates of the random variability in the data for the main outcomes? **(Yes = 1, No = 0)**		
	8. Have all important adverse events that may be a consequence of the intervention been reported? **(Yes = 1, No = 0)**		
	9. Have the characteristics of patients lost to follow-up been described? **(Yes = 1, No = 0)**		
	10. Have actual probability values been report- ed(e.g. 0.035 rather than <0.05) for the main outcomes except where the probability value is less than 0.001? **(Yes = 1, No = 0)**		
EXTERNAL VALIDITY	11. Were the subjects asked to participate in the study representative of the entire population from which they were recruited? **(Yes = 1, No = 0, Unable to determine = 0)**		
	12. Were those subjects who were prepared to par- ticipate		

	representative of the entire population from which they were recruited? **(Yes = 1, No = 0, Unable to determine = 0)**		
	13. Were the staff, places, and facilities where the patients were treated, representative of the treatment the majority of patients receive? **(Yes = 1, No = 0, Unable to determine = 0)**		
INTERNAL VALIDITY: BIAS	14. Was an attempt made to blind subjects to the intervention they have received? **(Yes = 1, No = 0, Unable to determine = 0)**		
	15. Was an attempt made to blind those measuring the main outcomes of the intervention? **(Yes = 1, No = 0, Unable to determine = 0)**		
	16. If any of the results of the study were based on "data dredging", was this made clear? **(Yes = 1, No = 0, Unable to determine = 0)**		
	17. In trials and cohort studies, do the analyses adjust for diVerent lengths of follow-up of patients, or in case-control studies, is the time period between the intervention and outcome the same for cases and controls? **(Yes = 1, No = 0, Unable to determine = 0)**		
	18. Were the statistical tests used to measure the main outcomes appropriate? **(Yes = 1, No = 0, Unable to determine = 0)**		
	19. Was complaience with the intervention/s reliable? **(Yes = 1, No = 0, Unable to determine = 0)**		
	20. Was the main outcome measures used accurate (valid and reliable)? **(Yes = 1, No = 0, Unable to determine = 0)**		
INTERNAL VALIDITY: CONFOUNDING (SELECTION BIAS)	21. Were the patients in diVerent intervention groups (trials and cohort studies) or were the cases and controls (case-control studies) recruited from the same population? (**Yes = 1, No = 0, Unable to determine = 0)**		
	22. Were the study subjects in different intervention groups (trials and cohort studies) or were the cases and controls (case-control studies) recruited over the same period of time? **(Yes = 1, No = 0,**		

	Unable to determine = 0)		
	23. Were study subjects randomised to intervention groups? **(Yes = 1, No = 0, Unable to determine = 0)**		
	24. Was the randomised intervention assignmanet concealed from both patients and health care staff until recruitment was complete and irrevocable? **(Yes = 1, No = 0, Unable to determine = 0)** 25. Was there adequate adjustment for confounding in the analyses from which the main findings were drawn? **(Yes = 1, No = 0, Unable to determine = 0)**		
	26. Were losses of patients to follow-up taken into account? **(Yes = 1, No = 0, Unable to determine = 0)**		
POWER	27. Did the study have sufficient power to detect a clinically important effect where the probability value for difference being due to chance is less than 5%? **(If power calculation is reported/made reference to score yes (1), if power is not mentioned score no (0) even if effect sizes are reported.)**		
OVERALL SCORE			
OVERALL RATING *excellent (26-28); good (20-25); fair (15-19); and poor (≤14)*			

Appendix D: SRL – Clinical Psychology Review Submission Guide

Submission checklist

You can use this list to carry out a final check of your submission before you send it to the journal for review. Please check the relevant section in this Guide for Authors for more details.

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• Ensure all figure and table citations in the text match the files provided • Indicate clearly if color should be used for any figures in print *Graphical Abstracts / Highlights files* (where applicable)

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Appendix E: SIP - Interview Topic Guide

Interview time: 45 minutes – 1 hour

INTRODUCTION – 10 mins

We are going to touch on some sensitive topics today, if that feels OK with you. Before we start, **I want to check in with how you are feeling today?**

Would it be helpful to do a **grounding exercise** together?

- Choice of either 54321 technique or breathing exercise

Check in again after grounding exercise

Hopefully you have had a chance to read the information sheet before we met today, but I wanted to also let you know **what to expect from our discussion**:

1. This conversation is not related to your therapy or any treatment that you will receive – I won't share any specific information with your clinician
2. You won't be expected to discuss any specific details of your trauma
3. You are not being judged on your answers, and there are absolutely no right or wrong answers. We would like to learn from your experiences, but we don't want this to feel difficult at any time
4. The discussion should be guided by you – please only discuss what you feel comfortable with, it's absolutely fine to skip over some topics and we can just move on to the next question.
5. We can take a break at any time if you feel you need to – just let me know
6. In terms of how we will use the information you share with us today, we are aiming to analyse the information from all interviews in order to create a set of recommendations for Berkshire Trauma Stress Service. We hope that these recommendations will improve the experiences of parents like yourself who access support from BTSS in future.

WARM UP QUESTION – 5 mins

We are going to ask questions relating to your family, including your children, today. I was wondering whether you could **tell me a bit about who's in your family**?

SECTION 1: CHALLENGES AND STRENGTHS – 20 mins

Would you feel comfortable telling me about any challenges you have faced as a parent with PTSD?

Optional *prompts:*

- *Time of **diagnosis** (if applicable)*
    - *What did you think about whether it would impact on parenting?*
    - *Were you given any advice or reassurance?*
    - *Did you talk about your diagnosis to your children?*
        - *If yes: how? Did you have any support/guidance?*
- ***Accessing treatment***
    - *What did you think about how therapy may impact on parenting?*

    - *When starting therapy, what were your thoughts about how professionals may perceive you as a parent?*
    - *What did you think about what support your children might receive (if any)?*
    - *What did you think about telling your children about your treatment?*
        - *What did you want them to know/not know?*

I was also wondering if you could tell me about any positives or strengths that have emerged in your family from being a parent with PTSD?

Optional *prompts:*

- *Resilience?*
- *Positive coping?*
- *Learning from each other?*
- *Increased empathy?*
- *Building support networks?*

SECTION 2: RESOURCES/SUPPORT – 20 mins

Would you feel comfortable telling me about any support that you have received as a family?

Optional *prompts:*

- *Information on PTSD*
    - *leaflets, videos, books, verbal information from professionals*
    - *Information specifically designed for children/families?*
- *Support:*
    - *individual*
    - *family therapy*
    - *group therapy/support*
    - *peer support*
    - *charities/external organisations*
    - *social media/online*
- *What was helpful/unhelpful?*

Based on your experiences, is there anything that you wish you had received as a family?

Optional *prompts:*

- *Information on PTSD*
    - *leaflets, videos, books, verbal information from professionals*
    - *Information specifically designed for children/families?*
- *Support:*
    - *individual*
    - *family therapy*
    - *group therapy/support*
    - *peer support*
    - *charities/external organisations*
    - *social media/online*

If we were to develop resources in BTSS for parents who are accessing treatment and their children, what would you like that to look like?

Optional *prompts:*

- *Leaflet/video/booklet for child*
- *Leaflet/video/booklet for parent*
- *Parent skills training group*

DEBRIEF – 5 minutes

We have touched on some sensitive topics today – I wanted to **check in with how you are feeling?**

Option for another **grounding exercise**

Any questions?

Appendix F: SIP - Information Sheet for Participants

Study Title
Developing resources for children and their parents who are accessing support in Berkshire Traumatic Stress Service

Invitation to participate
You are invited to participate in this quality improvement project. Before you decide whether you wish to take part, it is important to understand why the research is being done and what your participation would involve. Please take time to read the following information carefully and ask questions if you wish.

What is the purpose of the project?
We know that parents who experience trauma can face unique difficulties, and may require more tailored support for themselves and their children. However, we don't currently know what exactly that support should look like. The purpose of our study is to improve our understanding of what support may be valuable specifically for **parents** who are accessing support in Berkshire Traumatic Stress Service, and their child(ren). We have invited you to participate as we would like you to share with us your experiences and views as to what support would be helpful. This will allow us to identify possible resources that the service could develop and implement to support parents like you.

Why have I been invited to take part?
You are being invited to participate in this study because you are a parent to a child under the age of 18 and are currently accessing support in Berkshire Traumatic Stress Service.

What will happen if I take part?
If you decide to take part, you will be given a consent form and asked to complete this to indicate that you are happy to participate in this study. You will then be invited to an individual interview with a member of the research team (a trainee clinical psychologist). You will be asked open-ended questions regarding your parenting experiences in the context of your diagnosis and treatment, and what additional information/resources that would have been helpful for either yourself or your child(ren) in order to address any difficulties that you have encountered. You will not be asked to discuss specific details with regards to your care or traumatic experiences.

The interview will last approximately 45 minutes – 1 hour. It will be conducted either face-to-face or virtually (in line with COVID-19 guidelines). The interview will be audio-recorded and transcribed and analysed by the researcher.

Once the interviews have been analysed, the researcher will organise a focus group with staff in the Berkshire Traumatic Stress Service to present the findings and gather staff views. This will help us to understand what additional support and/or resources could be feasible to implement in the service.

Do I have to take part?
Participation in this study is voluntary. You should only take part if you want to and choosing not to take part will not disadvantage you in any way, and the decision will not affect any ongoing care with Berkshire Traumatic Stress Service. Once you have read the information sheet, please contact us if you have any questions that may help your decision.

How will the recordings be used?
The audio recordings of the interviews will only be used for this analysis. You can contact the research team and request for your data to be removed at any point prior to transcription. When audio recordings are transcribed, any identifiable information will be removed to ensure anonymity. Once transcription is complete, the audio recordings will be deleted. All study data will be stored on an NHS, password protected and encrypted device. No one outside the research team will have access to the study data.

What are the possible risks of taking part?
We do not expect there to be any disadvantages to participating in the study. The interview will involve discussions about your experiences of parenting since your diagnosis. These discussions may evoke negative emotions or responses for some participants. It is possible to stop, or take a break, at any time during the interview. You can also withdraw from the interview at any point during the discussion, without your care being affected.

What are the possible benefits of taking part?
We cannot promise that the study will benefit you directly. However, your experiences and the results of our research could help to develop resources for parents and families in a similar position to you.

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

All information will be anonymised so that those reading reports from the research will not know who has contributed to it. Any paper copies of consent forms will be stored in a locked room at Erlegh House, Whiteknights Campus, University of Reading, Reading, RG6 6BZ. Electronic data will be stored on an NHS, password protected and encrypted device. Data will not be shared with any third parties or individuals outside the research team. All electronic data will be password protected, and only the research team will be able to gain access. Data will be deleted once it has been used for the intended research purpose outlined.

What will happen to the results of the study?
The results of the study will be summarised and submitted to the Oxford Institute of Clinical Psychology Training and Research to form part of the researcher's Clinical Psychology Doctoral Thesis. The researcher will also submit the study for publication in a scientific journal. No participants will be named, and no participants will be identifiable from these submissions.

What if I change my mind about taking part?
You can withdraw from the study at any time during the interview without giving a reason, and without it affecting your care. If you decide to withdraw after the interview, you can ask for your data not to be transcribed or reported. It will not be possible to retract your data after the transcriptions have been anonymised.

Who should I contact for further information?
If you have any questions or require further information about this study, please contact:

Hannah Cribben, Trainee Clinical Psychologist
hannah.cribben@psy.ox.ac.uk

Appendix G: SIP - Staff Focus Group Topic Guide

SECTION 1: STUDY FINDINGS

Brief presentation of study methods and findings, including:

i) Recruitment
ii) Interview topic guide
iii) Analysis
iv) Thematic framework derived from interviews

SECTION 2: STAFF'S VIEWS

Questions to staff members:

i) How can BTSS consider parent's idea alongside their described family experiences?
ii) What additional considerations are there in terms of what is **feasible** for the service to implement?
iii) Are there any additional ideas for support not mentioned in the thematic framework?

Appendix H: SIP – European Journal of Trauma & Dissociation Submission Guide

GUIDE FOR AUTHORS

INTRODUCTION

The European Journal of Trauma & Dissociation / Revue Européenne du Trauma et de la Dissociation is the official journal of the European Society for Trauma and Dissociation and of the French language Association of Trauma and Dissociation. It is a new journal, launched in 2017. The journal is dedicated to publishing scientific and clinical literature on dissociation, the dissociative disorders, posttraumatic stress disorder, complex PTSD, psychological trauma, and attachment disturbances, in order to foster exchange among researchers, clinicians and other professionals. The European Journal of Trauma & Dissociation publishes manuscripts on theory, clinical treatment, and research related to psychological trauma and dissociation in children and adults. The journal welcomes contributions, including case studies, from anthropological, cross-cultural, historical, neurobiological, pharmacologic, physiologic, psychological, psychometric, psychotherapeutic, and social viewpoints. The journal is published quarterly.

Editorial policy

EJTD strives to adhere to the following standards and requirements:

COPE - Committee on Publication Ethics

ICMJE - International Committee of Medical Journal Editors

STM - International Association of Scientific, Technical ∧ Medical Publishers EJTD was created with 5 goals in mind:

- Promote the development and dissemination of knowledge about trauma (including abuse and neglect), dissociation and all disorders related to psychological trauma, regardless of their clinical expression.
- Raise awareness among professionals (psychiatrists, psychologists, psychotherapists, other mental health professionals...) and advanced students (doctoral students, ...) of the issues of dissociation, trauma and any disorder related to psychological trauma.
- Promote and enhance communication and scientific and clinical cooperation between specialists in the field.
- Enable an evolution and transformation of clinical and psychotherapeutic practices in the treatment of the sequelae of psychological trauma and dissociation.
- Promote European research that takes into account the historical and cultural background of the Old Continent in the development of scientific and clinical knowledge in the field of psychological trauma and dissociation, as well as their treatment.

All manuscripts submitted to the journal are subjected to peer review by international experts, and must:

- Be written in excellent English, clear and easy to understand, precise and concise;
- Bring new, interesting, valid information - and improve clinical care or guide future research;
- Be solely the work of the author(s) stated including accuracy of the facts, statements, and citing resources.
- Not have been previously published elsewhere and not be under consideration by another journal;
- Be in accordance with the journal's Guide for Authors' instructions: manuscripts that fail to comply with these rules may be returned to the authors without being reviewed.

Facts and opinions are solely the personal statements of the respective authors and do not necessarily represent the views of the editors.

Under no circumstances does the journal guarantee publication before the editorial board makes its final decision.

Types of article

The journal publishes research papers, review articles, opinion papers, short communications, technical notes, correspondence, discussions, case reports.

Contact details for submission

Editor-in-chief : Professor Cyril Tarquinio - University of Lorraine, France. ejtd.contact@gmail.com

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Manuscripts must be written preferably in English or in French.

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Engle, E.K., Cash, T.F., & Jarry, J.L. (2009, November). *The Body Image Behaviours Inventory-3: Development and validation of the Body Image Compulsive Actions and Body Image Avoidance Scales*. Poster session presentation at the meeting of the Association for Behavioural and Cognitive Therapies, New York, NY.
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Appendix I: SIP - Lay Summary

There is evidence to suggests that in families where a parent has post-traumatic stress disorder (PTSD), there are greater levels of parental stress and children are more easily distressed. Services who support those with PTSD, such as the Berkshire Traumatic Stress Service (BTSS), must consider the needs of parents in order to address the specific challenges that they face. However, current UK guidelines do not tell us specifically how parents with PTSD should be supported.

There were three aims of this research study:

1. To look at service data to establish how many of their patients are parents and to assess the accuracy of their patient records.
2. To interview parents currently receiveing support for PTSD in order to to understand their experiences and explore how BTSS could better support them
3. To speak to professionals in BTSS to ensure that any recommendations for improvement are realistic in the context of the service

We found that more than half of patients accessing support in BTSS were parents, although only about half of these were correctly identified as parents within patient records. Ten parents were interviewed using pre-specified questions. The interviews were analysed using thematic analysis in order to identify themes. Parents shared their experiences of the challenges in building nurturing parent-child relationships, as well as difficulties in navigating the parenting role (such as protective parenting). Whilst reflecting on the care that parents have received, there were some positive experiences (such as services facilitating peer support and providing emotional support for parents), though parents also shared a number of challenges with accessing high-quality care for themselves and their children, including financial barriers and a failure of services to acknowledge the specific needs of parents. Participants shared ideas for future directions to improve support for parents and their children, including providing a space to meet other parents, improved information and advice for parents and their families, and providing a flexible service for parents. In developing a set of recommendations for BTSS, we also considered the service's reaction to our findings, specificially regarding funding issues, staff capacity, administrative difficulties and therapy-specific factors.

We have recommended that BTSS considers the parental role, and needs of parents and their families, at all stages of the treatment journey within the service. We have also recommended that the service work with other healthcare services (such as charities and children's services) to improve support for the whole family.

Appendix J: TDRP - Ethical Approval Letter

MEDICAL SCIENCES INTERDIVISIONAL RESEARCH ETHICS COMMITTEE
Research Services, Boundary Brook House, Churchill Drive, Headington, Oxford, OX3 7GB
Tel: +44(0)1865 616575
ethics@medsci.ox.ac.uk

CONFIDENTIAL

Dr Fiona McFarlane & Hannah Cribben
Oxford Institute for Clinical Psychology Training
(OxICPT)
Isis Education Centre
Warneford Hospital
Oxford

11 March 2022

Dear Dr McFarlane and Hannah,

Research Ethics Approval - CUREC 2

Ethics Approval Reference: R79000/RE001

Study title: Investigating the cognitive and behavioural profiles of adolescents with emetophobia compared to panic disorder

Short title: Understanding thoughts and behaviours in emetophobia and panic

The above application has been considered on behalf of the Medical Sciences Interdivisional Research Ethics Committee (MS IDREC) in accordance with the University's procedures for ethical approval of all research involving human participants.

I am pleased to inform you that, on the basis of the information provided to the IDREC, the proposed research has been judged as meeting appropriate ethical standards, and approval has been granted for a period of **18 months**, commencing on **11th March 2022.**

You will be required to submit an annual progress report on each anniversary of study approval, until the study is completed, and your study may be selected for review during an annual audit.

Amendments

Should there be any subsequent changes to the study, you should submit details to the MS IDREC for consideration and approval. Details of changes must be listed on an amendment form.

Yours Sincerely

DocuSigned by:
Leah Butts
9F14889D2BC549A...

Mrs Leah Butts
Research Ethics Administrator

for
Dr Helen Barnby-Porritt
Research Ethics Manager

Appendix K: TDRP - Questionnaire Pack

QUALTRICS QUESTIONNAIRE 1: DEMOGRAPHICS

Please complete the following questions about yourself to help us understand more about the people who complete this survey.

What is your gender?

- Male
- Female
- Other
- Prefer not to say

What is your age? [Free text box limited to two digits length; validation to accept only numbers]

What is your ethnicity?

- Asian (any background)
- Black (any background)
- Mixed or Multiple ethnic groups
- White (any background)
- Other
- Prefer not to say
- If Other: [Free text box]

What county do you currently live in? [drop down options]

INTRODUCTION TO QUESTIONNAIRES

The following questionnaires ask about experiences of anxiety, panic and a fear of vomiting. For each question, please choose the answer that best fits your experiences. If you notice that you are answering no/never to lots of questions, this is OK! Your answers are equally valuable whether you have or have not experienced anxiety, panic or a fear of vomiting in the past so please do your best to answer all questions, even if they do not feel relevant to your experience.

QUALTRICS QUESTIONNAIRE 2: RCADS

	Never	**Sometimes**	**Often**	**Always**
1 I worry about things	**Never**	**Sometimes**	**Often**	**Always**
2 I feel sad or empty	**Never**	**Sometimes**	**Often**	**Always**
3 When I have a problem, I get a funny feeling in my stomach	**Never**	**Sometimes**	**Often**	**Always**
4 I worry when I think I have done poorly at something	**Never**	**Sometimes**	**Often**	**Always**
I would feel afraid of being on my own at home	**Never**	**Sometimes**	**Often**	**Always**
6 Nothing is much fun anymore	**Never**	**Sometimes**	**Often**	**Always**
7 I feel scared when I have to take a test	**Never**	**Sometimes**	**Often**	**Always**
8 I feel worried when I think someone is angry with me	**Never**	**Sometimes**	**Often**	**Always**

9 I worry about being away from my parent	**Never**	**Sometimes**	**Often**	**Always**
10 I am bothered by bad or silly thoughts or pictures in my mind	**Never**	**Sometimes**	**Often**	**Always**
11 I have trouble sleeping	**Never**	**Sometimes**	**Often**	**Always**
12 I worry that I will do badly at my school work	**Never**	**Sometimes**	**Often**	**Always**
13 I worry that something awful will happen to someone in my family	**Never**	**Sometimes**	**Often**	**Always**
14 I suddenly feel as if I can't breathe when there is no reason for this	**Never**	**Sometimes**	**Often**	**Always**
15 I have problems with my appetite	**Never**	**Sometimes**	**Often**	**Always**
16 I have to keep checking that I have done things right (like the switch is off, or the door is locked)	**Never**	**Sometimes**	**Often**	**Always**
17 I feel scared if I have to sleep on my own	**Never**	**Sometimes**	**Often**	**Always**
8 I have trouble going to school in the mornings because I feel nervous or afraid	**Never**	**Sometimes**	**Often**	**Always**
19 I have no energy for things	**Never**	**Sometimes**	**Often**	**Always**
20 I worry I might look foolish	**Never**	**Sometimes**	**Often**	**Always**
21 I am tired a lot	**Never**	**Sometimes**	**Often**	**Always**
22 I worry that bad things will happen to me	**Never**	**Sometimes**	**Often**	**Always**
23 I can't seem to get bad or silly thoughts out of my head	**Never**	**Sometimes**	**Often**	**Always**
24 When I have a problem, my heart beats really fast	**Never**	**Sometimes**	**Often**	**Always**
25 I cannot think clearly	**Never**	**Sometimes**	**Often**	**Always**
26 I suddenly start to tremble or shake when there is no reason for this	**Never**	**Sometimes**	**Often**	**Always**
27 I worry that something bad will happen to me	**Never**	**Sometimes**	**Often**	**Always**
28 When I have a problem, I feel shaky	**Never**	**Sometimes**	**Often**	**Always**
29 I feel worthless	**Never**	**Sometimes**	**Often**	**Always**
30 I worry about making mistakes	**Never**	**Sometimes**	**Often**	**Always**
31 I have to think of special thoughts (like numbers or words) to stop bad things from happening	**Never**	**Sometimes**	**Often**	**Always**
32 I worry what other people think of me	**Never**	**Sometimes**	**Often**	**Always**
33 I am afraid of being in crowded places (like shopping centers, the movies, buses, busy playgrounds)	**Never**	**Sometimes**	**Often**	**Always**
34 All of a sudden I feel really scared for no reason at all	**Never**	**Sometimes**	**Often**	**Always**
35 I worry about what is going to happen	**Never**	**Sometimes**	**Often**	**Always**
36 I suddenly become dizzy or faint when there is no reason for this	**Never**	**Sometimes**	**Often**	**Always**
37 I think about death	**Never**	**Sometimes**	**Often**	**Always**

38 I feel afraid if I have to talk in front of my class	**Never**	**Sometimes**	**Often**	**Always**
39 My heart suddenly starts to beat too quickly for no reason	**Never**	**Sometimes**	**Often**	**Always**
40 I feel like I don't want to move	**Never**	**Sometimes**	**Often**	**Always**
41 I worry that I will suddenly get a scared feeling when there is nothing to be afraid of	**Never**	**Sometimes**	**Often**	**Always**
42 I have to do some things over and over again (like washing my hands, cleaning or putting things in a certain order)	**Never**	**Sometimes**	**Often**	**Always**
43 I feel afraid that I will make a fool of myself in front of people	**Never**	**Sometimes**	**Often**	**Always**
44 I have to do some things in just the right way to stop bad things from happening	**Never**	**Sometimes**	**Often**	**Always**
45 I worry when I go to bed at night	**Never**	**Sometimes**	**Often**	**Always**
46 I would feel scared if I had to stay away from home overnight	**Never**	**Sometimes**	**Often**	**Always**
47 I feel restless	**Never**	**Sometimes**	**Often**	**Always**

QUALTRICS QUESTIONNAIRE 3: SPOVI

Please tick the box that best describes how your fear of vomiting has affected you over the **past week including today.**

0	***1***	***2***	***3***	***4***
Not at all	A little	Often	A lot	All the time

1. I have been worrying about myself or others vomiting	0	1	2	3	4
2. I have been avoiding adults or children because of my fear of vomiting	0	1	2	3	4
3. I have been avoiding situations or activities because of my fear of vomiting	0	1	2	3	4
4. I have been trying to find reasons to explain why I feel nauseous	0	1	2	3	4
5. I have been avoiding objects that other people have touched because of my fear of vomiting	0	1	2	3	4
6. I have been focussed on whether I feel ill and could vomit rather than on my surroundings	0	1	2	3	4
7. I have been looking at others to see if they may be ill and vomiting	0	1	2	3	4
8. If I think I am going to vomit, I do something to try to stop myself from vomiting	0	1	2	3	4
9. I have been trying to avoid or control any thoughts or images about vomiting	0	1	2	3	4
10. I have been restricting the amount or type of food I eat or alcohol I drink because of my fear of vomiting	0	1	2	3	4

11. I have been feeling nauseous	0	1	2	3	4
12. I have been thinking about how to stop myself or others from vomiting	0	1	2	3	4
13. I have been seeking reassurance that I or others will not be ill and vomit	0	1	2	3	4
14. I have escaped from situations because I am afraid that I or others might vomit	0	1	2	3	4

QUALTRICS QUESTIONNAIRE 4: The Panic Disorder Severity Scale for Children and Adolescents

Panic Disorder Severity Scale for Children & Adolescents

Instructions: Several of the following questions refer to panic attacks and limited symptom attacks. For this questionnaire, a panic attack is defined as a sudden rush of fear or discomfort accompanied by at least four of the symptoms listed below. To qualify as a sudden rush, the symptoms must peak within 10 minutes. Episodes like panic attacks, but having fewer than four of the listed symptoms, are called limited-symptom attacks. Here are the symptoms to count:

- Rapid or pounding heartbeat
- Sweating
- Trembling or shaking
- Breathlessness
- Feeling of choking
- Chest pain or discomfort
- Nausea
- Dizziness or faintness
- Feelings of unreality
- Numbness or tingling
- Chills or hot flushes
- Fear of losing control or going crazy
- Fear of dying

For each of the following questions, circle the number of the answer that best describes your experience during the past week:

1. **How many** panic and limited-symptoms attacks did you have during the past week?

No panic or limited-symptoms episodes	0
Mild: No full panic attacks and no more than one limited-symptoms attack/ day	1
Moderate: One or two full panic attacks and/or multiple limited-symptom attacks per day	2
Severe: More than two full attacks but not more than one per day on average	3
Extreme: Full panic attacks occurred more than once a day, more days than not	4

2. If you had any panic attacks during the past week, **how distressing** (uncomfortable, frightening) were they while they were happening? (If you had more than one, give an average rating. If you didn't have any panic attacks but did have limited-symptoms attacks, answer for the limited-symptom attacks)

Not at all distressing, or no panic or limited-symptom attacks during the past week	0
Mildly distressing (not too intense)	1
Moderately distressing (intense, but still manageable)	2
Severely distressing (very intense)	3
Extremely distressing (extreme distress during all attacks)	4

3. During the past week, **how much have you worried or felt anxious about when your next panic attack would occur**, or other fears related to the attacks (for example, that they could mean you have physical or mental health problems or could cause you social embarrassment)?

Not at all	0
Occasionally or only mildly	1
Frequently or moderately	2
Very often or to a very disturbing degree	3
Nearly constantly and to a disabling extent	4

4. During the past week, were there **any places or situations** (e.g. public transportation, cinemas, crowds, bridges, tunnels, shopping malls, being alone) **you avoided, or felt afraid of** (uncomfortable in, wanted to avoid or leave), because of fear of having a panic attack? Are there any other situations that you would have avoided or been afraid of if they had come up during the week, for the same reason? If yes to either question, please rate your level of fear and avoidance this past week.

None: No fear or avoidance	0
Mild: Occasional fear and/or avoidance, but I could usually confront or endure the situation. There was little or no modification of my lifestyle due to this.	1
Moderate: Noticeable fear and/or avoidance, but still manageable. I avoided some situations but I could confront them with a companion. There was some modification of my lifestyle because of this, but my overall functioning was not impaired	2
Severe: Extensive avoidance. Substantial modification of my lifestyle was required to accommodate the avoidance, making it difficult to manage usual activities	3
Extensive: Pervasive disabling fear and/or avoidance. Extensive modification in my lifestyle was required, such that important tasks were not performed	4

5. During the past week, were there any **activities** (e.g. physical exertion, taking a hot shower or bath, drinking coffee, watching an exciting or scary movie**) that you avoided, or felt afraid of** (uncomfortable doing, wanted to avoid or stop), because they cause physical sensations like those you feel during panic attacks or that you were afraid might trigger a panic attack? Are there any other activities that you would have avoided or been afraid of if they had come during the week, for that reason? If yes to either question, please rate your level of fear and avoidance of those activities this past week.

No fear or avoidance of situations or activities because of distressing physical sensations	0
Mild: Occasional fear and/or avoidance, but usually I could confront or endure with little distress activities that cause physical sensations. There was little modification of my lifestyle due to this	1
Moderate: Noticeable avoidance, but still manageable. There was definite, but limited, modification of my lifestyle, such that my overall functioning was not impaired	2
Severe: Extensive avoidance. There was substantial modification of my lifestyle or interference in my functioning	3

Extensive: Pervasive and disabling avoidance. There was extensive modification in my lifestyle due to this, such that important tasks or activities were not performed	4

6. During the past week, how much did the above symptoms altogether (panic and limited-symptom attacks, worry about attacks and fear of situations and activities because of attacks) **interfere with your ability to work, go to school, or carry out your responsibilities at home**? (If your work or home responsibilities were less than usual this past week, answer how you think you would have done if the responsibilities had been usual)

No interference with work or home responsibilities	0
Slight interference with work or home responsibilities, but I could do nearly everything I could do if I didn't have these problems	1
Significant interference with work or home responsibilities, but I still could manage to do the things I needed to do	2
Substantial impairment in work or home responsibilities; there were many important things I couldn't do because of these problems	3
Extreme, incapacitating impairment, such that I was essentially unable to manage any work or home responsibilities	4

7. During the past week, how much did panic and limited-symptoms attacks, worry about attacks, and fear of situations and activities because of attacks, **interfere with your social life**? (If you didn't have any opportunities to socialise this past week, answer how you think you would have done if you did have opportunities)

No interference	0
Slight interference with social activities, but I could do nearly everything I could do if I didn't have these problems	1
Significant interference with social activities, but I could manage to do more things if I made the effort	2
Substantial impairment in social activities; there are many social things I couldn't do because of these problems	3
Extreme, incapacitating, impairment, such that there was hardly anything social I could do	4

QUALTRICS QUESTIONNAIRE 5: Cognitions Questionnaire
SECTION 1:
Section 1 of this questionnaire has two parts. Below are some thoughts or ideas that may go through your mind **when you are nervous or frightened.**

a. Indicate how often each thought occurs when you are nervous; rate each thought from 1-5 using the scale below; put your rating on the **LEFT** hand side of each item.
    1. Thought never occurs
    2. Thought rarely occurs
    3. Thought occurs during half of the times when I am nervous
    4. Thought usually occurs

5. Thought always occurs when I am nervous

b. When you have the symptoms of panic, how much would you believe each of these thoughts to be true? Rate each thought by choosing a number from 0-100% (see the scale below), and put the number which applies on the line on the **RIGHT** hand side of the form.

0	10	20	30	40	50	60	70	80	90	100
I do not believe this thought at all										I am completely convinced this thought is true

When I am nervous…..

	a. How often do you have this thought? (Rate from 1-5)		**b. How much do you believe this thought? (Rate from 0-100%)**
1)	___	I am going to be sick	____ **%**
2)	___	I am going to pass out	____ **%**
3)	___	I must have a brain tumour	____ **%**
4)	___	I will have a heart attack	____ **%**
5)	___	I will choke to death	____ **%**
6)	___	I will look silly	____ **%**
7)	___	I am going blind	____ **%**
8)	___	I will not be able to control myself	____ **%**
9)	___	I will lose control of my bladder or bowels	____ **%**
10)	___	I will hurt someone	____ **%**
11)	___	I am going to have a stroke	____ **%**
12)	___	I am going to go crazy	____ **%**
13)	___	I am going to scream	____ **%**
14)	___	I am going to babble or talk funny	____ **%**
15)	___	I will be paralysed with fear	____ **%**
16)	___	I am about to die	____ **%**
17)	___	I am seriously ill	____ **%**
18)	___	I am going to suffocate	____ **%**
		Other ideas not listed (please describe and rate)	
	___	_____ __	____ **%**

___ _____ ____ **%**

___ _____ ____ **%**

SECTION 2

Section 2 of this questionnaire also has two parts. Below are some thoughts or ideas that may go through your mind **when you feel sick/nauseous.**

a) Indicate how often each thought occurs when you feel sick; rate each thought from 1-5 using the scale below; put your rating on the **LEFT** hand side of each item.
   1. Thought never occurs
   2. Thought rarely occurs
   3. Thought occurs during half of the times when I am nervous
   4. Thought usually occurs
   5. Thought always occurs when I am nervous

   a. <u>When you feel sick</u>, how much would you believe each of these thoughts to be true? Rate each thought by choosing a number from 0-100% (see the scale below), and put the number which applies on the line on the **RIGHT** hand side of the form.

0	10	20	30	40	50	60	70	80	90	100
I do not believe this thought at all										I am completely convinced this thought is true

When I feel sick/nauseous:

	a. How often do you have this thought? (Rate from 1-5)		**b. How much do you believe this thought? (Rate from 0-100%)**
1)	___	I will definitely be sick/throw up	____ **%**
2)	___	My vomiting will never end	____ **%**
3)	___	I will choke on my own vomit	____ **%**
4)	___	I will be embarrassed	____ **%**
5)	___	No one will be available to help me	____ **%**
6)	___	I will not be able to cope	____ **%**
7)	___	People will think I am disgusting	____ **%**
8)	___	I will be disgusting	____ **%**
9)	___	I will make other people sick	____ **%**

10)	___	I will have a panic attack	____ **%**
11)		Other ideas not listed (please describe and rate)	
12)	___	_____	____ **%**
13)	___	_____	____ **%**
14)	___	_____	____ **%**

QUALTRICS QUESTIONNAIRE 6: Behaviours Questionnaire

When you are at your most anxious or panicky, how often do you do the following things:

1. Try to think about other things	**Never**	**Sometimes**	**Often**	**Always**
2. Hold on to or lean on to something	Never	Sometimes	Often	Always
3. Hold on or lean on to someone	Never	Sometimes	Often	Always
4. Sit down	Never	Sometimes	Often	Always
5. Keep still	Never	Sometimes	Often	Always
6. Move very slowly	Never	Sometimes	Often	Always
7. Look for an escape route	Never	Sometimes	Often	Always
8. Avoid doing physical exercise	Never	Sometimes	Often	Always
9. Focus on what is going on in my body	Never	Sometimes	Often	Always
10. Try to keep control of my mind	Never	Sometimes	Often	Always
11. Try to keep tight control over my behaviour	Never	Sometimes	Often	Always
12. Talk more	Never	Sometimes	Often	Always
13. Use tablets/liquids/scents to reduce my physical sensations	Never	Sometimes	Often	Always
14. Ask people around for help	Never	Sometimes	Often	Always
15. Change my breathing	Never	Sometimes	Often	Always
16. Carry or drink water	Never	Sometimes	Often	Always
17. Eat mints or chewing gum				
18. Swallow more	Never	Sometimes	Often	Always
19. Try to control my body's temperature	Never	Sometimes	Often	Always
20. Check if others around me are looking pale/sweaty	Never	Sometimes	Often	Always
21. Check if I am looking pale/sweaty	Never	Sometimes	Often	Always
22. Isolate myself	Never	Sometimes	Often	Always
23. Stay at home/get close to home	Never	Sometimes	Often	Always
Please list other things you do when	Never	Sometimes	Often	Always

anxious/panicky				
24.	Never	Sometimes	Often	Always
25.	Never	Sometimes	Often	Always
26.	Never	Sometimes	Often	Always

Panic-specific items: 1,2,3,4,5,6,7,8,10,11,12,14
Emetophobia-specific items: 16,17,18,19,20,21,22

Appendix L: TDRP - Expert by Experience Involvement

In developing the study materials, professionals working with young people (a paediatric nurse and a secondary school teacher) were consulted alongside a parent of two young people aged 11 and 14. Their feedback led to changes on the parent's information sheet to explain why some groups of young people would be excluded. The final study material, including amended questionnaires, was then piloted with a 13-year-old female with emetophobia. Their feedback led to the removal of a progress statement ("you're halfway there") and replacement with a progress pane, as well as the addition of an instruction about how to save final responses. Information/consent forms for young people were assessed for age appropriateness using the Flesch-Kincaid formula (Kincaid et al., 1975) to ensure ease of reading.

Appendix M: TDRP - RCADS with Identified Highly Panic-Specific Items

Information:
Highlighted item = highly panic-specific item
If scores on highlighted items totalled > 8 for participants in the emetophobia group, these individuals were removed from analyses.

Measures on RCADS panic subscale with identified panic-specific items:

	Never (0)	**Sometimes (1)**	**Often (2)**	**Always (3)**
1 When I have a problem, I get a funny feeling in my stomach	**Never**	**Sometimes**	**Often**	**Always**
2 I suddenly feel as if I can't breathe when there is no reason for this	**Never**	**Sometimes**	**Often**	**Always**
3 When I have a problem, my heart beats really fast	**Never**	**Sometimes**	**Often**	**Always**
4 I suddenly start to tremble and shake when there is no reason for this				
5 When I have a problem, I feel shaky	**Never**	**Sometimes**	**Often**	**Always**
6 All of a sudden I feel really scared for no reason at all	**Never**	**Sometimes**	**Often**	**Always**
7 I suddenly become dizzy or faint when there is no reason for this	**Never**	**Sometimes**	**Often**	**Always**
8 My heart suddenly starts to beat too quickly for no reason	**Never**	**Sometimes**	**Often**	**Always**
9 I worry that I will suddenly get a scared feeling when there is nothing to be afraid of	**Never**	**Sometimes**	**Often**	**Always**

Appendix N: TDRP - Behaviour Research and Therapy Submission Guide

INTRODUCTION

The major focus of *Behaviour Research and Therapy* is an experimental psychopathology approach to understanding emotional and behavioral disorders and their prevention and treatment, using cognitive, behavioral, and psychophysiological (including neural) methods and models. This includes laboratory-based experimental studies with healthy, at risk and subclinical individuals that inform clinical application as well as studies with clinically severe samples. The following types of submissions are encouraged: theoretical reviews of mechanisms that contribute to psychopathology and that offer new treatment targets; tests of novel, mechanistically focused psychological interventions, especially ones that include theory-driven or experimentally-derived predictors, moderators and mediators; and innovations in dissemination and implementation of evidence-based practices into clinical practice in psychology and associated fields, especially those that target underlying mechanisms or focus on novel approaches to treatment delivery. In addition to traditional psychological disorders, the scope of the journal includes behavioural medicine (e.g., chronic pain). The journal will not consider manuscripts dealing primarily with measurement, psychometric analyses, and personality assessment.

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