VOLUME ONE:
RESEARCH COMPONENT

MANAGING CLOSENESS AND CONFLICT: STRENGTHENING THE RELATIONSHIPS BETWEEN MALTREATED AND 'LOOKED AFTER' CHILDREN AND THEIR CAREGIVERS

by
Megan Alice Wright

A THESIS SUBMITTED TO THE UNIVERSITY OF BIRMINGHAM FOR THE DEGREE OF DOCTOR OF FORENSIC CLINICAL PSYCHOLOGY

Centre for Applied Psychology
School of Psychology
The University of Birmingham
May 2021

Thesis Overview

Volume One

The first volume comprises of two research chapters and a press release. The first chapter presents a meta-analysis of attachment-focused and psychosocial outcomes of attachment-based parenting interventions when delivered to parents at high risk of child maltreatment or neglect. The second chapter presents a research study focused on the relationships between staff and 'looked after' children in residential children's homes. Residential childcare staff were interviewed using diary-interview method and enhanced critical incident technique to identify factors that help and/or hinder them from strengthening their relationships with children who display behaviours they experience as challenging to manage or respond to.

Volume two

Volume two contains five forensic clinical practice reports (FCPR) of clinical work I completed across forensic and/or clinical placements. FCPR1 presents two formulations, cognitive-behavioural and psychodynamic, of verbally aggressive behaviour displayed by a man detained on a medium-secure unit. FCPR2 describes an evaluation of the implementation of a value-based healthcare model within a secure hospital from the perspective of the ward managers. FCPR3 presents a case study of an intervention integrating acceptance and commitment therapy with narrative therapy, delivered to a young girl experiencing low mood related to her physical health. FCPR4 uses a single-case experimental design to evaluate the impact of cognitive-behavioural therapy for an older woman experiencing panic and agoraphobia. FCPR5 describes my leadership role in developing a community psychology informed 'barber shop' project within a young offenders' institution to facilitate conversations about men's mental health and wellbeing.

Acknowledgements

First and foremost, I am incredibly grateful for the support offered by my research supervisor, Dr Gary Law, who has consistently been helpful and encouraging in guiding me through this process despite the additional challenges posed by an 'unprecedented' global pandemic! Thank you, Gary, for your positive words, humour, advice, and feedback – it has been a much calmer and more emotionally contained journey thanks to your support.

My thanks also go to Carly, Sam, Kiran and Lucy from St Andrew's Community Partnerships for supporting the research at various points, and also Emily Dunn for stepping in to provide much needed assistance with recruitment over the past year.

I am also grateful to all the psychologists who have generously given me their time and supervised me somewhere along this journey, and particularly Dr Michelle Ginty, Dr Judy Sutton, Dr Jon Williamson, Dr Abdullah Mia, Dr Gareth Hickman, and Dr Lorraine Higham for supervising my six training placements. I have taken away something different from each of you, and the psychologist I hope to be going forward is a reflection of this. I am also grateful to St Andrew's Healthcare more generally for choosing to invest both financially and professionally in me, my career, and my goal of becoming a psychologist.

Finally, to my friends, family (particularly my twin sister, Fran, for being my 'support bubble'!), and my five amazing ForenClinPsyD peers – thank you for your encouragement and for helping me to manage the emotional demands of this course by always being available for a rant when needed... even if 'socially distanced' for the latter parts!

TABLE OF CONTENTS

Volume One: Research Component

Volume Two: Forensic Clinical Component

List of Figures for Volume One

CHAPTER ONE: A meta-analytic review of the effectiveness of attachment-based parenting interventions delivered to parents at high risk of future child maltreatment and neglect.

CHAPTER TWO: Managing closeness and conflict: What helps and hinders staff in residential children's homes to develop and/or maintain relationships with children displaying behaviour they experience as challenging?

CHAPTER THREE: Press Release

List of Tables for Volume One

CHAPTER ONE: A meta-analytic review of the effectiveness of attachment-based parenting interventions delivered to parents at high risk of child maltreatment and neglect.

CHAPTER TWO: Managing closeness and conflict: What helps and hinders staff in residential children's homes to develop and/or maintain relationships with children displaying behaviour they experience as challenging?

CHAPTER ONE

META-ANALYSIS

A META-ANALYTIC REVIEW OF THE EFFECTIVENESS OF ATTACHMENT-BASED PARENTING INTERVENTIONS DELIVERED TO PARENTS AT HIGH RISK OF CHILD MALTREATMENT OR NEGLECT

Academic Integrity Statement

This chapter has been submitted to, and is currently under review for, the *Infant Mental Health Journal*. Megan Wright is listed as first author for this submission, with Dr Gary Law and Dr Chris Jones are listed as co-authors. Megan Wright designed the meta-analysis, extracted and analysed the data, and completed the write-up of the manuscript. Dr Chris Jones advised on the analysis process, and Dr Gary Law contributed to the design and provided feedback and critical edits throughout the process.

Abstract

Background. Attachment security is argued to be an important mediator between child maltreatment and adverse long-term outcomes. This meta-analysis evaluates whether attachment-based parenting interventions, which seek to improve the parent-child relationship, are effective when delivered to parents at high risk of maltreatment.

Method. Web of Science, PsycINFO and PubMed were systematically searched up to March 2020. Forty papers, including 37 unique studies evaluating 24 different interventions, were included in the meta-analysis, representing 2,718 parent-child dyads with previous maltreatment or a "toxic trio" risk factor (i.e., substance use, mental health or domestic violence). Methodological quality was appraised, and a meta-analysis of each of the six outcomes carried out using post-intervention data using the random effects model.

Results. A small-to-medium effect was identified for sensitive parenting (d=0.36, 95%CI 0.20-0.51), while a small effect was identified for child secure attachment (RR=1.29, 95%CI 1.11-1.51). Although a small-to-medium effect was identified for parent reflective functioning, this should be interpreted cautiously given the small number of effects (k=5) analysed. While a very small effect was identified for parenting stress (d=0.14, 95%CI 0.00-0.28), no significant effects were identified for parent depression or child emotional and behavioural difficulties.

Conclusions. Attachment-based parenting interventions are effective for improving parental sensitivity and increasing the likelihood of a secure parent-child attachment when delivered to high-risk parents. However, they have not demonstrated effectiveness for improving parent or child psychosocial outcomes. Evaluation of child emotional and behavioural functioning outcomes was, however, limited by the lack of follow-up in the designs of included studies.

Introduction

Child Maltreatment and the "Toxic Trio"

Child maltreatment is a complex and persistent social problem that exists across countries and cultures (Moody et al., 2018; Radford et al., 2013). Maltreatment, abuse and neglect take many forms, physical, emotional and sexual, and many maltreated children are exposed to multiple forms of maltreatment (Moody et al., 2018). Current estimates suggest as many as 1 in 4 UK children will experience parental neglect or abuse at some point during their childhood, with the majority going undetected (Radford et al., 2013). Child maltreatment has been shown to have long-term consequences for both the children and wider society (Conti et al., 2017), with children exposed to maltreatment consistently shown to be at increased risk of long-term psychosocial problems, including poor educational attainment, mental health difficulties, substance misuse, and offending (Carr et al., 2018; Gilbert et al., 2009; Mersky & Topitzes, 2010; Norman et al., 2012).

Identification of parents at increased risk of child maltreatment is challenging, and hence the majority of cases go undetected or unreported (Moody et al., 2018). However, there has been a recent increased focus in the literature on the "toxic trio", which refers to the presence of either domestic violence, parental mental health, or parent substance use issues in the home (Brandon, 2008; Cleaver et al., 2011), with these parental characteristics representing the most common reasons for family involvement with child protective services (CPS) (Simon & Brooks, 2017). The focus on these factors emerged following an analysis of serious case reviews in UK child protection which found at least one of the "toxic trio" risk factor was present in 79% of cases, with the presence of multiple factors having a cumulative impact on risk (Brandon, 2008; Brandon, 2012; Sidebotham et al., 2016), with research establishing these as influential risk factors (Fuller-Thomson et al., 2019; Fuller-Thomson & Agbeyaka, 2020). The pathways from the "toxic trio" to maltreatment are unclear, and it is acknowledged that

their presence may, in fact, be indicative of other key difficulties, such as a parent's own history of maltreatment (Gilbert et al., 2009; Sidebotham et al., 2016). However, where a parent's life is dominated or preoccupied by one or more of these issues, it is reasonable to assume they may be less able or available to prioritise and respond to a child's emotional and physical needs (Cleaver et al., 2011; Simon & Brooks, 2017).

Maltreatment, Attachment Theory, and Attachment-Based Parenting Interventions

Although many children that experience early maltreatment demonstrate adverse long-term outcomes, these outcomes are not inevitable, and many children go on to demonstrate no difficulties with psychological or behavioural functioning (Carr et al., 2018; Mersky & Topitzes, 2010). One factor that may be influential in accounting for the variation in long-term outcomes is the parent-child attachment and subsequent adult attachment style (Widom et al., 2018). The experience of early maltreatment has not only shown to predict the development of an insecure/disorganised parent-child attachment (Baer & Martinez, 2006), but research has shown attachment security represents a key mediator in the relationship between early experiences of maltreatment and later adverse outcomes (Cohen et al., 2016; Gander et al., 2020; Widom et al., 2018).

Bowlby's (1969) attachment theory proposes that all infants are innately driven to develop an 'attachment' to their primary caregiver, and the nature of this attachment relationship affects the development of a child's 'internal working model' of themselves, others, and relationships. Where a parent responds predictably to the child with warmth and sensitivity, the theory argues a child will learn their caregiver will provide safety and protection and will develop a 'secure' attachment relationship to their caregiver (Ainsworth et al., 1978; Bowlby, 1969; van der Voort et al., 2014). In maltreating parent-child dyads, however, the parents are either unavailable, fail to respond consistently to a child's needs, or respond with insensitive, rejecting, or frightening reactions (Bowlby, 1969; Sherman et al., 2015). Under

these circumstances, the child's attempts to seek comfort are met with responses that cause further distress, leading the child to develop an insecure or disorganised attachment (Ainsworth et al., 1978; Bowlby, 1969). In these instances, the child develops an internal working model of themselves as unworthy of care, others as frightening or causing emotional pain, and relationships as unsafe (Bowlby, 1969). It is these internalised attachment-related experiences that are thought to increase the risk of long-term difficulties (Groh et al., 2017; Lowell et al., 2014; Sroufe et al.,1999).

Given a secure parent-child attachment has shown to protect against long-term adverse outcomes of maltreatment (Lowell et al., 2014), interventions have focused on supporting high-risk parents to develop a secure attachment with their child (Tarabulsy et al., 2008). Attachment-based parenting interventions offer a strengths-based approach to intervention with maltreating parents, aiming to improve parenting behaviours such that the parent is better able to attune to their child's attachment needs and signals, and demonstrate appropriately sensitive and responsive caregiving (Cassidy et al., 2013; Tarabulsy et al., 2008). Through improving these parenting behaviours and parenting attitude, it is hoped the child's experience of consistently sensitive and attuned caregiving will, over time, increase child-parent attachment security, decreasing the risk of an insecure or disorganised attachment, and minimising the associated adverse psychosocial outcomes (Tarabulsy et al., 2008).

Existing Reviews of Attachment-Based Interventions with Parents

Although there have been several previous reviews into the effectiveness of parenting programs at improving parental sensitivity and attachment security, these have not so far focused on high-risk parent populations. The findings of these reviews have been encouraging, however, with two large-scale meta-analyses by Bakermans-Kranenburg et al. (2003; 2005) suggesting sensitivity-focused (i.e., aiming to enhance parental sensitivity) interventions have a small-to-medium positive effect on parental sensitivity and child attachment security at post-

intervention, with the positive effect on attachment security finding further evidenced ($d = 0.35$) within an updated meta-analysis by Facompré et al. (2018). A further recent review by Rayce et al. (2017) of 16 studies focused on interventions delivered to parents with infants under 12-months-old and demonstrating demographic risk factors for an insecure attachment (e.g., single mothers, low education, or socioeconomic deprivation). Their findings were similarly positive for parental sensitivity, finding small-to-medium effects, although they were unable to meta-analyse attachment security outcomes due to a lack of published studies (Rayce et al., 2017).

While the positive outcomes are encouraging, these reviews did not differentiate between high risk and much lower risk samples in their analyses. Where reviews have claimed to include high-risk parents (e.g., Rayce et al., 2017), they have defined "high risk" as the presence of demographic risk factors. Although research has suggested the risk of an insecure or disorganised attachment is greater among those demonstrating certain demographic risks (Cyr et al., 2010; De Falco et al., 2014), a meta-analysis of 69 studies by Cyr et al. (2010) showed that even where multiple demographic risks were present, attachment disorganisation was significantly greater in maltreating families than demographic risk families (d =2.10 vs. d =0.48 respectively). Demographic risk factors are by no means causative on their own, and it is important to consider that the majority of parents demonstrating these risk factors, and hence those included within samples, will represent low-risk parents capable of "good enough" parenting (Kaiser et al., 2017; Winnicott, 1965; Woodhouse et al., 2019).

In contrast to low-risk parents, maltreating parents or parents demonstrating "toxic trio" risk factors may face additional challenges that could affect the effectiveness of attachment-based parenting interventions. For example, the children of high-risk parents are more likely to be insecurely attached before the intervention (Cyr et al., 2010), while the parents are more likely to have themselves experienced childhood maltreatment (Bailey et al., 2012; Savage et al., 2019), also demonstrate their own insecure attachment representations (Reijman et al.,

2017), poor reflective functioning (i.e., parent's ability to hold a child's mental state in mind; Berthelot et al., 2015), mental health needs (Ayers et al., 2019; Murphy et al., 2018), and deficits in emotional regulation (Skowron et al., 2013), among others. These factors represent relatively stable characteristics that will potentially persist both during and following an intervention, which may adversely impact their capacity to implement long-term changes to their parenting behaviour, and hence limiting their capacity to benefit from an attachment-based intervention (Tarabulsy et al., 2008).

Aim of the Current Review

The current review provides a quantitative synthesis of both attachment-focused and psychosocial outcomes of attachment-based parenting interventions when delivered to parents presenting a high risk of current or future child maltreatment. In contrast to previous reviews that have included lower risk parents, this review seeks to focus on parents presenting the highest risk level. This meta-analysis also includes a series of subgroup analyses to determine the impact of intervention components (e.g., video-feedback on interactions) on effectiveness, as well as differences in effectiveness between specific parent or child populations (e.g., risk factor, child age). For this review, "high risk" of child maltreatment was defined as current involvement in child protective services (CPS), substantiated parent maltreatment, or presence of a "toxic trio" risk factor.

Method

Identifying Primary Studies

Inclusion and exclusion criteria. Full inclusion and exclusion criteria used to identify relevant studies are detailed in Table 1. Aside from where the included parent population already demonstrated concerns related to their parenting behaviours, studies were deemed to include a "high risk" parent population for maltreatment or neglect if the parent sample

demonstrated previous or current substance use, mental health difficulties, or domestic violence (Brandon et al., 2012; Cleaver et al., 2011).

Table 1.
Inclusion and exclusion criteria used to screen retrieved papers.

Inclusion Criteria	Exclusion Criteria
Population	
Biological parents in a primary caregiving role to at least one child <18 years of age, or pregnant mothers or their partners that are expecting to take a primary caregiving role after birth.	Foster carers, kinship carers, or adoptive parents. Day care or residential care staff Biological parents not in a primary caregiver role.
Sample at risk of child maltreatment	
Parents demonstrate documented or substantiated history of maltreatment or neglect, previous or current involvement in child protective services or a risk factor from the "toxic trio" (i.e., mental illness, substance use, or domestic violence).	Parent risk factors limited to demographic characteristics (e.g., parent age, ethnicity, education level, or socioeconomic status) or parent attachment representation.
Intervention	
Attachment theory-based intervention, involving the parent. Group or individual. Psychoeducational, therapeutic, home-visitation, or online.	Pre-birth only, with no post-birth intervention component. Parent-focused intervention with no focus on parent-child dyad/attachment.
Comparison group	
Control, standard care, treatment as usual, waitlist control.	Contrasting populations (e.g., non-maltreating or low-risk parents) No comparison group. Within-subjects wait-list control design.
Outcome data	
Pre- and post-intervention data available for at least one of the included outcomes (i.e., sensitive parenting, secure attachment, reflective functioning, parent depression, parenting stress, or child emotional and behavioural difficulties). Self-report, observational, interview or experimental task methods.	Anecdotal outcomes. Outcome data for at-risk parents not presented separately to sample data that includes low-risk parents.
Study design	
Quantitative between-subjects intervention evaluation design including randomised and non-randomised controlled trials.	Within-subjects pre-post designs, case study or single-case evaluation.
Publication type	
Published and unpublished studies.	Descriptive or theoretical papers. Review or meta-analysis of previously published studies. Not published in English language.

To determine whether the study evaluated an attachment-based intervention, the descriptions of the evaluated interventions were reviewed. An intervention was considered to be *"attachment theory-based"* where the authors described either:

a) The use of Bowlby's (1969) attachment theory as underpinning the interventions' development and/or implementation,
b) The aim of improving parents' understanding of attachment theory, or
c) The aim of improving the security of the parent-child attachment and/or relationship.

Consequently, a broad range of interventions were eligible for inclusion, including those explicitly focused on increasing the security of the child-parent attachment relationship (e.g., child-parent psychotherapy), as well as interventions referencing the use of attachment theory principles to improve the child-parent relationship and/or interactions within a child behaviour-focused intervention (e.g., incredible years or parent-child interaction therapy).

Parental sensitivity, child secure attachment, and parent reflective functioning were identified as attachment-focused outcomes for the meta-analysis prior to the systematic search due to the theoretical relevance of these constructs. On the basis of a preliminary screen of the literature, prior to the systematic search, three parent and child psychosocial outcomes (parent depression, parenting stress, and child emotional behavioural difficulties) were identified as also being frequently and consistently measured among relevant studies, and hence were included alongside the attachment-focused outcomes. Although relevant studies measured other outcomes (e.g., cortisol production, sleep difficulties, cognitive development, parenting self-efficacy), these constructs were either infrequently reported and/or were not reported using a consistent data format across studies to allow for meta-analysis. Consequently, to be included in the meta-analysis, a study had to report pre- and post-intervention data for at least one of the following six outcomes: sensitive and responsive parenting, child secure attachment

to parent, parent reflective functioning, parent depression, parenting stress, or child emotional and behavioural difficulties. Operationalisation of these outcome constructs, alongside inclusion criteria for measures, are included in Appendix 1F.

Search strategy. Web of Science, PsycINFO and PubMed were searched using a pre-defined search strategy up to 2nd March 2020. Search terms included five searches related to the following key terms/constructs: (1) parent group [e.g., parent* OR mother* or father*], (2) at risk population [e.g., maltreat* OR abus* OR "child welfare" OR neglect* OR "mental illness" OR "substance abus*" OR domestic violen* etc.], (3) intervention [e.g., intervention* OR *therap* OR group* OR training* OR *education* etc.], (4) intervention focus [e.g., attachment OR "parent-child relation*" OR "parental sensitivity" etc.], and (5) study type [e.g., "randomi* control* trial" OR "evaluat*" OR "outcome*" OR "pilot study" etc.]. These five searches were then systematically combined. Full search terms are documented in Appendix 1A.

The paper retrieval process is shown in the PRISMA flowchart in Figure 1. The search yielded a total of 4,222 records, resulting in 3,031 records following the removal of duplicates. The titles of these records were screened for suitability, resulting in the exclusion of 2,093 records, with the abstracts of the remaining 938 then screened, resulting in a further 622 records being excluded. The full text could not be accessed for 10 records, leaving 306 full texts which were screened. Of these, 266 did not meet the inclusion criteria and were excluded, with reasons for exclusion documented in Figure 1. One further study (Pereira et al., 2014) met the inclusion criteria for sample and intervention, but did not present sufficient post-intervention data to estimate an effect size, and hence was excluded, leaving 39 records that met the inclusion and exclusion criteria for the review.

Two of these retrieved papers reported outcomes from the same study (Rosenblum et al., 2017; Rosenblum et al., 2018), and while outcomes from both papers were included within

the meta-analysis, the study has been identified using the citation of the first published paper (i.e., Rosenblum et al., 2017) within the review. Two of the papers (Kersten-Alvarez et al., 2010; Suchman et al., 2011) presented longer-term follow-up data on the same sample of other included studies (Suchman et al., 2010; van Doesum et al., 2008), and so were considered as one study using the first published study as the identifier. One further record was then identified through reviewing the reference lists of retrieved papers, resulting in a final total of 40 papers, reporting on 37 unique studies, being included in the meta-analysis. Characteristics of included primary studies are described in Table 2.

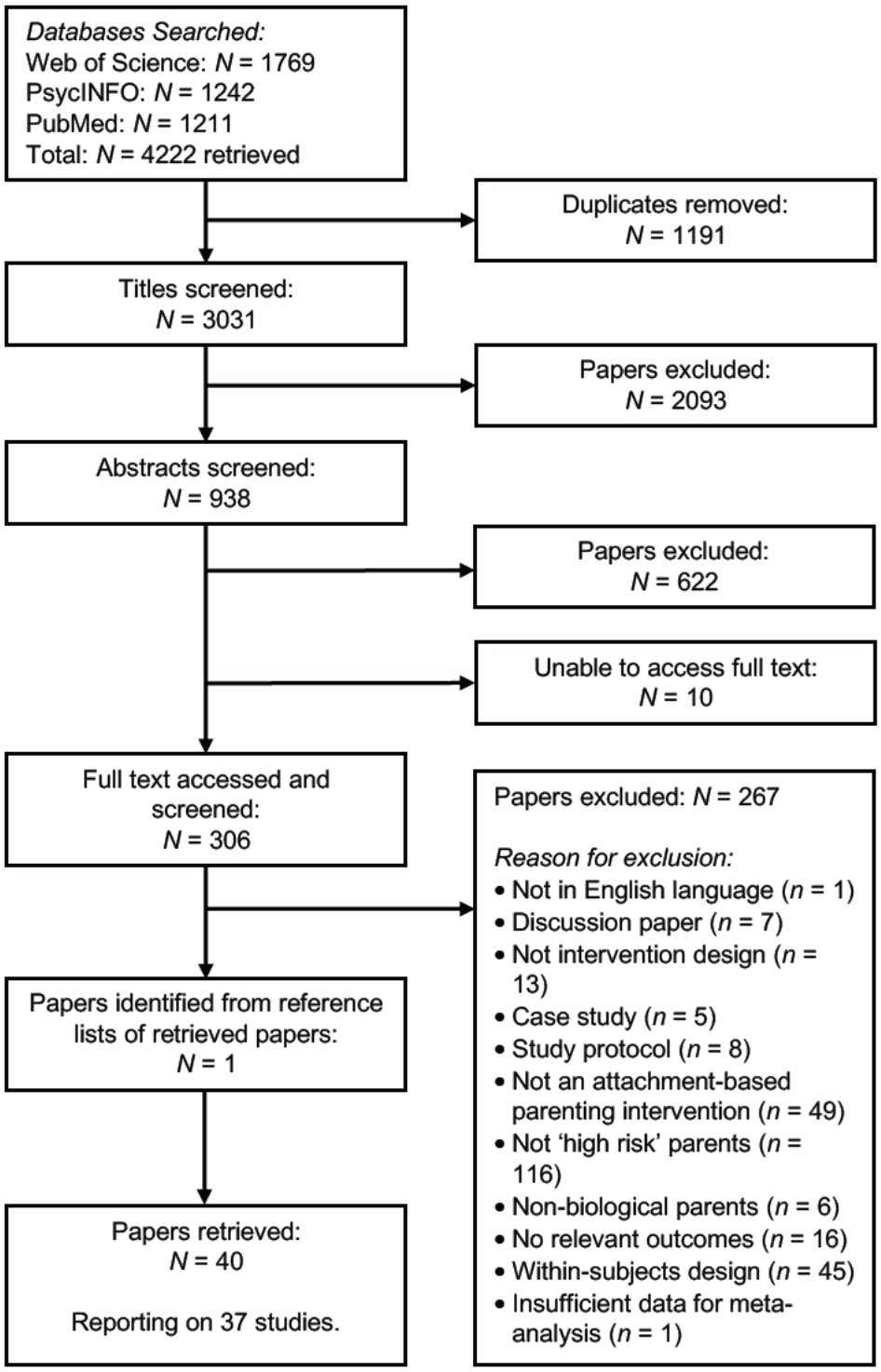


Figure 1. *PRISMA flowchart of the paper retrieval process used to identify relevant studies for inclusion in the meta-analysis.*

Table 2.

Summary characteristics of studies meeting the criteria for inclusion in the meta-analysis. Studies are presented in alphabetical order.

Author (Year) Country	Parent Sample Characteristics [a]	Parent Risk Factor	Child Sample Characteristics [b]	Design	Intervention	Comparison Group	Outcome Measures
Barlow et al. (2019)* England, UK	*N* = 75 96% Mothers 62% Single Parents	Substance Use	39% Female Age (Months): *M* = 9.2, *SD* = 9.1)	Randomised Controlled Trial	'Parents under Pressure (PuP) Program (Individual) Mean = 11.1 (*SD* = 8.19) sessions	Treatment as usual	Sensitive Parenting (CARE Index[d]) Parent Depression (DASS-42[c]) Parenting Stress (PSI[c])
Berlin et al. (2014) USA	*N* = 21 100% Mothers 86% Single Parents	Substance Use	38% Female Age (Months): *M* = 9.55, *SD* = 6.8	Randomised Controlled Trial	Attachment and Biobehavioural Catch-up (Individual) 10 Sessions	Control ('Book of the week'/support)	Sensitive Parenting (MBQS[d])
Bernard et al. (2012) USA	*N* = 120 98% Mothers	CPS Involved	42% Female Age (Months): *M* = 10.1, *SD* = 6.0	Randomised Controlled Trial	Attachment and Biobehavioural Catch-up (Individual) 10 Sessions	Control (Psychoeducation group)	Child Secure Attachment to Parent (SSP[d])
Bernard et al. (2015) USA	*N* = 40 100% Mothers 62.5% Single Parents	CPS Involved	Infants. Demographics not reported.	Randomised Controlled Trial	Attachment and Biobehavioural Catch-up (Individual) 10 Sessions	Control (Psychoeducation group)	Sensitive Parenting (ORCE[d])
Bilszta et al. (2012) Australia	*N* = 74 100% Mothers	Mental Health (Postnatal Depression)	Infants. Demographics not reported.	Randomised Controlled Trial	Video Feedback Intervention (Individual) Mean = 3 sessions (range 1-7)	Treatment as usual	Parent Depression (EPDS[c])
Chaffin et al. (2011) USA	*N* = 192 75% Mothers 65% Single Parents	CPS Involved	Aged 2.5-12 years. Demographics not reported	Randomised Controlled Trial	Parent-Child Interaction Therapy (Individual) 12-14 Sessions	Treatment as usual	Sensitive Parenting (DPICS-II[d])

Table continues on next page.

Author (Year) Country	Parent Sample Characteristics [a]	Parent Risk Factor	Child Sample Characteristics [b]	Design	Intervention	Comparison Group	Outcome Measures
Chaffin et al. (2004) USA	*N* = 110 65% Mothers 66% Single Parents	Maltreating (Physical abuse)	Aged 4-12 years. Demographics not reported	Randomised Controlled Trial	Parent-Child Interaction Therapy (Individual) 12-14 Sessions	Control (Community Parenting Group)	Sensitive Parenting (DPICS-II[d]) Child Emotional and Behavioural Difficulties (BASC[c])
Cicchetti et al. (1999) USA	*N* = 63 100% Mothers 19.5% Single Parents	Mental Health (Depression)	50% Female Age (Months): *M* = 20.4, *SD* = 2.38	Randomised Controlled Trial	Toddler-Parent Psychotherapy (Individual) Mean = 45.63 (*SD* = 11.40) sessions.	Control (No Intervention)	Child Secure Attachment to Parent (AQS[c])
Cicchetti et al. (2006) USA	*N* = 137 100% Mothers 64.3% Single Parents	CPS Involved	55.5% Female Age (Months): *M* = 13.31, *SD* = 0.81	Randomised Controlled Trial	Infant-Parent Psychotherapy (Individual) Mean = 21.56 (*SD* = 9.60) sessions.	Control (Psychoeducation or Standard Care)	Child Secure Attachment to Parent (SSP[d])
Clark et al. (2008) USA	*N* = 32 100% Mothers	Mental Health (Postnatal Depression)	62.5% Female Age (Months) *M* =7.86, *SD* = 6.75	Non-randomised Controlled Trial	Mother-Infant Therapy Group (Group) 12 Sessions	Waiting list control	Sensitive Parenting (PCERA[d]) Parenting Stress (PSI[c]) Parent Depression (BDI[c])
Espinet et al. (2016) Canada	*N* = 91 100% Mothers 63.7% Single Parents	Substance Use	Not reported.	Non-randomised study	'Breaking the Cycle' Relational Intervention (Mixed Individual and Group) Mean length of service involvement = 589.7 days (*SD* = 434.9)	Treatment as usual	Parent Depression (CES-D[c])
Foley et al. (2016) USA	*N* = 44 81.8 Mothers 68.1% Single Parents	Maltreating	34.1% Female Age (Years): *M* = 6.45, *SD* = 3.10	Randomised Controlled Trial	Parent Child Interaction Therapy (Group) 12x 2hr sessions	Treatment as usual	Parenting Stress (PSI[c]) Child Emotional and Behavioural Difficulties (CBCL[c]; ECBI[c])

Table continues on next page.

Author (Year) Country	Parent Sample Characteristics [a]	Parent Risk Factor	Child Sample Characteristics [b]	Design	Intervention	Comparison Group	Outcome Measures
Fonagy et al. (2016) England, UK	*N* = 76 100% Mothers 37% Single Parents	Mental Health (Varied, non-psychotic)	63.2% Female Age (Months): *M* = 3.8, *SD* = 3.0	Randomised Controlled Trial	Infant-Parent Psychotherapy (Individual) Mean = 16 sessions (range = 1-49)	Treatment as usual	Sensitive Parenting (EAS[d]; CIB[d]) Parent Reflective Functioning (PDI[d]) Parenting Stress (PSI[c]) Parent Depression (CES-D[c]) Child Secure Attachment to Parent (SSP[d]) Child Emotional and Behavioural Difficulties (ASQ-SE[c])
Goodman et al. (2015)* USA	*N* = 42 100% Mothers 19% Single Parents	Mental Health (Postnatal Depression)	Infant gender not reported. New-born infants	Randomised Controlled Trial	Perinatal Dyadic Psychotherapy (Individual) 8x 1hr sessions	Control (Telephone Support)	Sensitive Parenting (CIB[d]) Parenting Stress (PSI[c]) Parent Depression (EPDS[c])
Horowitz et al. (2013) USA	*N* = 125 100% Mothers 17% Single Parents	Mental Health (Postnatal Depression)	Infant gender not reported. Age (weeks): M = 7.4, SD = 1.3	Randomised Controlled Trial	'Communicating and Relating Effectively (CARE) Home Visiting (Individual) 6 sessions	Treatment as usual	Sensitive Parenting (NCATS[d]) Parent Depression (EPDS[c]; PDSS[c])
Hughes & Gottlieb (2004) Canada	*N* = 26 100% Mothers 50% Single Parents	Maltreating	38.5% Female Age (years): *M* = 5.42, *SD* = 1.59	Randomised Controlled Trial	Incredible Years (Group) 8x 2hr sessions	Waiting list control	Sensitive Parenting (PSO[d])
Jacobsen et al. (2014) Denmark	*N* = 18 89% Mothers	Maltreating (Emotional Neglect)	56% Female Age (years): *M* = 6.78, *SD* = 2.39	Randomised Controlled Trial	Dyadic Music Therapy (Individual) 6-10x 1hr sessions	Treatment as usual	Sensitive Parenting (APC[d]) Parenting Stress (PSI[c])
Letarte et al. (2005) Canada	*N* = 35 80% Mothers 40% Single Parents	CPS Involved	31.4% Female Age (years): *M* = 8.5, *SD* = 1.3	Non-Randomised Controlled Trial	Incredible Years (Group) 8x 2hr sessions	Waiting list control	Child Emotional and Behavioural Difficulties (ECBI[c])
Lieberman et al. (2005) USA	N = 65 100% Mothers 100% Single Parents	Domestic Violence	52% Female Age (years): *M* = 4.06, *SD* = 0.82	Randomised Controlled Trial	Child-Parent Psychotherapy (Individual) 50x 1hr sessions	Control (Case management plus individual psychotherapy)	Child Emotional and Behavioural Difficulties (CBCL[c])

Table continues on next page.

Author (Year) Country	Parent Sample Characteristics [a]	Parent Risk Factor	Child Sample Characteristics [b]	Design	Intervention	Comparison Group	Outcome Measures
Moss et al. (2011) Canada	N = 67 94% Mothers 52.2% Single Parents	Maltreating	38.8% Female Age (years): *M* = 3.35, *SD* = 1.38	Randomised Controlled Trial	Attachment Focused Home Visiting (Individual) 8 sessions	Treatment as usual	Sensitive Parenting (MBQS[d]) Child Secure Attachment to Parent (SSP[d]) Child Emotional and Behavioural Difficulties (CBCL[c])
Oxford et al. (2016a)* USA	*N* = 43 88.4% Mothers	CPS Involved	53.5% Female Age (Months): *M* = 18.29, *SD* = 5.32	Randomised Controlled Trial	Promoting First Relationships Home-Vising Programme (Individual) 10 sessions	Control (Psychoeducation)	Sensitive Parenting (NCATS[d]) Parenting Stress (PSI[c]) Child Emotional and Behavioural Difficulties (BITSEA[c]; BRS[d]; CBCL[c])
Oxford et al. (2016b)* USA	*N* = 225 91.1% Mothers 53% Single Parents	CPS Involved	46.2% Female Age (Months): *M* = 15.95, *SD* = 4.37	Randomised Controlled Trial	Promoting First Relationships Home-Vising Programme (Individual) 10 sessions	Control (Printed Psychoeducation)	Sensitive Parenting (NCATS[d]) Parenting Stress (PSI[c]) Child Emotional and Behavioural Difficulties (BITSEA[c])
Pillhofer et al. (2015)* Germany	*N* = 83 100% Mothers 33.7% Single Parents	Multiple Risk Factors Present	51.8% Female Age (Weeks): *M* = 38.2, *SD* = 3.3	Non-randomised Controlled Trial	"Ulm Model" home-visiting program (Individual) 7x 1.5hr sessions	Treatment as usual	Sensitive Parenting (CARE-Index[d])
Porter et al. (2015)* USA	*N* = 121 100% Mothers 77.5% Single Parents	Substance Use	53.7% Female Infants aged 1-4 months.	Randomised Controlled Trial	Infant Massage intervention (Group) 6 sessions	Control (Psychoeducation)	Sensitive Parenting (OMII[d]) Parenting Stress (PSI[c]) Parent Depression (BDI[c])
Puckering et al. (2010) Scotland, UK	*N* = 17 100% Mothers	Mental Health (Postnatal Depression)	Not reported.	Randomised Controlled Trial	Mellow Babies (Group) 14 sessions	Waiting list control	Sensitive Parenting (MPOCS[d]) Parent Depression (EPDS[c])
Ramsauer et al. (2019) Germany	*N = 61* 100% Mothers 15.3% Single Parents	Mental Health (Postnatal Depression)	45.5% Female Infants aged 4-9 Months.	Randomised Controlled Trial	Circle of Security (Group) 20 Sessions	Treatment as usual	Sensitive Parenting (MBQS[d]) Child Secure Attachment to Parent (SSP[d])

Table continues on next page.

Author (Year) Country	Parent Sample Characteristics [a]	Parent Risk Factor	Child Sample Characteristics [b]	Design	Intervention	Comparison Group	Outcome Measures
Rosenblum et al. (2017) USA	*N* = 77 100% Mothers 64.7% Single Parents	Mental Health (Depression/ PTSD)	Child gender not reported. Age (months): *M* = 14.77, *SD* = 13.30	Randomised Controlled Trial	"Mom Power" (Group) 13 sessions	Control (Printed psychoeducation)	Parent Reflective Functioning (WMCI-PRS[c]) Parenting Stress (PSI[c]) Parent Depression (PPDS[c])
Salo et al. (2019) Finland	*N = 45* 100% Mothers 8.9% Single Paremts	Mental Health (Depression)	New-born infants. Gender not reported.	Randomised Controlled Trial	MBT-Based 'Nurture and Play' (Group) 11x 1.5h Sessions	Treatment as usual	Sensitive Parenting (EAS[d]) Parent Reflective Functioning (PDI[c]) Parent Depression (EPDS[c])
Steele et al. (2019) USA	*N* = 78 100% Mothers	Multiple Risk Factors Present	Child gender not reported. Infants aged 0-3 years.	Randomised Controlled Trial	Group Attachment-Based Intervention (Group) 26x 2hr sessions	Control (Behavioural Training)	Sensitive Parenting (CIB[d])
Suchman et al. (2010)* USA	*N* = 47 100% Mothers 63.9% Single Parents	Substance Use	49% Female Age (months): *M* = 18.74, *SD* = 16.94	Randomised Controlled Trial	MBT-based Mothers' and Toddler's Program (Individual) 12 sessions	Control (Psychoeducation)	Sensitive Parenting (NCAST[d]) Parent Reflective Functioning (PDI[d]) Parent Depression (BDI[c])
Suchman et al. (2017)* USA	*N* = 87 100% Mothers 65.5% Single Parents	Substance Use	46% Female Age (months): *M* = 27.83, *SD* = 15.75	Randomised Controlled Trial	MBT-based Mothering From the Inside Out (Individual) 12 sessions	Control (Psychoeducation)	Sensitive Parenting (CIB[d]) Parent Reflective Functioning (PDI[d]) Parent Depression (BDI[c]) Child Secure Attachment to Parent (SSP[d])
Suess et al. (2016) Germany	*N* = 81 100% Mothers	CPS Involved	52.6% Female Infant age not reported.	Non-randomised Controlled Trial	STEEP (Video Feedback Intervention) (Individual) Mean = 30 (SD = 18.8) home visits; Mean = 12 (*SD* = 8.56) video-feedback session.	Treatment as usual	Parenting Stress (PSI[c]) Parent Depression (EPDS[c]) Child Secure Attachment to Parent (SSP[d])

Table continues on next page.

Author (Year) Country	Parent Sample Characteristics [a]	Parent Risk Factor	Child Sample Characteristics [b]	Design	Intervention	Comparison Group	Outcome Measures
Thomas & Zimmer-Gembeck (2011)* Australia	*N* = 79 100% Mothers	Maltreating	29% Female Age (Years): *M* = 5, *SD* = 1.6	Randomised Controlled Trial	Parent-Child Interaction Therapy (Individual) 12 sessions	Waiting list control	Sensitive Parenting (DPICS-II[d]; EAS[d]) Parent Stress (PSI[c]) Child Emotional and Behavioural Difficulties (ECBI[c]; SESBI-R[c]; CBCL[c])
Thomas & Zimmer-Gembeck (2012) Australia	*N* = 151 100% Mothers	Maltreating	29.6% Female Age (Years): *M* = 4.57, *SD* = 1.3	Randomised Controlled Trial	Parent-Child Interaction Therapy (Individual) 12 sessions	Waiting list control	Sensitive Parenting (DPICS-II[d]) Parent Stress (PSI[c]) Parent Depression (BDI[c]) Child Emotional and Behavioural Difficulties (ECBI[c]; CBCL[c])
Toth et al. (2006) USA	*N* = 100 100% Mothers 12.1% Single Parents	Mental Health (Depression)	Age (Months): *M* = 20.3, *SD* = 2.5	Randomised Controlled Trial	Toddler-Parent Psychotherapy (Individual) Mean = 45.24 (*SD* = 11.16) sessions	Control (No Intervention)	Child Secure Attachment to Parent (SSP[d])
van Doesum et al. (2008)* Netherlands	*N* = 71 100% Mothers 90.6% Single Parents	Mental Health (Depression)	40% Female Age (Months): *M* = 5.7, *SD* = 2.8	Randomised Controlled Trial	Attachment Focused Home Visiting Program (Individual) 8-10 home visits	Control (Telephone Support)	Sensitive Parenting (EAS[d]) Parent Depression (BDI[c]) Child Emotional and Behavioural Difficulties (ITSEA[c])
Yarger et al. (2016) USA	*N* = 24 100% Mothers	CPS Involved	47.8% Female Age (months): *M* = 13.18, *SD* = 4.38	Randomised Control Trial	Attachment and Biobehavioural Catch-up (Individual) 10 sessions	Control (Psychoeducation)	Sensitive Parenting (ORCE[d])

[a] Sample sizes describes the number of participants included in the post-treatment sample.
[b] Child sample demographics at the time of recruitment.
[c] Parent self-report measure
[d] Observational or clinician rated measure
* Study conducted a further follow-up beyond the first post-intervention outcomes included in the meta-analysis.
Abbreviations: APC = Assessment of Parenting Competencies; ASQ-SE = Ages and Stages Questionnaire–Social-Emotional Edition; AQS = Attachment Q-Set; BASC = Behaviour Assessment System for Children; BDI = Beck Depression Inventory; BITSEA = Brief Infant Toddler Social Emotional Assessment; BRS = Bayley Behaviour Rating Scales; CBCL = Child Behaviour Checklist; CES-D = Centre for Epidemiological Studies–Depression; CIB = Coding Interactive Behaviour; CPS = Child Protection Services; DASS-42 = Depression, Anxiety and Stress Scale; DPICS-II = Dyadic Parent-Child Interaction Coding System–Second Edition; EAS = Emotional Availability Scale; ECBI = Eyberg Child Behaviour Inventory; EPDS = Edinburgh Postnatal Depression Scale; ITSEA = Infant Toddler Social Emotional Assessment; MBQS = Maternal Behaviour Q-Sort; MPOCS = Mellow Parenting Observation Coding Scheme; NCAST = Nursing Child Assessment Satellite Training; OMII = Observation Checklist on Mother-Infant Interaction; ORCE = Observational Record of Caregiving Environment; PCERA = Parent-Child Early Relational Assessment; PDI = Parent Development Interview; PDSS = Postpartum Depression Screening Scale; PPDS = Postpartum Depressive Symptoms; PSI = Parental Stress Index; PSO = Parenting Skills Observation Scale; SESBI-R = Sutter-Eyberg Student Behaviour Inventory–Revised; SSP = Strange Situation Procedure; WMCI-PRS = Working Model of the Child Interview-Parent Reflectivity Scale.

Data Extraction

Data extraction was completed by the author. Where there was ambiguity in the data extraction process, this was discussed as part of the supervision process until a consensus decision was reached. For all outcomes except 'secure attachment to parent', post-intervention means, standard deviations, and group *n*-size were extracted for both the intervention and comparison group to calculate a summary effect using Cohen's *d*. Where means and standard deviations were not reported, but the paper reported other effect sizes, such a student *t* or *F* statistics, these were used to calculate an estimate of Cohen's *d*. For all outcomes, post-intervention was defined as the post-intervention outcome data collected closest to the end/completion of the intervention. For outcomes where a reduction in scores on measures (e.g., depression, stress, behavioural difficulties) represented a positive treatment effect, these were reversed such that $d > 0$ could be interpreted as a positive treatment effect favouring the intervention group for all outcomes.

For the outcome of 'secure attachment to parent', it was expected the authors would present nominal data, presenting the *n*-size for each attachment category. For this outcome, the post-intervention *n*-sizes of children assessed to have a secure attachment to their parent were extracted for both the intervention and comparison group to calculate the relative risk of a secure attachment post-intervention.

Where a paper only reported outcomes in terms of a measure's separate subscales, or where papers reported multiple measures for the same outcome, the procedures described by Borenstein et al. (2009) were followed to produce a single outcome and estimate of Cohen's *d*.

Risk of Bias Evaluation

Quality evaluation of included studies was completed by the author using a risk of bias evaluation framework (Table 3) specifically developed for the requirements of the meta-analysis and the designs of the research studies included. The quality criteria were adapted from

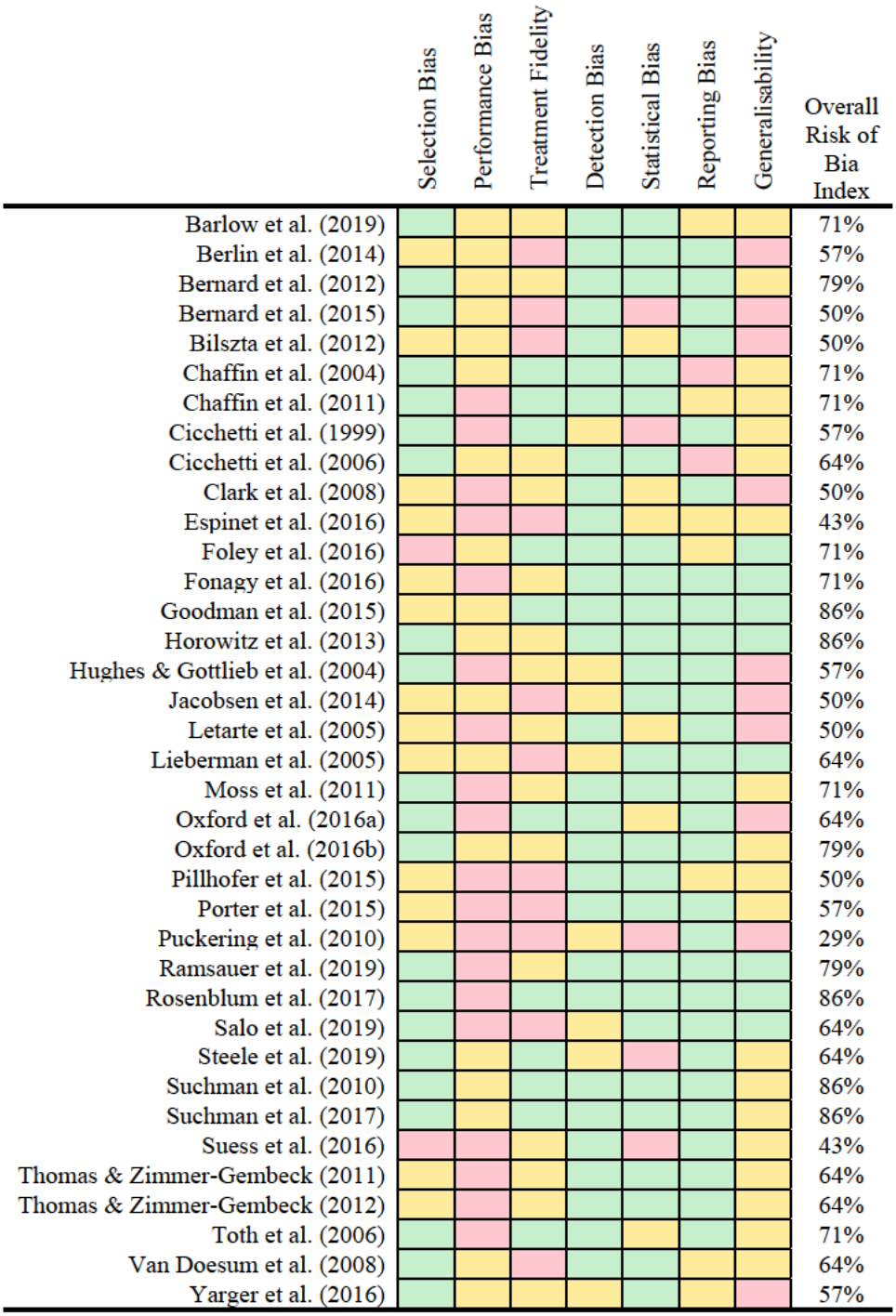
existing widely used risk of bias evaluation frameworks for quantitative intervention research including Higgins and Green's (2011) 'Cochrane Risk of Bias Tool', and Kim et al.'s (2013) 'Risk of Bias Assessment Tool for Non-randomised studies'. The framework evaluated research risk of bias across seven areas: selection bias, performance bias, treatment fidelity, detection bias, statistical bias, reporting bias, and generalisability. Each study was allocated 0, 1 or 2 points for each type of bias depending on whether the domain was evaluated to be high, unclear or low risk respectively.

Overall risk of bias ratings for each included paper are shown in Table 4, with percentages representing each paper's total score out of a maximum of 14 points. Scores ranged from 29% to 86%, with lower percentage scores indicating a greater risk of bias within the study. Overall, included studies were most likely to demonstrate a risk of selection bias, performance bias, a risk of low treatment fidelity, or limited generalisability. Generally, risk of detection bias, statistical bias and reporting bias was low among included studies.

Table 3.
Risk of bias evaluation framework used to assess the risk of bias of included studies.

	Low risk of Bias *(2 points)*	**Unclear risk of bias** *(1 Point)*	**High risk of bias** *(0 Points)*
Selection Bias	Randomised design, with randomisation clearly described and concealed from investigators. Demographic characteristics are clearly described, for each group and there are no a priori differences between groups.	Non-randomised design or pseudo-randomised design, where allocation method is unclear. The characteristics of the study population are not clearly reported. No statistical evaluation of group differences.	Non-randomised design where allocation method is likely to have introduced bias. A priori difference between the groups on primary outcomes existed prior to experimental manipulation.
Performance Bias	Participants are blind to treatment allocation. No confounding variables present between groups. Participant use and/or access other services and/or interventions is clearly described and/or monitored.	Blinding of participants to treatment allocation is unclear. Presence of confounding variables between groups is unclear. Access and/or use of other services and/or interventions is unclear.	Participants are not blind to treatment allocation. Confounding are present between treatment groups. Participants have access and/or use of other services and/or interventions during the intervention that is likely to bias performance.
Treatment Fidelity	Treatment fidelity described and adequate adherence to the model demonstrated. Valid treatment conducted by someone with suitable experience.	Treatment fidelity undertook but not described/evaluated. unclear if following protocol, training of those delivering the intervention not reported.	No mention of treatment fidelity tests or processes used to ensure fidelity. Combined with another treatment, no protocol.
Detection Bias	Measures are clearly described, and the study uses well validated measures. For subjective measures, standardised and validated observational methods or measures were used. Assessors were blind to treatment group and time.	Unclear reliability or validity due to use of non-reviewed or bespoke measures, but clear process to standardisation and/or reference to assessment of inter-rater reliability. Blinding of assessors unclear.	Use of measures that have not been validated, and standardisation or assessment of inter-rater reliability is not described. Assessors were not blind to intervention group or time.
Statistical Bias	Intention to treat analysis or completer analysis with >80% of sample	No report of attrition or between 20-30% attrition	Completer only analysis or greater than 30% attrition)
Reporting Bias	Reported all results of measures as outlined in the method.	Not all descriptive and/or summary statistics are presented.	Not reported full outcome measures that are stated in the method section/ reported only a subsample of results/only significant results.
Generalisability	Sufficient sample for generalisation and representative of target population (>20 per group)	Sufficient sample for generalisation (> 20 per group), but with some idiosyncratic features (e.g., all mothers).	Small sample with or without idiosyncratic feature (<20 per group).

Table 4.
Risk of bias evaluation of included studies.



	Selection Bias	Performance Bias	Treatment Fidelity	Detection Bias	Statistical Bias	Reporting Bias	Generalisability	Overall Risk of Bia Index
Barlow et al. (2019)								71%
Berlin et al. (2014)								57%
Bernard et al. (2012)								79%
Bernard et al. (2015)								50%
Bilszta et al. (2012)								50%
Chaffin et al. (2004)								71%
Chaffin et al. (2011)								71%
Cicchetti et al. (1999)								57%
Cicchetti et al. (2006)								64%
Clark et al. (2008)								50%
Espinet et al. (2016)								43%
Foley et al. (2016)								71%
Fonagy et al. (2016)								71%
Goodman et al. (2015)								86%
Horowitz et al. (2013)								86%
Hughes & Gottlieb et al. (2004)								57%
Jacobsen et al. (2014)								50%
Letarte et al. (2005)								50%
Lieberman et al. (2005)								64%
Moss et al. (2011)								71%
Oxford et al. (2016a)								64%
Oxford et al. (2016b)								79%
Pillhofer et al. (2015)								50%
Porter et al. (2015)								57%
Puckering et al. (2010)								29%
Ramsauer et al. (2019)								79%
Rosenblum et al. (2017)								86%
Salo et al. (2019)								64%
Steele et al. (2019)								64%
Suchman et al. (2010)								86%
Suchman et al. (2017)								86%
Suess et al. (2016)								43%
Thomas & Zimmer-Gembeck (2011)								64%
Thomas & Zimmer-Gembeck (2012)								64%
Toth et al. (2006)								71%
Van Doesum et al. (2008)								64%
Yarger et al. (2016)								57%

Note. Red = high risk, yellow = unclear risk, green = low risk

Selection bias. Thirty-one of the 37 retrieved studies used an RCT design. Two studies were rated as a high risk of bias because their samples were recruited from different centres (Suess et al., 2016) and because of significant group differences in child abuse potential at

baseline between intervention and control groups (Foley et al., 2016), which are both likely to have introduced bias into the samples. Fourteen studies were rated as unclear risk of bias either due to using a non-randomised design (Clark et al., 2008: Letarte et al., 2005; Pillhofer et al., 2015), because there were group differences at baseline (Berlin et al., 2014; Goodman et al., 2015), where the likely impact on bias was unclear, or because demographic information for each group was unclear (Jacobsen et al., 2014; Thomas & Zimmer-Gembeck, 2011; Thomas & Zimmer-Gembeck, 2012).

Performance bias. All included studies were rated as high risk or unclear risk for possible performance bias. None of the included studies explicitly stated they blinded participants to group allocation. For the 18 studies rated as unclear bias, their design feasibly would have facilitated blinding due to the nature of the comparison group (e.g., another intervention or psychoeducation), but blinding of participants was either unclear or not reported. For the 19 studies rated as high risk of bias, they either stated explicitly in their method that they did not blind participants to group allocation, or their design would not have facilitated participant blinding (e.g., treatment as usual or waitlist control). One study was rated as high risk as the intervention group received additional services beyond the attachment-based intervention (Espinet et al., 2016).

Treatment fidelity. Eleven of the included studies were rated as low risk as they undertook measures to monitor and measure treatment fidelity, such as recording sessions and rating for model or protocol adherence, with results clearly reported. 11 studies were rated as high risk as they did not undertake or report any measures to ensure treatment fidelity. The remaining 15 studies were rated as unclear risk because their treatment fidelity checks were limited to supervision (Barlow et al., 2019; Fonagy et al., 2016; Horowitz et al, 2013; Ramsauer et al., 2019; Suess et al., 2016; Thomas & Zimmer-Gembeck, 2011; Thomas & Zimmer-

Gembeck, 2012), or did undertake formal measures, but did not report the outcome of these (Bernard et al., 2012; Clark et al., 2008; Yarger et al., 2016)

Detection bias. The majority of studies were rated as low risk for detection bias. The majority of studies used well validated measures, and where observational or subjective measures were used, researchers ensured assessors were blind to group allocation and measured and reported inter-rater reliability. Eight studies were rated as unclear risk of bias because of use of bespoke measures (Hughes & Gottlieb, 2004; Jacobsen et al., 2014; Puckering et al., 2010), because the blinding of assessors was unclear (Cicchetti et al., 1999; Lieberman et al., 2005; Salo et al., 2019; Steele et al., 2019), or because the researchers identified low inter-rater reliability (Yarger et al., 2016).

Statistical bias. The majority of included studies either did not encounter attrition above 20% or completed an intent-to-treat analysis to compensate for a high attrition rate within their analysis. Four studies were rated as high risk due to experiencing attrition >30% (Cicchetti et al., 1999; Puckering et al., 2010; Steele et al., 2019; Suess et al., 2016), while a further study was rated as high risk due to completing a longer-term follow-up study with a small percentage of the original sample (Bernard et al., 2015).

Reporting bias. Risk of reporting bias was generally low across included studies. Only two studies were assessed as having a high risk of bias, which was due to not reporting post-intervention outcomes or effects for all measures (Chaffin et al., 2004; Cicchetti et al., 2006). Seven studies were rated as unclear risk of bias due to not clearly reporting means and standard deviations of pre- and post-intervention outcomes (Chaffin et al., 2011; Espinet et al., 2016; Foley et al., 2016; van Doesum et al., 2008; Yarger et al., 2016). Barlow et al. (2019) was rated as unclear due to placing non-significant outcomes in supplementary material, rather than within the main report.

Generalisability. Thirty studies were rated as either high or unclear risk of bias in relation to the generalisability of their results. Ten papers were rated as high risk as they had small post-intervention samples with data available for fewer than 20 participants in each group. Nineteen studies were rated as unclear risk of bias. Seventeen of these studies were rated as an unclear risk due to either only including mothers in their sample, or due to mothers being overrepresented in the sample compared to fathers, without a clear justification for doing so (e.g., focus on mothers or female-only population stated in their aim). Three studies were rated as unclear risk of bias due to unclear reporting of the parent or child sample characteristics (Chaffin et al., 2004; Chaffin et al., 2011; Espinet et al., 2016).

Data Analysis Strategy

The data analysis strategy follows established guidelines by the Centre of Applied Psychology at the University of Birmingham and is paraphrased below.

The omnibus test. A separate meta-analysis, using the generic inverse variance method, was completed for each of the six outcomes. The DerSimonian and Laird method of calculating the random effects (RE) model was used to calculate the omnibus effect and 95% confidence intervals (CI) as the reported effects for each outcome were all observed to be normally distributed as determined by QQ plots (Appendix 1B).

The RE model was used rather than Fixed Effects (FE) model due to the high level of methodological variation among the primary studies included in the review both in terms of methodological quality and study characteristics (e.g., participant group, measures, intervention, comparison group), which may have an impact on the observed effect. Consequently, the RE model was likely to provide a more suitable estimate as the FE model assumes the only source of variation in effect size is sampling error, which is unlikely to be the case given the studies included in this review.

Handling problematic variance. Heterogeneity refers to variation in a study's effect from the overall meta-analytic synthesis that cannot be attributed to variation in an individual's response to treatment. Heterogeneity can occur for a number of reasons including individual participant differences, measurement error, uncontrolled variables between studies, or variations in investigative method. In this sense, heterogeneity can be interpreted as the result of nuisance variables and/or noise within measurement.

Heterogeneity was calculated as a percentage of total variation using Higgins I^2, with greater values indicating higher levels of between study variation that is the result of nuisance variables and/or noise within measurement. Due to the considerable variation in the methods used by the primary studies included within the meta-analysis (e.g., quality, design, intervention, participant characteristics), heterogeneity is anticipated to be high. Consequently, the threshold for heterogeneity to be considered as problematic was set to a Higgins I^2 greater than 75% (Higgins et al., 2003).

The quality effects model. The RE model, which estimates the weighting of an effect primarily from the sample size and heterogeneity, has been extended by Doi and Thalib (2008) to include methodological quality when estimating the weighting of the study level effects. This approach generates a meta-analytic synthesis based on what would have been obtained were all the included studies the same quality as the highest quality study included within the review. Within this meta-analysis, the total score from the risk of bias analysis reported in Table 4 was used to calculate the quality effects (QE) model. The summary effect generated by the QE model was then compared to the original RE model summary effect. The discrepancy between the summary effects from the QE and the RE models can provide a measure of the attrition attributed to variation in methodological quality.

Attenuation of omnibus estimate due to publication bias. Where there was a sufficient number of primary studies (>10 studies), a funnel plot of the effects was visually and

statistically inspected to identify whether publication bias was likely to be present. Effects that are symmetrically distributed across the funnel plot suggest publication bias is unlikely to be present. However, where the effects were not spread symmetrically across both sides of the funnel plot, and there was an absence of studies with small sample sizes reporting non-significant effects, it was assumed publication bias is present. Where publication bias has been identified, the 'trim and fill' procedure described by Duval and Tweedie (2000a; 2000b) will be used. The 'trim and fill' procedure uses an iterative algorithm to remove small studies with positive effects, re-calculating the effect size until the funnel plot is symmetrically distributed across the corrected effect size (Duval & Tweedie, 2000a; 2000b). These studies are then added back into the original analysis with an additional effect mirrored onto the side of the funnel plot associated with negative effects to correct the impact on variance. This adjusted effect size was then compared with the original omnibus effect to estimate the extent the effect had been attenuated by publication bias.

To determine whether observed significant omnibus effects were robust to possible publication bias, Rosenthal's (1979) method was used to calculate a fail-safe N. The fail-safe N is an estimate of the number of additional studies identifying a non-significant effect that would be required for the observed summary effect to no longer be significant. If this number is large compared with the number of primary studies used to calculate the meta-analytic effect, then the omnibus test can be considered robust to effects of publication bias.

Planned subgroup contrasts. Sub-group analyses were conducted for each outcome using categorical moderators based upon parent risk status (i.e., CPS involved, mental health, substance use, or domestic violence), child age (i.e., infant [aged <3yrs], or child [aged >3yrs]), intervention components (i.e., interaction guidance, verbal feedback, or video feedback), intervention delivery (i.e., individual, or group), and intervention length (i.e., short [<8 sessions], medium [8-15 sessions], long [>15 sessions] term). The significance of the difference

between the sub-groups' meta-analysis effects were evaluated by comparing the 95% confidence intervals.

Results

A total of 37 studies, representing 2,718 participating parent-child dyads, were included within the meta-analysis. Separate RE model omnibus effects were calculated for each of the six outcomes, using the generic inverse variance method, which are presented below.

Sensitive and Responsive Parenting

Omnibus test. Overall, 26 studies, reporting on 1,486 participants, reported a treatment effect for sensitive and responsive parenting. A RE model suggested a significant omnibus effect of $d = 0.38$ ($z = 4.68$, $p < .001$) and a 95% confidence interval of 0.22 to 0.55. A treatment effect of this magnitude would be considered small-to-medium in size. A forest plot of the RE omnibus effect is shown in Figure 2. The level of heterogeneity observed among the reported treatment effects for sensitive and responsive parenting was moderate, but acceptable ($tau^2 = 0.10$, $I^2 = 61.4\%$, $Q = 64.77$, $p < .001$). This suggests the effects reported in the primary studies are not significantly biased by uncontrolled or confounding variables. The RE model was then subject to further analysis to determine whether the effect was robust to disproportionately influential studies, methodological quality, and publication bias, which are described below.

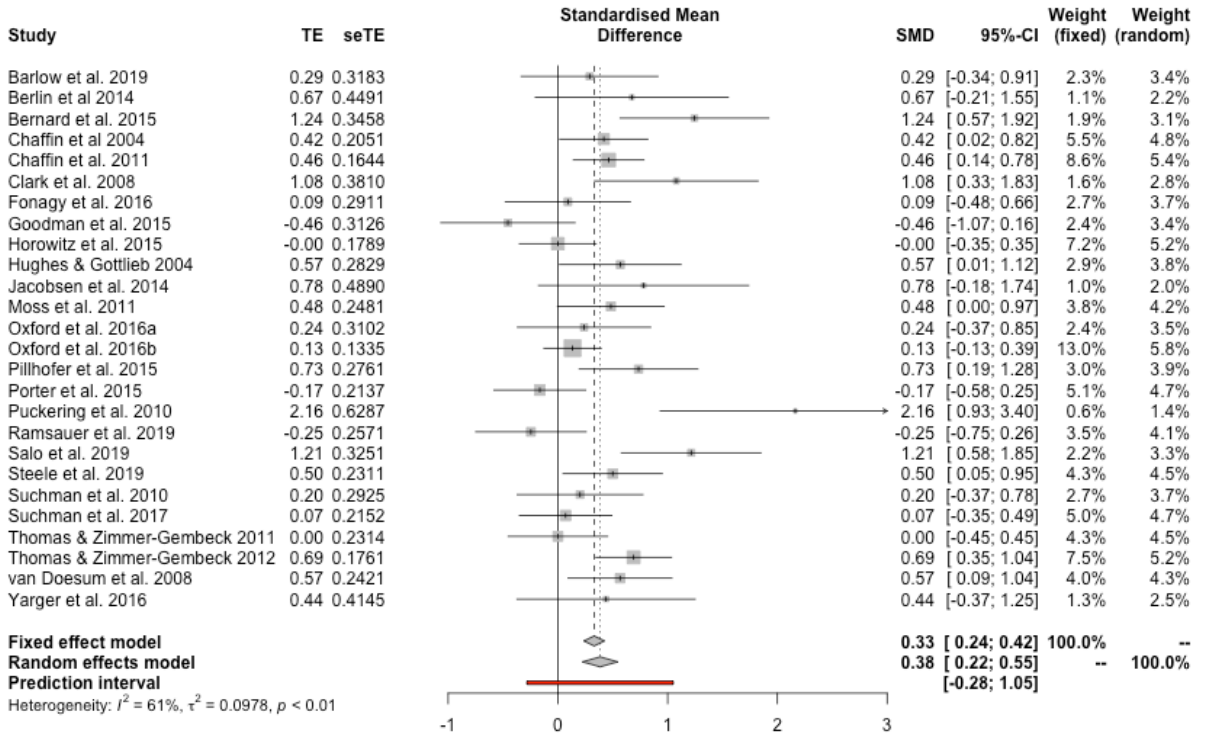


Figure 2. *Forest plot of standardised mean difference for sensitive and responsive parenting treatment outcomes from attachment-based parenting interventions compared to comparison groups (k = 26).*

Influential studies. A 'leave-one-out' analysis was conducted to assess whether the omnibus effect was being disproportionately influenced by one or more influential studies. This analysis calculates a RE model with each of the primary studies removed. Visual analysis of the Baujat scatter plot (Figure 3; Baujat et al., 2001) and a 'leave-one-out' analysis, suggested three studies (Bernard et al., 2015; Puckering et al., 2010; Salo et al., 2019) were having a large contribution to both heterogeneity and the overall summary effect. When these studies were removed, and the RE model recalculated, there was a reduction on the overall meta-analytic effect from d = 0.38 to d = 0.29 (95%CI 0.15-0.43). Each of these three studies were then examined for risk of biases, with a view to possible removal from the meta-analysis. It was noted that Puckering et al. (2010) presented with a high or unclear risk of bias in 6 of the 7 areas assessed. Given Puckering et al. was influential, heterogeneous, and presented a marked risk of bias, it was removed from subsequent analysis, and the omnibus effect recalculated.

Following the removal of Puckering et al., the corrected omnibus summary effect for sensitive parenting, based on the remaining 25 studies, was $d = 0.36$ (95%CI 0.20-0.51, $z = 4.57$, $p < .001$) using a RE model. Observed heterogeneity continued to be moderate, but acceptable ($tau^2 = 0.08$, $I^2 = 57.3\%$, $Q = 64.77$, $p < .001$).

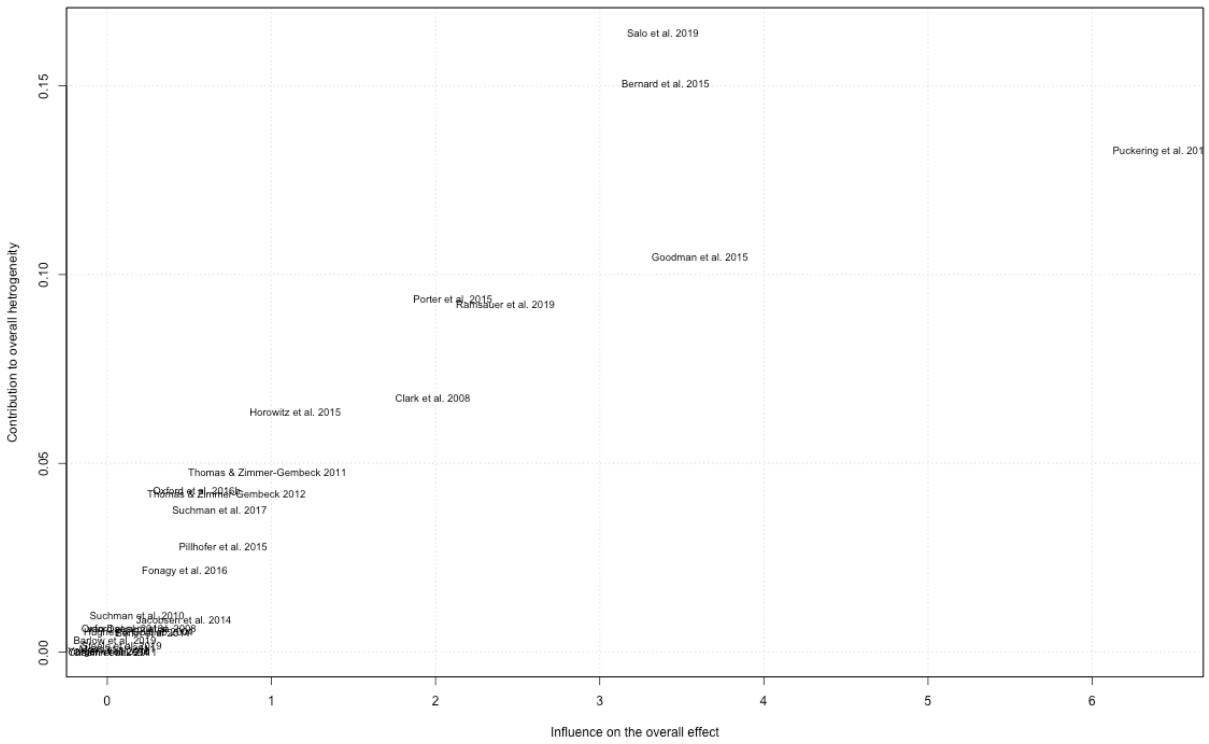


Figure 3. *Baujat scatter plot showing the contribution to overall heterogeneity and the influence on the summary effect for each included study for sensitive and responsive parenting outcomes.*

Quality effects model. The total risk of bias ratings reported in Table 4 were used to calculate the QE model. The QE model reported an omnibus effect of $d = 0.35$ (95%CI 0.19-0.51). The QE model represents a negligible change from the RE estimate, suggesting the omnibus effect is robust to the impact of methodological quality.

Publication bias. From visual inspection of the funnel plot (Figure 4), an absence of small studies reporting non-significant effects among the primary studies was observed, indicating the presence of publication bias. Using the 'trim and fill' procedure (Duval & Tweedie, 2000a; 2000b), five additional 'studies' were added. After correcting for publication

bias, a corrected estimate of the treatment effect indicated a small effect of d = 0.24 (95%CI 0.08-0.41), suggesting the actual treatment effect may be lower than the original RE estimate.

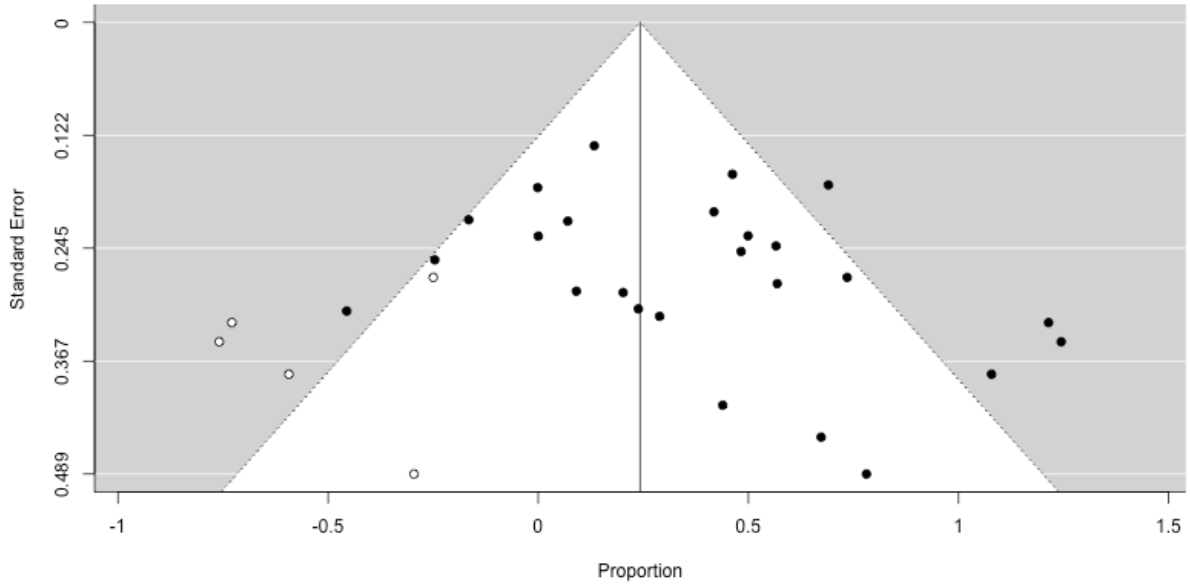


Figure 4. *Funnel plot of primary study effects for sensitive and responsive parenting indicating presence of publication bias. Black markers (k = 25) indicate included primary studies, white markers (k = 5) indicate additional mirrored effects added to control for publication bias.*

A fail-safe N, calculated using Rosenthal's (1979) method, suggested an additional 428 studies reporting a null effect would be required to reduce the observed meta-analytic synthesis to non-significance. This suggests that while the omnibus effect is attenuated by publication bias, the overall significance of the effect is robust to potential publication bias.

Planned contrasts. The estimated effects according to subgroup categorical moderators are shown in Table 5 with tests of between-group subgroup differences. A trend towards a significant difference was observed between studies depending on the risk factors present in the parent sample (Q = 7.51, df = 3, p =.057). Lower treatment effects were observed among studies of parents with substance use issues (d = 0.09, 95%CI -0.14-0.33) compared to those of maltreating or CPS involved parents (d = 0.44, 95%CI 0.25-0.62), parents with mental health difficulties (d = 0.29, 95%CI -0.13-0.71) or parents with non-specific or multiple risk factors present (d = 0.60, 95%CI 0.25-0.94).

There were no significant differences observed between the effect sizes of studies evaluating group or individually delivered interventions, between studies depending on the inclusion of interaction feedback components (i.e., verbal or video-feedback), or child age. Small-to-medium effects were most consistently observed for medium-term (8-15 sessions) interventions, with no additional benefit observed for longer-term interventions.

Table 5.
Sensitive and responsive parenting summary effect sizes using a random effects model for planned subgroup contrasts.

Subgroup	*k*	SMD	95% CI	I^2	*Q*	*df*	*p*
Parent risk status					7.51	3	.057†
CPS Involved/Maltreating	11	0.437	[0.253; 0.621]	42%			
At risk only	14	0.285	[0.050; 0.520]	64%			
Parent mental health	7	0.290	[-0.131; 0.711]	77%			
Parent substance use	5	0.092	[-0.142; 0.326]	0%			
Non-specific/multiple risk factors	2	0.596	[0.249; 0.944]	0%			
Child age					1.24	1	.265
Infant (<3yrs)	18	0.317	[0.117; 0.517]	62%			
Child (>3ys)	7	0.466	[0.298; 0.634]	5%			
Intervention components					0.58	2	.750
Interaction guidance only	8	0.255	[-0.092; 0.601]	66%			
Interaction guidance + verbal feedback	7	0.414	[0.170; 0.658]	59%			
Interaction guidance + verbal feedback + video feedback	10	0.389	[0.150; 0.629]	51%			
Intervention delivery					0.21	1	.647
Group	6	0.450	[-0.017; 0.917]	78%			
Individual	19	0.335	[0.183; 0.488]	46%			
Intervention length					1.21	2	.546
Short (<8 sessions)	4	0.402	[-0.168; 0.972]	83%			
Medium (8-15 sessions)	18	0.393	[0.230; 0.555]	46%			
Long (>15 sessions)	3	0.127	[-0.322; 0.576]	57%			

Note. † $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$.
Effect size: Small = 0.2; Medium = 0.5; Large = 0.8 (Cohen, 1988).

Child Secure Attachment to Parent

Omnibus test. Nine studies, reporting on 701 participants, reported a treatment effect for child secure attachment to parent. A RE model suggested a significant omnibus effect of RR = 1.45 ($z = 3.19$, $p = .001$) and a 95% confidence interval of 1.15 to 1.82. Using Olivier's (2017) interpretation of relative risk effect sizes, a treatment effect of this magnitude would be

considered small-to-medium in size. A forest plot of the RE omnibus effect is shown in Figure 5.

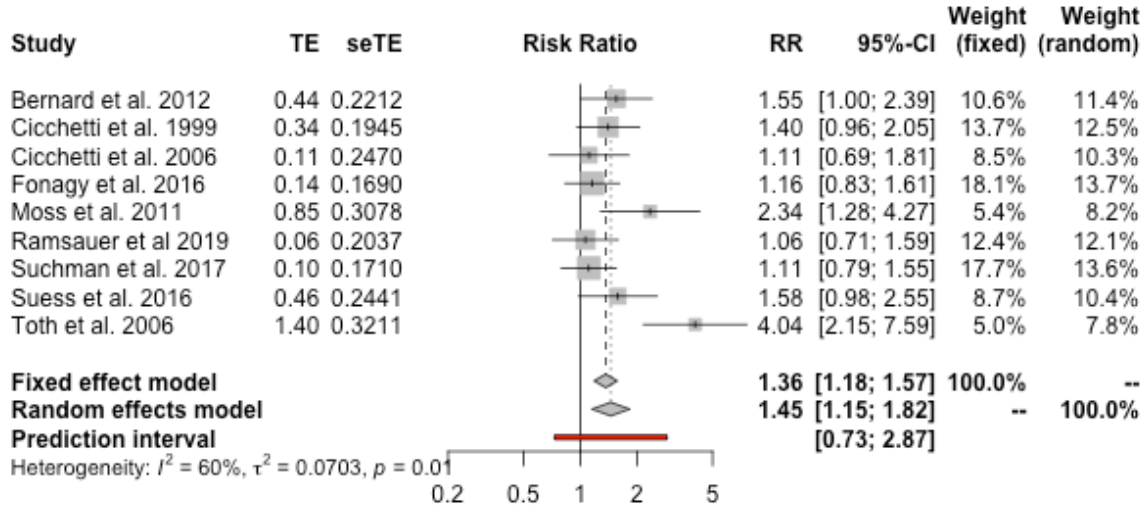


Figure 5. *Forest plot for the relative risk of a secure attachment to parent following an attachment-based parenting intervention compared to comparison groups (k = 9).*

The level of heterogeneity observed among the reported treatment effects for secure attachment to parent was moderate, but acceptable (tau^2= 0.07, I^2= 60%, Q = 19.85, p =.011). This suggests the effects reported in the primary studies are not significantly biased by uncontrolled or confounding variables. The RE model was then subject to further analysis to determine whether the effect was robust to the impact of bias from disproportionately influential studies, methodological quality, and publication bias, which are described below.

Influential studies. A 'leave-one-out' analysis was conducted to identify whether the observed effect was disproportionately affected by one or more influential studies. A forest plot showing the change in effect following exclusion of each study is shown in Figure 6. The 'leave out analysis' suggested the overall effect was being disproportionately influenced by Toth et al. (2006), which when excluded led to a 31% reduction in the observed effect using an RE model and a reduction in observed heterogeneity from I^2= 60% to I^2= 10%. Although Toth et al. (2006) was not observed to be a low-quality study, the degree to which their reported effect was inconsistent with the other effects observed by primary studies, and its large contribution

to heterogeneity, meant it was excluded from subsequent analysis and the omnibus effect was re-calculated using the RE model.

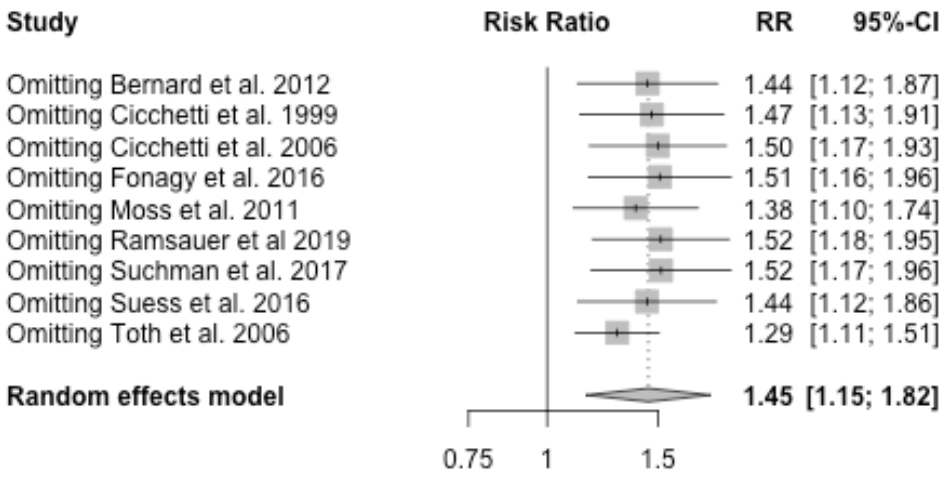


Figure 6. *Forest plot demonstrating the impact of study exclusion on the meta-analytic effect using the RE model.*

The corrected estimate based on the remaining eight studies continued to demonstrate a significant, but reduced, treatment effect for a child's secure attachment to the parent, with a RR = 1.29 (z = 3.28, p =.001) and a 95% confidence interval of 1.11-1.51. Heterogeneity for this corrected effect was low (tau^2=0.005, I^2= 10%, Q = 7.77, p =.35). Using Olivier et al.'s (2017) interpretation of relative risk effect sizes, a treatment effect of this size would suggest a small effect of attachment-based parenting interventions on a child's secure attachment to the participating parent at post-intervention. A treatment effect of this size suggests children are more likely to be securely attached to the participating parent following an attachment-based parenting intervention compared to those in a comparison group at post-intervention.

Quality effects model. The total risk of bias ratings reported in Table 4 were used to calculate the QE model. The QE model reported an omnibus effect of *RR* = 1.36 (95%CI 1.15-1.60). The QE model represents an increase from the RE estimate, suggesting the small observed omnibus effect is robust to the impact of methodological quality.

Publication bias. Given only eight studies were included within the meta-analytic synthesis, it was not possible to use a funnel plot to identify the presence of publication bias as it is likely the power is too low to identity asymmetry in the reported effects. A fail-safe N, calculated using Rosenthal's (1979) method, suggested an additional 34 studies reporting a null effect would however be required to reduce the observed meta-analytic synthesis to non-significance. Given only eight studies measuring secure attachment were identified as meeting the inclusion criteria of this review, it is likely the omnibus effect is robust to potential publication bias.

Planned contrasts. The estimated effects according to subgroup categorical moderators are shown in Table 6 with tests of between-group subgroup differences. No statistically significant differences were observed between subgroups for any of the variables, including intervention feedback components, delivery format or length. Although a significant difference was observed between interventions conducted with parents of children versus parents of infants (children > infants), this was comparing against a subgroup of just one child study effect, and hence is highly vulnerable to error.

Table 6.
Secure attachment to parent summary effect sizes using a random effects model for planned subgroup contrasts.

Subgroup	*k*	RR	95% CI	I^2	*Q*	*df*	*p*
Parent risk status					2.88	2	.237
CPS Involved/Maltreating	4	1.538	[1.199; 1.956]	16%			
Risk factor only	4	1.172	[0.978; 1.401]	0%			
Parent mental health	3	1.199	[0.970; 1.482]	0%			
Parent substance use	1	1.107	[0.792; 1.548]	--			
Child age					3.99	1	.046*
Infant (<3yrs)	7	1.241	[1.069; 1.440]	0%			
Child (>3yrs)	1	2.337	[1.278; 4.272]	--			
Intervention components					1.65	1	.200
Interaction guidance only	4	1.188	[0.987; 1.429]	0%			
Interaction guidance + verbal feedback + video feedback	4	1.496	[1.108; 2.021]	39%			
Intervention delivery					1.04	1	.307
Group	1	1.064	[0.714; 1.586]	--			
Individual	7	1.332	[1.129; 1.573]	11%			
Intervention length					4.52	2	.104
Short (<8 sessions)	1	2.337	[1.278; 4.272]	--			
Medium (8-15 sessions)	3	1.330	[1.046; 1.691]	5.9%			
Long (>15 sessions)	4	1.185	[0.976; 1.439]	0%			

Note. † $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$.
Effect size: Small = 1.22; Medium = 1.86; Large = 3.00 (Olivier et al., 2017).

Parent Reflective Functioning

Omnibus test. Only five studies, including a total of 307 participants, reported a treatment effect for parent reflective functioning. As such, the omnibus effect should be considered preliminary and interpreted with caution given the early stage of the literature. A preliminary RE model does, however, suggest the presence of a significant small-to-medium omnibus effect of $d = 0.33$ ($z = 2.89$, $p = .004$, 95%CI 0.11-0.56), shown in the forest plot in Figure 7.

There was no observed heterogeneity observed among the reported treatment effects for parent reflective functioning ($tau^2 = 0.00$, $I^2 = 0\%$, $Q = 3.71$, $p = .446$), suggesting the effects reported in the primary studies are not significantly biased by uncontrolled or confounding variables. However, due to the small number of studies included in the calculation of the summary effect, the effect cannot be explored further regarding its robustness to influential studies, publication bias, methodological quality, or influence of moderator variables.

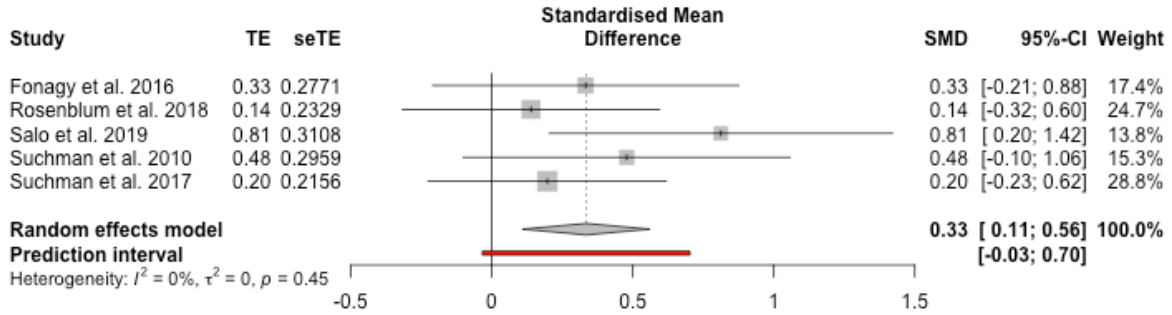


Figure 7. *Forest plot of standardised mean difference for parent reflective functioning treatment outcomes from attachment-based parenting interventions compared to comparison groups (k = 5).*

Parent Depression

Seventeen comparisons across sixteen studies, reporting on a total of 1,056 participants, reported a treatment effect for parent depression. A RE model was calculated using the generic inverse variance method, which is presented in the forest plot in Figure 8. The RE model indicated a non-significant omnibus effect of d = 0.03 (z = 0.33, p =.742) and a 95% CI of between -0.14 and 0.20. Heterogeneity was low, and within the acceptable range (tau^2= 0.054, I^2= 46%, p =.021). A treatment effect of this size would suggest attachment-based parenting interventions have no effect, beneficial or detrimental, on parent symptoms of depression. Tests of attrition to risk of bias, attenuation of the treatment effect, and subgroup analysis using categorical moderators are presented in Appendix 1C.

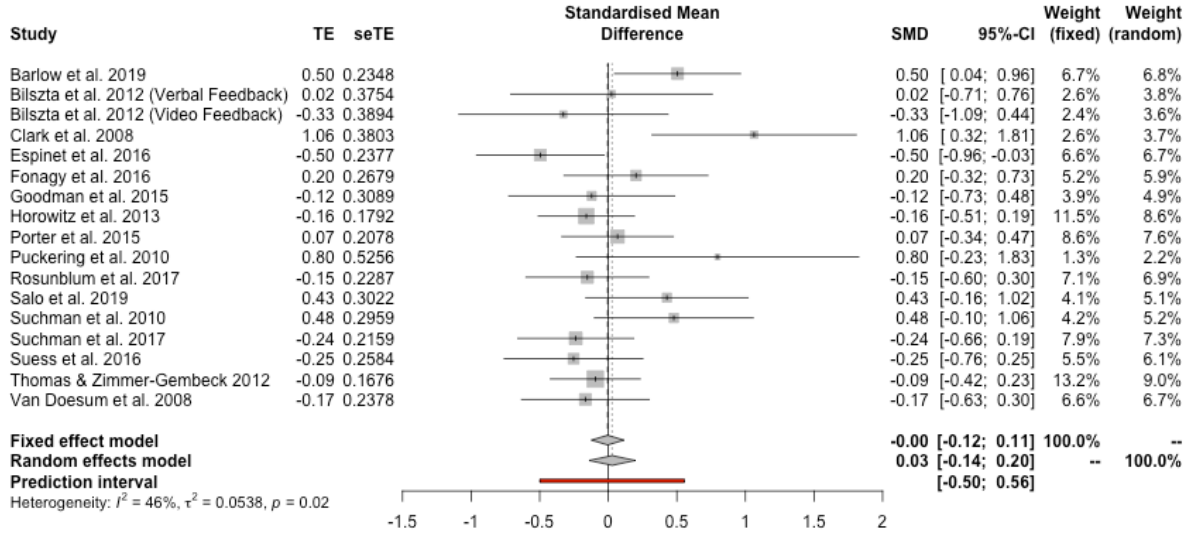


Figure 8. *Forest plot of standardised mean difference for parent depression treatment outcomes from attachment-based parenting interventions compared to comparison groups (k = 17).*

Parenting Stress

Thirteen studies, reporting on a total of 1,064 participants, reported a treatment effect for reduction in parenting stress. A RE model indicated a marginally significant omnibus effect of d = 0.14 (z = 1.96, p =.0499) and a 95% CI of between 0.00 and 0.28. A treatment effect of this magnitude would suggest a very small effect of attachment-based parenting interventions on parenting stress. A forest plot is presented in Figure 9.

Heterogeneity was low and within the acceptable range (tau^2= 0.018, I^2= 31%, p =.14). This suggests the effects reported in the primary studies are not significantly biased by uncontrolled or confounding variables. The RE model was then subject to further analysis to determine whether the effect was robust to the impact of bias from disproportionately influential studies, methodological quality, and publication bias, which are described below.

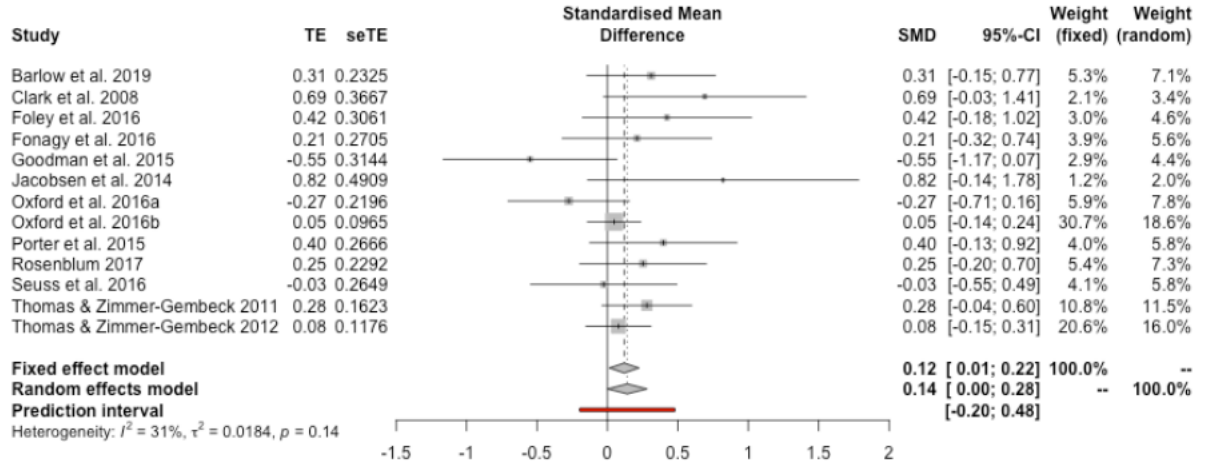


Figure 9. *Forest plot of standardised mean difference for parenting stress treatment outcomes from attachment-based parenting interventions compared to comparison groups (k = 13).*

Influential studies. A 'leave-one-out' analysis was conducted to assess whether the omnibus effect was being disproportionately influenced by one or more influential studies. The 'leave-one-out' analysis, as shown in Figure 10, indicated the overall omnibus effect was robust to the influence of individual studies, as exclusion of no one study led to change in the omnibus effect which would result in qualitatively different conclusions, with the effect remaining in the very small range.

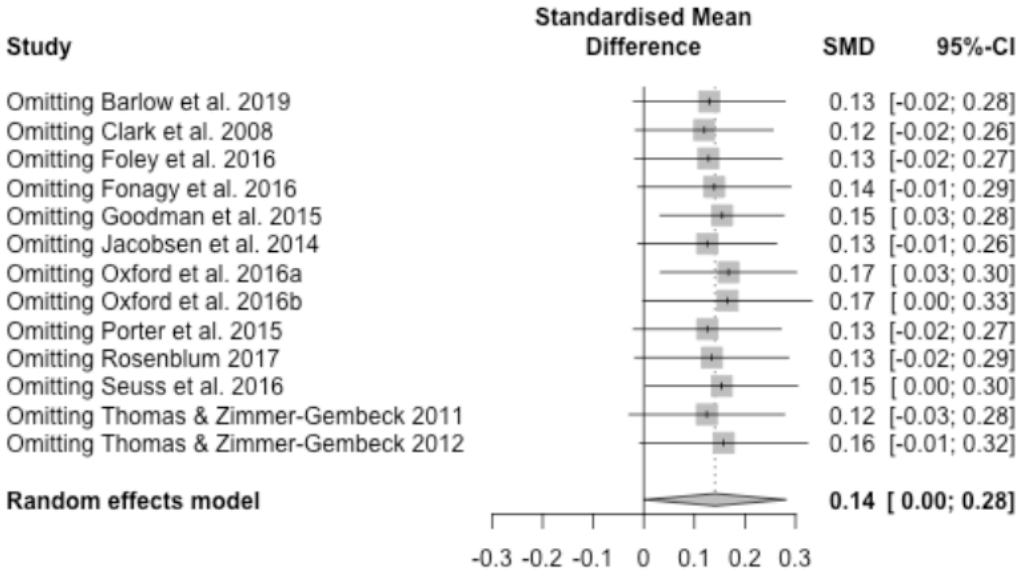


Figure 10. *Forest plot of the results of a 'leave one out', showing the omnibus effect for parenting stress when each study is excluded from analysis.*

Quality effects model. The total risk of bias ratings reported in Table 4 were used to calculate the QE model. The QE model reported an omnibus effect of d = 0.17 (z = 2.07, p =.038, 95%CI 0.01-0.33), which represents a 21% increase from the original RE estimate suggesting the very small observed omnibus effect is robust to the impact of methodological quality, and that an increased effect size would be observed if the methodological quality of studies were improved.

Publication bias. From visual inspection of the funnel plot (Figure 11), an absence of small studies reporting non-significant effects among the primary studies was observed, indicating the presence of possible publication bias. Using the 'trim and fill' procedure (Duval & Tweedie, 2000a; 2000b), three additional 'studies' were added. After correcting for publication bias, a corrected estimate of the treatment effect indicated a reduced effect of d = 0.09 (95%CI -0.05-0.24), suggesting the actual treatment effect may be lower than the original RE estimate.

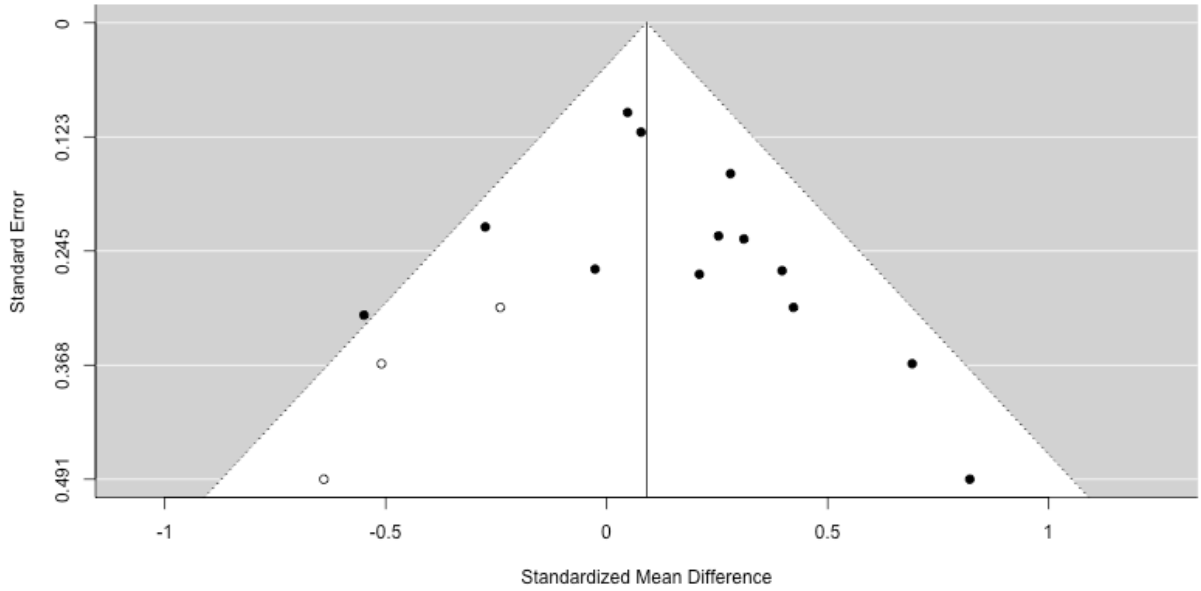


Figure 11. *Funnel plot of primary study effects for parenting stress indicating presence of publication bias. Black markers (k = 13) indicate included primary studies, white markers (k = 3) indicate additional mirrored effects added to control for publication bias.*

A fail-safe N, calculated using Rosenthal's (1979) method, suggested an additional 20 studies reporting a null effect would be required to reduce the observed meta-analytic synthesis to non-significance. This suggests the omnibus effect is not only attenuated by publication bias, but that it is possible the overall significance may not be robust to publication bias.

Planned contrasts. The estimated effects according to subgroup categorical moderators are shown in Table 7 with tests of between-group subgroup differences. A statistically significant difference (Q = 3.95, df = 1, p =.047) was observed between the summary effect sizes of studies evaluating group-based interventions (d = 0.39, 95%CI 0.12-0.67, k = 4) to those evaluating individually delivered interventions (d = 0.07, 95%CI -0.08-0.23, k = 9), with group interventions reporting larger effect sizes. No other statistically significant differences were observed for demographic or intervention characteristics subgroups.

Table 7.
Parenting stress summary effect sizes using a random effects model for planned subgroup contrasts.

Subgroup	*k*	SMD	95% CI	I^2	*Q*	*df*	*p*
Parent risk status					1.36	2	.508
CPS Involved/Maltreating	7	0.095	[-0.057; 0.248]	37%			
At risk only	6	0.219	[-0.062; 0.500]	39%			
Parent mental health	4	0.142	[-0.304; 0.587]	59%			
Parent substance use	2	0.348	[0.004; 0.691]	0%			
Child age					0.68	1	.409
Infant (<3yrs)	4	0.095	[-0.095; 0.285]	38%			
Child (>3yrs)	9	0.212	[0.010; 0.414]	13%			
Intervention components					3.63	2	.168
Interaction guidance only	6	0.208	[-0.079; 0.495]	38%			
Interaction guidance + verbal feedback	4	0.227	[-0.021; 0.434]	18%			
Interaction guidance + verbal feedback + video feedback	3	-0.007	[-0.172; 0.157]	0%			
Intervention delivery					3.95	1	.047*
Group	4	0.391	[0.118; 0.665]	0%			
Individual	9	0.072	[-0.083; 0.227]	33%			
Intervention length					0.99	2	.611
Short (<8 sessions)	1	0.397	[-0.126; 0.919]	--			
Medium (8-15 sessions)	10	0.136	[-0.034; 0.306]	43%			
Long (>15 sessions)	2	0.089	[-0.282; 0.460]	0%			

Note. † $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$.
Effect size: Small = 0.2; Medium = 0.5; Large = 0.8 (Cohen, 1988).

Child Emotional and Behavioural Difficulties

Omnibus test. Overall 11 studies, reporting on a total of 966 participants, reported a treatment effect for child emotional and behavioural difficulties. A RE model was calculated using the generic inverse variance method, which is presented in the forest plot in Figure 12. The RE model indicated a non-significant omnibus effect of $d = 0.11$ ($z = 1.53$, $p = .127$) and a 95% CI of between -0.03 and 0.25. Heterogeneity among primary study effects was low ($tau^2 = 0.005$, $I^2 = 10\%$, $p = .35$). A treatment effect of this size would suggest attachment-based parenting interventions have no effect, or a trivial effect at most, on child emotional and behavioural difficulties at post-intervention compared with comparison groups. Tests of attrition to risk of bias, attenuation of the treatment effect, and subgroup analysis using categorical moderators are presented in Appendix 1D.

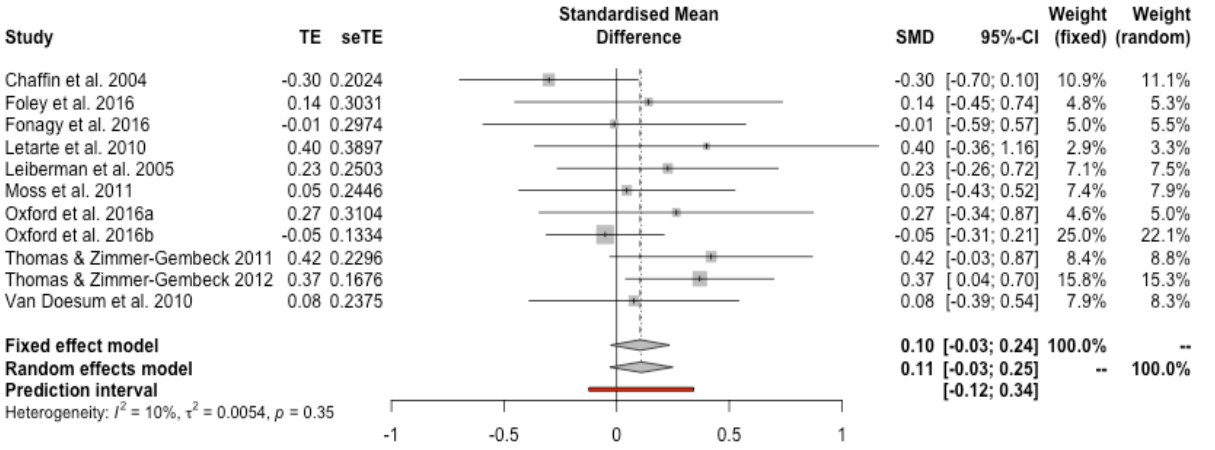


Figure 12. *Forest plot of standardised mean difference for child emotional and behavioural difficulties treatment outcomes from attachment-based parenting interventions compared to comparison groups (k = 11).*

Discussion

Summary of Findings

This review aimed to evaluate attachment-focused and psychosocial outcomes of attachment-based parenting interventions when delivered to parents demonstrating a high risk of child maltreatment or neglect. The current review identified 37 studies, stemming from 1999 to 2019, and involved a large number (n = 2,718) of child-parent dyads, with the findings indicating that attachment-based parenting interventions are effective at improving attachment-focused outcomes for parents at high risk of child maltreatment or neglect, relative to comparison groups. The overall findings show these interventions increased parents' capacity for sensitive parenting and also increased the likelihood of a child secure attachment post-intervention, finding small-to-medium effects. While attachment-focused outcomes were encouraging, attachment-based parenting interventions showed little to no effect on parent or child psychosocial outcomes. Only a very small effect was identified for parenting stress, which was observed to be highly vulnerable to publication bias, and no significant effects were observed for parent depression or child emotional and behavioural difficulties.

For sensitive parenting outcomes, the observed small-to-medium effect size is comparable with the findings of previous reviews of attachment-based parenting interventions with general parent populations, including low-risk parents (Bakermans-Kranenburg et al., 2003; Rayce et al., 2017). For example, the current review's observed effect of d = 0.36 (95%CI 0.20-0.51, k = 25) on sensitive parenting is comparable to Bakermans-Kranenburg et al.'s (2003) observed effect of d = 0.33 (95%CI 0.25-0.41, k = 51) across all parent populations (i.e., including low-risk), and marginally lower than Rayce et al.'s (2017) observed effect of d = 0.46 (95%CI 0.26-0.65, k = 5) for parents demonstrating demographic (e.g., socioeconomic status) risk factors with 0-12 month-old infants. Thus, the findings of this review would suggest attachment-based parenting interventions demonstrate comparable sensitive parenting

outcomes for parents at high risk of child maltreatment or neglect as have been demonstrated for lower-risk parents.

This review also identified a small effect of attachment-based parenting interventions on child secure attachment, with a RR = 1.29 (95%CI 1.11-1.51, *k* = 8). This can be interpreted as attachment-based parenting interventions resulting in approximately 29% more children being categorised as securely attached to their parent at post-intervention compared to children of parents in comparison groups. Previous reviews have not generally used relative risk as means to estimate the effect of parenting interventions on attachment classification (Bakermans-Kranenburg et al., 2005; Facompré et al., 2018; Wright & Edginton, 2016), with a previous meta-analysis by Bakermans-Kranenburg et al. (2005) reporting a *d* = 0.26 (95%CI 0.07-0.46, *k* = 5) for sensitivity-focused (i.e., aiming to increase parental sensitive responsiveness) interventions among parents of all risk levels (i.e., low, medium and high-risk). Bakermans-Kranenburg et al.'s effect would also correspond to a small effect size, however, given attachment is generally measured as a categorical variable, Bakermans-Kranenburg et al.'s report of a cohen's *d* is difficult to accurately interpret in real terms or directly compare to the effect observed in this review. Nevertheless, similar to sensitive parenting outcomes, the findings of this review would suggest attachment-based parenting interventions have a comparable impact on the attachment of children of high-risk parents at post-intervention as the children of lower-risk parents.

Due to the small number (*k* = 5) of studies measuring parent reflective functioning, the small-to-medium meta-analytic effect observed for this outcome should be interpreted cautiously, particularly as three of the five studies reporting an effect explicitly described their interventions as 'mentalisation-based' (Salo et al., 2019; Suchman et al., 2010; Suchman et al., 2017). Reflective functioning as a construct is derived from the psychodynamic concept of mentalisation (Fonagy et al., 2002; Katznelson, 2014), and refers to a parent's capacity to

understand and hold a child's mental state in mind (Fonagy et al., 2002; Luyten et al., 2020; Slade, 2005). The limited reporting of parent reflective functioning outcomes among primary studies may be, in part, due to reflective functioning representing a comparatively new construct in the attachment literature relative to the history of attachment theory (Katznelson, 2014; Luyten et al., 2020; Slade, 2005). However, research has increasingly suggested reflective functioning is an important antecedent to the formation of a secure child-caregiver attachment (Zeegers et al., 2017), with poor parent reflective functioning potentially representing a key factor explaining the intergenerational transmission of insecure attachments (Berthelot et al., 2015; Ensink et al. 2016; Ensink et al., 2019; Fonagy & Target, 2005). Consequently, future research evaluating attachment-based interventions, particularly among high-risk parents who may have insecure attachments themselves, would benefit from measuring changes in reflective functioning to better estimate the effect attachment-based interventions have on this outcome.

Similar to Rayce et al.'s (2017) finding, this review also identified no effect of attachment-based parenting interventions on child emotional and behavioural difficulties, which potentially represents the outcome of most interest when determining the overall value of attachment-based interventions. Although this meta-analysis' finding of a positive small-to-medium effect on attachment-focused outcomes is encouraging, it is important to note that these attachment-focused outcomes reflect process-related outcomes. The overall aim of delivering an attachment-based intervention to high-risk populations is preventative for the child (Berlin et al., 2008), aiming to promote a secure child-parent attachment (Bakermans-Kranenburg et al., 2005) to prevent the potentially detrimental long-term psychological and behavioural consequences associated with insecure or disorganised attachments (Sutton, 2019; van Ijzendoorn et al., 1999). Until research can demonstrate that attachment-based parenting interventions not only increase the likelihood of a secure child-parent attachment, but that this secure attachment then translates to improved long-term psychosocial outcomes for the child,

it cannot yet be determined whether attachment-based interventions are having the intended preventative effect among high-risk populations.

The lack of a positive outcome for child emotional and behavioural difficulties, and indeed the small effect identified for an increased likelihood of a secure child-parent attachment, may be a consequence of the limited follow-ups conducted by the majority of included studies. Although a small number of studies (n = 10; 27%) did conduct a longer-term follow-up beyond initial post-intervention outcomes, the inconsistent follow-up duration (e.g., 6 weeks to 24 months) across studies and outcomes, and the insufficient number of studies at each follow-up point, meant a meaningful meta-analysis of longer-term outcomes was not possible for any outcome. According to attachment theory principles, consistent sensitive responding from the parent *over time* is required to develop a secure child-parent attachment (Sutton, 2019; van der Voort et al., 2014). Consequently, while interventions may increase capacity for sensitive parenting within the intervention period, changes to attachment classification and improvements in child psychosocial functioning may take longer to emerge (Sherman et al., 2015; Sutton, 2019). Furthermore, these changes would likely be dependent on sensitive parenting improvements being maintained and supported over the long term (Sherman et al., 2015). The limitations in the designs of existing research, however, mean it is not yet possible to conclude whether observed changes to parenting sensitivity are sustained long-term, nor accurately determine the longer-term impact this has on child attachment and psychosocial functioning.

Potential Moderating Variables

All outcome effects were investigated for the impact of potential moderator variables, including the impact of parent risk factors, child age, interaction feedback components, intervention delivery format, and intervention length. Only one significant subgroup difference was identified across all outcomes, with group interventions leading to greater reductions in

parenting stress compared to individually delivered interventions. All other subgroup comparisons were non-significant, suggesting they do not significantly influence the outcomes of attachment-based parenting interventions for high-risk parents. However, as the number of studies contributing to each subgroup was generally small, the power to detect subgroup differences may be limited, and further influential moderator variables may emerge as quantity of research increases.

The absence of group differences in interaction feedback components or intervention length is contrary to the findings of reviews by Bakermans-Kranenburg et al. (2003; 2005). Their reviews, which included parents of all risk levels, suggested that for attachment-focused outcomes, shorter interventions were more effective than longer interventions (d = 0.42 vs. d = 0.21) and that interventions incorporating video-feedback on parent-child interactions were more effective than those that did not (d = 0.44 vs. d = 0.30; Bakermans-Kranenburg et al., 2003; Bakermans-Kranenburg et al., 2005). However, the findings of this review suggest that, for parents at high risk of maltreatment or neglect, intervention length and feedback components do not significantly affect these outcomes.

Regarding parenting stress, group-based attachment-based parenting interventions were observed to be superior to individual interventions. While group interventions demonstrated a small-to-medium effect on parenting stress (d = 0.39, 95%CI 0.12-0.67), individual interventions showed no significant effect on this outcome (d = 0.07, 95%CI -0.08-0.23). Although the effect is derived from only four moderate quality studies evaluating group-based interventions (Clark et al., 2008; Foley et al., 2016; Porter et al., 2015; Rosenblum et al., 2017), the effect sizes of these four studies were consistent, with no observed heterogeneity. Reasons for this finding are unclear, and to date, there has not been any research explicitly comparing group and individual interventions to reduce parent stress. Although speculative, it is possible this finding could be explained by the common therapeutic factors of group interventions

(Laska et al., 2014; Wampold, 2015), such as the increased opportunities for peer support and problem normalisation potentially offered within a group context (Butler et al., 2020; Vella et al., 2015; Wilkerson et al., 2019). Future research into the therapeutic factors contributing to this finding would be useful, allowing for increased understanding of the interventions or support that would benefit parents where parenting stress is a presenting issue.

Strengths and Limitations

This review is strengthened by its focused inclusion criteria, focusing on the effectiveness of attachment-focused interventions with parents already involved in child protective services, demonstrating maltreatment, or demonstrating risk factors shown to increase the risk of child maltreatment. Although other reviews have been conducted in this area (Bakermans-Kranenburg et al., 2003; Bakermans-Kranenburg et al., 2005; Chen & Chan, 2016; Facompré et al., 2018; Rayce et al., 2017), aside from Facompré et al. (2018), these have either not specifically evaluated high-risk parent groups, or not focused on attachment-based interventions. It is acknowledged, however, that although the "toxic trio" definition is frequently used within UK child protection, defining "high risk" in this way does exclude parent populations presenting with other risk factors (e.g., poverty) for child maltreatment or neglect (Simon & Brooks, 2017; Skinner et al., 2020), which are not explicitly evaluated in this meta-analysis.

This review has further strength through only including studies comparing intervention groups against a comparison group. Although inclusion was not restricted to RCTs, 32 of the 37 included studies (87%) used an RCT design, reducing the potential impact of selection bias on the findings. Heterogeneity was also within the acceptable range for all outcomes, suggesting the observed effects were not significantly biased by uncontrolled or confounding variables. Furthermore, this is the first review in the area to include an estimate of attrition due to

methodological quality within the meta-analytic synthesis through the use of the quality effects model, alongside a systematic evaluation of methodological bias.

While the review can draw some conclusions regarding the outcomes at post-intervention, this review cannot make conclusions relating to the long-term efficacy of these interventions. This is due to methodological limitations of the included studies, which often (*n* = 27; 73%) did not include longer-term outcome follow-up within their design. Similarly, this meta-analysis only evaluated child outcomes in terms of emotional and behavioural difficulties, and hence is limited in its ability to make conclusions regarding the wider impacts of attachment-based interventions on children. Recent studies have measured other domains of child functioning, including child cortisol production and cognitive development alongside social-emotional functioning (e.g., Attachment and Biobehavioural Catch-up; Bernard et al., 2015). Currently, however, the measurement of these outcomes across studies of high-risk parents is limited, and hence does not allow for a meaningful meta-analysis. As the literature develops in future, it will be important to establish the impact on these outcomes to better understand the preventative impact of these interventions for children.

Although the inclusion criteria allowed for the inclusion of unpublished "grey literature", such as doctoral dissertations, databases of these sources were not systematically searched. Hence, it is likely there are relevant unpublished studies which were not identified and not included within the meta-analytic synthesis. The potential impact of publication bias was, however, estimated through funnel plots, the "trim and fill" procedure (Duval & Tweedie, 2000a; 2000b), and calculation of a fail-safe N (Rosenthal, 1979) for each outcome.

Implications for Parents and Service Providers

Although this review cannot make conclusions regarding the long-term efficacy and outcomes of attachment-based parenting interventions for high-risk parents, it does support their use with high-risk parents where there is a need to improve parental sensitivity or child

attachment security. However, they should not be used, as a primary focus, to improve parent psychosocial functioning, and other interventions should be offered to address these needs if present. Indeed, the parents and children included within this review are likely to represent families with multiple complex needs requiring holistic support, of which an attachment-based intervention may form part (Simon & Brooks, 2017). Where additional needs are not addressed, and a parent continues to demonstrate difficulties (e.g., depression, stress, substance use) that increase the risk of insensitive or problematic parenting, this will likely impact upon the parent's ability to sustain any positive changes gained through intervention (Wamser-Nanney & Campbell, 2020).

From a service provider perspective, there is currently no evidence to support the view that long-term interventions are required to achieve post-intervention changes in parental sensitivity or child attachment, and medium length interventions (8-15 sessions) are likely to be sufficient. This conclusion is, however, derived from post-intervention outcomes only, and it cannot yet be evaluated which interventions are most effective at producing sustained changes in parenting behaviours, and hence long-term improvements in child outcomes. Furthermore, for the high-risk parents included within this review, the evidence does not suggest interventions incorporating video-feedback are significantly more effective than those that do not. This finding is contrary to current UK NICE guidelines for intervening with children on the edge of care or at risk of attachment difficulties, which recommend video-feedback interventions (NICE, 2015), and hence may have implications for the range of effective interventions that can be offered by services unable to widely offer resource-intensive video-feedback interventions. Finally, although a trend towards smaller effects for attachment-focused outcomes was identified for parents with substance use problems, at present, the available evidence does not currently suggest attachment-based parenting interventions are significantly more or less effective for certain high-risk parent or child groups than others.

Directions for Future Research

Despite the reasonably large number of studies evaluating attachment-based parenting interventions, conclusions regarding effectiveness, usefulness as a preventative approach, and understanding of mechanisms of action were limited by an inconsistent approach to outcome measurement and long-term follow-up. For example, despite all 37 studies evaluating an attachment-based intervention, only nine studies measured the impact on or association with child attachment classification.

Future research evaluating attachment-based parenting interventions would benefit from greater consistency in the constructs measured as outcomes, and follow-up. Specifically, it is recommended future research includes pre, post, and long-term follow-up data for measures of parental sensitivity, reflective functioning, child attachment classification, and child psychosocial functioning as a minimum. These methodological improvements may allow for firmer conclusions regarding the mechanism of action, maintenance of outcomes, and also the preventative impact of attachment-based parenting interventions for the children of high-risk parents.

There is also a need for research into the effectiveness of attachment-based parenting interventions with fathers (Barker et al., 2017). The studies meeting this review's inclusion criteria almost exclusively recruited mothers, with 27 of the 37 studies only including mothers in their sample, while a further 4 studies had samples with >90% mothers. This focus on intervening with mothers is despite evidence showing fathers often take a primary caregiver role and that their sensitivity also influences a child's attachment security and functioning (Barker et al., 2017; Brown et al., 2012). At present, given the focus on mothers and use of gendered interventions (e.g., "mom power"; Rosenblum et al., 2017), it may be inappropriate to generalise the findings of this review to fathers.

Conclusions

From the studies included within this meta-analysis, the evidence suggests attachment-based parenting interventions are likely to benefit parents at high risk of child maltreatment or neglect through improving their parental sensitivity and increasing the likelihood of a secure child-parent attachment, thereby reducing child vulnerability. Existing evidence suggests attachment-based interventions are not effective at improving parent psychosocial functioning. However, methodological limitations of the existing literature mean conclusions cannot yet be drawn as to the long-term efficacy of these interventions, and their potential preventative effect of improving child psychosocial outcomes.

References

Primary studies included within the meta-analysis are indicated with a (*).

Ainsworth, M. D. S., Blehar, M. C., Walters, E., & Wall, S. (1978). *Patterns of attachment: A psychological study of the strange situation.* Hillsdale, NJ: Erlbaum.

Ayers, S., Bond, R., Webb, R., Miller, P., & Bateson, K. (2019). Perinatal mental health and risk of childhood maltreatment: A systematic review and meta-analysis. *Child Abuse and Neglect, 98,* 104172. https://doi.org/10.1016/j.chiabu.2019.104172

Baer, J. C., & Martinez, C. D. (2006). Child maltreatment and insecure attachment: A meta-analysis. *Journal of Reproductive and Infant Psychology*, *24*(3), 187-197. https://doi.org/10.1080/02646830600821231

Bakermans-Kranenburg, M. J., Van Ijzendoorn, M. H., & Juffer, F. (2003). Less is more: meta-analyses of sensitivity and attachment interventions in early childhood. *Psychological Bulletin, 129*(2), 195-215. https://doi.org/10.1037/0033-2909.129.2.195

Bakermans-Kranenburg, M. J., Van IJzendoorn, M. H., & Juffer, F. (2005). Disorganized infant attachment and preventive interventions: A review and meta-analysis. *Infant Mental Health Journal, 26*(3), 191-216. https://doi.org/10.1002/imhj.20046

Barker, B., Illes, J. E., & Ramchandani, P. G. (2017). Fathers, fathering and child psychopathology. *Current Opinion in Psychology, 15,* 87-92. http://doi.org/10.1016/j.copsyc.2017.02.015

*Barlow, J., Sembi, S., Parsons, H., Kim, S., Petrou, S. & Harnett, P. (2019). A randomised controlled trial and economic evaluation of the Parents Under Pressure program for parents in substance abuse treatment. *Drug and Alcohol Dependence, 194,* 184-194. https://doi.org/10.1016/j.drugalcdep.2018.08.044

Baujat, B., Mahe, C., Pignon, J. P., & Hill, C. (2002). A graphical method for exploring heterogeneity in meta-analyses: Application to a meta-analysis of 65 trials. *Statistics in Medicine, 21*(18), 2641-2652. https://doi.org/10.1002/sim.1221

Berlin, L. J., Zeanah, C. H., & Lieberman, A. F. (2008). Prevention and intervention programs for supporting early attachment security. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications* (p. 745–761). The Guilford Press.

*Berlin, L. J., Shanahan, M., & Appleyard-Carmody, K. (2014). Promoting supportive parenting in new mothers with substance use problems: A pilot randomized trial of residential treatment plus an attachment-based parenting program. *Infant Mental Health Journal, 35*(1), 81-85. https://doi.org/10.1002/imhj.21427

*Bernard, K., Dozier, M., Bick, J., Lewis-Morrarty, E., Lindhiem, O., & Carlson, E. (2012). Enhancing attachment organisation among maltreated children: Results of a randomized clinical trial. *Child Development, 83*(2), 623-636. https://doi.org/10.1111/j.1467-8624.2011.01712.x

*Bernard, K., Simons, R., & Dozier, M. (2015). Effects of an attachment-based intervention on CPS-referred mothers' event-related potentials to children's emotions. *Child Development, 86(*6), 1673-1684. https://doi.org/10.1111/cdev.12418

Berthelot, N., Ensink, K., Bernazzani, O., Normandin, L., Luyten, P., & Fonagy, P. (2015) Intergenerational transmission of attachment in abused and neglected mothers: the role of trauma-specific reflective functioning. *Infant Mental Health Journal, 36*(2), 200-212. https://doi.org/10.1002/imhj.21499

*Bilszta, J. L. C., Buist, A. E., Wang, F., Zulkefli, N. R. (2012). Use of video feedback intervention in an inpatient perinatal psychiatric setting to improve maternal parenting.

Achives of Women's Mental Health, 15, 249-257. https://doi.org/10.1007/s00737-012-0283-1

Bowlby, J. (1969). *Attachment and loss (Vol 1.): Attachment*. New York, NY: Basic Books.

Bowlby, J. (1988). *A secure base: Parent-child attachment and healthy development.* London, UK: Routledge.

Borenstein, M. (Ed.). (2009). *Complex Data Structures. In Introduction to meta-analysis.* Chichester, U.K: John Wiley & Sons.

Brandon, M., Belderson, P., Warren, C., Howe, D., Gardner, R., Dodsworth, J., & Black, J. (2008). *Analysing child deaths and serious injury through abuse and neglect: What can we learn? A biennial analysis of serious case reviews 2003–2005.* London, UK: Department for Children, Schools and Families.

Brandon, M., Sidebotham, P., Bailey, S., Belderson, P., Hawley, C., Ellis, C., & Megson, M. (2012). *New learning from serious case reviews.* London, UK: Department for Education.

Brown, G. L., Mangelsdorf, S. C., & Neff, C. (2012). Father involvement, paternal sensitivity, and father−child attachment security in the first 3 years. *Journal of Family Psychology, 26*(3), 421–430. https://doi.org/10.1037/a0027836

Butler, J, Gregg, L., Calam, R. & Wittkowski, A. (2020). Parents' perceptions and experiences of parenting programmes: A systematic review and metasynthesis of qualitative literature. *Clinical Child and Family Psychology Review, 23,* 176-204. https://doi.org/10.1007/s10567-019-00307-y

Carr, A., Duff, H., Craddock, F. (2018). A systematic review of reviews of the outcome of non-institutional child maltreatment. *Trauma, Violence and Abuse.* https://doi.org/10.1177/1524838018801334

Cassidy, J., Jones, J. D., & Shaver, P. R. (2013). Contributions of attachment theory and research: A framework for future research, translation, and policy. *Development and Psychopathology, 25,* 1415-1434. https://doi.org/10.1017/S0954579413000692

*Chaffin, M., Silovsky, J. F., Funderburk, B., Valle, L. A., Brestan, E. V., Balachova, T., … & Bonner, B. L. (2004). Parent-child interaction therapy with physically abusive parents: Efficacy for reducing future abuse reports. *Journal of Consulting and Clinical Psychology, 72*(3), 500-510. https://doi.org/10.1037/0022-006X.72.3.500

*Chaffin, M., Funderburk, B., Bard, D., Valle, L. A., & Gurwitch, R. (2011). A combined motivation and parent-child interaction therapy package reduces child welfare recidivism in a randomized dismantling field trial. *Journal of Consulting and Clinical Psychology, 79*(1), 84-95. https://doi.org/10.1037/a0021227

Chen, M., & Chan, K. L. (2016). Effects of parenting programs on child maltreatment prevention: A meta-analysis. *Trauma, Violence, and Abuse, 17*(1), 88-104. http://doi.org/10.1177/1524838014566718

*Cicchetti, D., Toth, S. E., & Rogosch, (1999). The efficacy of toddler-parent psychotherapy to increase attachment security in offspring of depressed mothers. *Attachment and Human Development, 1*(1), 34-66. https://doi.org/10.1080/14616739900134021

*Cicchetti, D., Toth, S. E., & Rogosch, (2006). Fostering secure attachment in infants in maltreating families through preventative interventions. *Development and Psychopathology, 18*, 623-649. https://doi.org/10.1017/s0954579406060329

*Clark, R., Tluczek, A., & Brown, R. (2008). A mother-infant therapy group model for postpartum depression. *Infant Mental Health Journal, 29*(5), 514-536. https://doi.org/10.1002/imhj.20189

Cleaver, H., Unell, I., & Aldgate, J. (2011). *Children's needs – Parenting capacity. Child abuse: parental mental illness, learning disability, substance misuse and domestic violence (2nd Edition).* London, UK: The Stationary Office.

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences (2nd ed.).* Hillsdale, NJ: Lawrence Erlbaum.

Cohen, L. J., Ardalan, F., Tanis, T., Halmi, W., Galynker, I., von Wyl, A., & Hengartner, M. P. (2016). Attachment anxiety and avoidance as mediators of the association between childhood maltreatment and adult personality dysfunction. *Attachment and Human Development, 19(*1), 58-75. https://doi.org/10.1080/14616734.2016.1253639

Conti, G., Morris, S., Melnychuk, M., & Pizzo, E. (2017). *The economic costs of child maltreatment in the UK.* London, UK: NSPCC.

Cyr, C., Euser, E. M., Bakermans-Kranenburg, M. J., & Van Ijzendoorn, M. H. (2010). Attachment security and disorganization in maltreating and high-risk families: A series of meta-analyses. *Development and Psychopathology*, *22*(1), 87-108. https://doi.org/10.1017/S0954579409990289

De Falco, S., Emer, A., Martini, L., Rigo, P., Pruner, S., & Venuti, P. (2014). Predictors of mother–child interaction quality and child attachment security in at-risk families. *Frontiers in Psychology*, *5*, 898. https://doi.org/10.3389/fpsyg.2014.00898

DerSimonian, R., & Laird, N. (1986). Meta-analysis in clinical trials. *Controlled Clinical Trials, 7*(3), 177–188. https://doi.org/10.1016/0197-2456(86)90046-2

Duval, S., & Tweedie, R. (2000a), A nonparametric "Trim and Fill" method of accounting for publication bias in meta-analysis. *Journal of the American Statistical Association, 95,* 89-98. https://doi.org/10.1080/01621459.2000.10473905

Duval, S., & Tweedie R (2000b), Trim and fill: A simple funnel-plot-based method of testing and adjusting for publication bias in meta-analysis. *Biometrics, 56,* 455-463. https://doi.org/10.1111/j.0006-341x.2000.00455.x

Ensink, K., Normandin, L., Plamondon, A., Berthelot, N., & Fonagy, P. (2016). Intergenerational pathways from reflective functioning to infant attachment through parenting. *Canadian Journal of Behavioural Science, 48*(1), 9-18. https://doi.org/10.1037/cbs0000030

Ensink, K., Borelli, J. L., Roy, J., Normandin, L., Slade, A., & Fonagy, P. (2019). Costs of not getting to know you: Lower levels of parental reflective functioning confer risk for maternal insensitivity and insecure infant attachment. *Infancy, 24(*2), 210-227. https://doi.org/10.1111/infa.12263

*Espinet, S. D., Motz, M., Jeong, J. J., Jenkin, J. M., & Pepler, D. (2016). 'Breaking the Cycle' of maternal substance use through relationships: A comparison of integrated approaches. *Addiction Research and Theory, 24*(5), 375-388. https://doi.org/10.3109/16066359.2016.1140148

Facompré, C., Bernard, K., & Waters, T. (2018). Effectiveness of interventions in preventing disorganized attachment: A meta-analysis. *Development and Psychopathology, 30*(1), 1-11. doi:10.1017/S0954579417000426

*Foley, K., McNeil, C. B., Normal, M., & Wallace, N. M. (2016). Effectiveness of group format parent-child interaction therapy compared to treatment as usual in a community outreach organisation. *Child and Family Behavior Therapy, 38*(4), 279-298. https://doi.org/10.1080/07317107.2016.1238688

*Fonagy, P., Sleed, M., & Baradon, T. (2016). Randomized controlled trial of parent-infant psychotherapy for parents with mental health problems and young infants. *Infant Mental Health Journal, 37*(2), 97-114. https://doi.org/10.1002/imhj.21553

Fuller-Thomson, E., Sawyer, J-L., & Agbeyaka, S. (2019). The toxic triad: Child exposure to parental domestic violence, parental addictions, and parental mental illness as factors associated with childhood physical abuse. *Journal of Interpersonal Violence.* Advance online publication. https://doi.org/10.1177/0886260519853407

Fuller-Thomson, E. & Agbeyaka, S. (2020). A trio of risk factors for childhood sexual abuse: Investigating exposure to parental domestic violence, parental addition, and parental mental illness as correlates of child sexual abuse. *Social Work, 65*(3), 266-277. https://doi.org/10.1093/sw/swaa019

Gander, M., Bruchheim, A., Bock, A., Steppan, M., Sevecke, K., & Goth, K. (2020). Unresolved attachment mediates the relationship between childhood trauma and impaired personality functioning in adolescence. *Journal of Personality Disorder, 0*(0), 1-20. https://doi.org/10.1521/pedi_2020_34_468

Gilbert, R., Widom, C. S., Browne, K., Fergusson, D., Webb, E., & Janson, S. (2009). Burden and consequences of child maltreatment in high-income countries. *The Lancet, 373,* 68-81. https://doi.org/10.1016/S0140-6736(08)61706-7

*Goodman, J. H., Parger, J., Goldstein, R., & Freeman, M. (2015). Perinatal dyadic psychotherapy for postpartum depression: A randomized controlled pilot trial. *Archives of Women's Mental Health, 18*, 493-506. https://doi.org/10.1007/s00737-014-0483-y

Groh, A. M., Pasco Fearon, R. M., van Ijzendoorn, M. H., Bakermans-Kranenburg, M. J. (2017). Attachment in the early life course: Meta-analytic evidence for its role in socioemotional development. *Child Development Perspectives, 11*(1), 70-76. https://doi.org/10.1111/cdep.12213

Higgins. J, P., Thompson, S. G., Deeks, J.J., & Altman, D. G. (2003). Measuring inconsistency in meta-analyses. *British Medical Journal, 327,* 557–560. https://doi.org/10.1136/bmj.327.7414.557.

*Horowitz, J, A, Murphy, C. A., Gregory, K., Wojcik, J., Pulcini, J., & Solon, L. (2013). Nurse home visits improve maternal-infant interaction and decrease severity of postpartum depression. *Journal of Obstetrics, Gynaecology and Neonatal Nursing, 42*(3), 287-300. https://doi.org/10.1111/1552-6909.12038

*Hughes, J. R., & Gottlieb, L. N. (2004). The effects of the Webster-Stratton parenting program on maltreating families: Fostering strengths. *Child Abuse and Neglect, 28,* 1081-1097. https://doi.org/10.1016/j.chiabu.2004.02.004

*Jacobsen, S, L., McKinney, C. H., & Holck, U. (2014). Effects of dyadic music therapy intervention on parent-child interaction, parent stress, and parent-child relationship in families with emotionally neglected children: A randomized controlled trial. *Journal of Music Therapy, 51*(4), 310-322. https://doi.org/10.1093/jmt/thu028

Kaiser, T., Li, J., Pollmann-Schult, M., & Song, A. Y. (2017). Poverty and child behavioural problems: The mediating role of parenting and parent well-being. *International Journal of Environmental Research and Public Health, 14,* 981. https://doi.org/10.3390/ijerph14090981

Katznelson, H. (2014). Reflective functioning: A review. *Clinical psychology review*, *34*(2), 107-117. https://doi.org/10.1016/j.cpr.2013.12.003

*Kersten-Alvarez, L. E, Hosman, C. M., Riksen-Walraven, J. M., Van Doesum, K. T., Hoefnagels, C. (2010). Long-term effects of a home-visiting intervention for depressed mothers and their infants. *Journal of Child Psychology and Psychiatry. 51*(10), 1160-1170. doi:10.1111/j.1469-7610.2010.02268.x

Laska, K. M., Gurman, A. S., & Wampold, B. E. (2014). Expanding the lens of evidence-based practice in psychotherapy: A common factors perspective. *Psychotherapy, 51*(4), 467-481. https://doi.org/10.1037/a0034332

*Letarte, M., Normandeau, S., & Allard, J. (2010). Effectiveness of a parent training program "Incredible Years" in a child protection service. *Child Abuse and Neglect, 34,* 253-261. https://doi.org/10.1016/j.chiabu.2009.06.003

*Lieberman, A. F., Van Horn, P., & Ippen, C. G. (2005). Towards evidence-based treatment: Child-parent psychotherapy with pre-schoolers exposed to marital violence. *Journal of the American Academy of Child and Adolescent Psychiatry, 44*(12), 1241-1248. https://doi.org/10.1097/01.chi.0000181047.59702.58

Lowell, A., Renk, K., & Adgate, A. H. (2014). The role of attachment in the relationship between child maltreatment and later emotional and behavioural functioning. *Child Abuse and Neglect, 38,* 1436-1449. http://dx.doi.org/10.1016/j.chiabu.2014.02.006

Luyten, P., Campbell, C., Allison, E., & Fonagy, P. (2020). The mentalizing approach to psychopathology: State of the art and future directions. *Annual Review of Clinical Psychology, 16,* 297-325. https://doi.org/10.1146/annurev-clinpsy-071919-015355

Mersky, J. P., Topitzes, J. (2010). Comparing outcomes of maltreated and non-maltreated children: A prospective and longitudinal investigation. *Children and Youth Services Review, 32,* 1086-1096. https://doi.org/10.1016/j.childyouth.2009.10.

Moody, G., Cannings-John, R., Hood, K., Kemp, A., & Robling, M. (2018). Establishing the international prevalence of self-reported child maltreatment: A systematic review by maltreatment type and gender. *BMC public health, 18*(1), 1-15. https://doi.org/10.1186/s12889-018-6044-y

*Moss, E., Dubois-Comtois, K., Cyr, C., Tarabulsy, G. M., St. Laurant, D., & Bernier, A. (2011). Efficacy of a home-visiting intervention aimed at improving maternal sensitivity, child attachment, and behavioural outcomes for maltreated children: A randomized control trial. *Development and Psychopathology, 23,* 195-210. https://doi.org/10.1017/S0954579410000738

Murphy, S., McElroy, E., Elklit, A., Shevlin, M., Murphy, J., Hyland, P., & Christofferson, M. (2018). Parental risk factors for childhood maltreatment typologies: A data linkage study. *European Journal of Trauma and Dissociation, 2,* 189-195. https://doi.org/10.1016/j.ejtd.2018.04.001

National Institute for Health and Care Excellence [NICE]. (2015). *Children's attachment: attachment in children and young people who are adopted from care, in care or at high risk of going into care: NICE guideline.* National Institute for Health and Care Excellence. https://www.nice.org.uk/guidance/ng26

Norman, R. E., Byambaa, M., De, R., Butchart, A., Scott, J., & Vos, T. (2012). The long-term consequences of child physical abuse, emotional abuse, and neglect: A systematic review and meta-analysis. *PLOS Medicine, 9*(11), e1001349. https://doi.org/10.1371/journal.pmed.1001349

Olivier, J., May, W. L., & Bell, M. L. (2017). Relative effect sizes for measures of risk. *Communication in Statistics – Theory and Methods, 46(*14), 6774-6781. https://doi.org/10.1080/03610926.2015.1134575

*Oxford, M. L., Marcenko, M., Fleming, C. B., Lohr, M. J., & Spieker, S. J. (2016a). Promoting birth parents' relationships with their toddlers upon reunification: Results from promoting first relationships home visiting program. *Children and Youth Services Review, 61,* 109-116. http://doi.org/10.1016/j.childyouth.2015.12.004

*Oxford, M. L., Spieker, S. J., Lohr, M. J., & Fleming, C. B. (2016). Promoting first relationships: Randomized Trial of a 10-week home visiting program with families referred to child protective services. *Child Maltreatment, 21*(4), 267-277. http://doi.org/10.1177/1077559516668274

Pereira, M., Negrão, M., Soares, I., & Mesman, J. (2014). Decreasing harsh discipline in mothers at risk for maltreatment: A randomized control trial. *Infant mental health Journal, 35*(6), 604-613. https://doi.org/10.1002/imhj.21464

*Pillhofer, M., Spangler, G., Bovenschen, I., Kuenster, A. K., Gabler, S., Fallon, S., … & Ziegenhain, U. (2015). Pilot study of a program delivered within the regular service system in Germany: Effect of a short-term attachment-based intervention on maternal sensitivity in mothers at risk for child abuse and neglect. *Child Abuse and Neglect, 42,* 163-173. http://doi.org/10.1016/j.chiabu.2014.07.007

*Porter, L. S., Porter, B. O., McCoy, V., Bango-Sanchez, V., Kissel, B., Williams, M., & Nunnewar, S. (2015). Blended infant massage-parenting enhancement program on recovering substance-abusing mothers' parenting stress, self-esteem, depression, maternal attachment and mother-infant attachment. *Asian Nursing Research, 9,* 318-327. http://doi.org/10.1016/j.anr.2015.09.002

*Puckering, C., McIntosh, E., Hickey, A., & Longford, J. (2010). Mellow babies: A group intervention for infants and mothers experiencing postnatal depression. *Counselling Psychology Review, 25*(1), 28-39.

Radford, L., Corral., S., Bradley, C., & Fisher, H. L. (2013). The prevalence and impact of child maltreatment and other types of victimisation in the UK: Findings from a population survey of caregivers, children, young people, and young adults. *Child Abuse and Neglect, 37,* 801-813. http://dx.doi.org/10.1016/j.chiabu.2013.02.004

*Ramsauer, B., Mühlhan, C., Lotzin, A., Achtergarde, S., Mueller, J., Krink, S., ... & Romer, G. (2019). Randomized controlled trial of the Circle of Security-Intensive intervention for mothers with postpartum depression: Maternal unresolved attachment moderates changes in sensitivity. *Attachment and Human Development,* https://doi.org/10.1080/14616734.2019.1689406

Rayce, S. B., Rasmussen, I. S., Klest, S. K., Patras, J., & Pontoppidan, M. (2017). Effects of parenting interventions for at-risk parents with infants: a systematic review and meta-analyses. *BMJ open, 7*(12), e015707. https://doi.org/10.1136/bmjopen-2016-015707

Reijman, S., Alink, L., Compier-De Block, L., Werner, C., Maras, A., Rijnberk, C., . . . Bakermans-Kranenburg, M. (2017). Attachment representations and autonomic regulation in maltreating and nonmaltreating mothers. *Development and Psychopathology, 29*(3), 1075-1087. https://doi.org/10.1017/S0954579416001036

*Rosenblum, K. L., Muzik, M., Morelen, D. M., Alfafara, E. A., Miller, N. M., Waddell, R. M., ... & Ribaudo, J. (2017). A community-based randomized controlled trial of Mom Power parenting intervention for mothers with interpersonal trauma histories and their young children. *Archives of Women's Mental Health, 20,* 673-686. http://doi.org/10.1007/s00737-017-0734-9

*Rosenblum, K. L., Lawler, J., Alfafara, E., Miller, N., Schuster, M., & Muzik, M. (2018). Improving maternal representations in high-risk mothers: A randomized, controlled trial of the Mom Power parenting intervention. *Child Psychology and Human Development, 49,* 372-384. http://doi.org/10.1007/s10578-017-0757-5

*Salo, S. J., Flykt, M., Mäkelä, J., Biringen, Z., Kalland, M., Pajulo, M., & Punamäki, R. L. (2019). The effectiveness of Nurture and Play: a mentalisation-based parenting group intervention for prenatally depressed mothers. *Primary Health Care Research and Development, 20,* e157. https://doi.org/10.1017/S1463423619000914

Savage, L-E., Tarabulsy, G. M., Pearson, J., Colin-Vezina, D., Gagne, M. (2019). Maternal History of Childhood Maltreatment and Later Parenting Behavior: A Meta-Analysis. *Development and Psychopathology, 31*(1), 9-21. http://doi.org/10.1017/S0954579418001542

Sherman, L. J., Rice, K., & Cassidy, J. (2015). Infant capacities related to building internal working models of attachment figures: A theoretical and empirical review. *Developmental Review, 37,* 109-141. https://doi.org/10.1016/j.dr.2015.06.001

Sidebotham, P., Brandon, M., Bailey, S., Belderson, P., Dodsworth, J., Garstang, J., Harrison, E., Retzer, A., & Sorensen, P. (2016). *Pathways to harm, pathways to protection: A triennial analysis of serious case reviews 2011 to 2014 – Final Report*. London, UK: Department for Education.

Simon, J. D., & Brooks, D. (2017). Identifying families with complex needs after an initial child abuse investigation: A comparison of demographics and needs related to domestic violence, mental health, and substance use. *Child Abuse and Neglect, 67,* 294-304. http://dx.doi.org/10.1016/j.chiabu.2017.03.001

Skinner, G. Bywaters P. W. B., Bilson, A., Duchinsky, R., Clements, K., & Hutchinson, D. (2020). The 'toxic trio' (domestic violence, substance use and mental ill-health): How good is the evidence base. *Children and Youth Services Review.* Advance online publication. https://doi.org/10.1016/j.childyouth.2020.105678

Skowron, E. A., Cipriano-Essel, E., Benjamin, L. S., Pincus, A. L., & Van Ryzin, M. J. (2013). Cardiac vagal tone and quality of parenting show concurrent and time-ordered associations that diverge in abusive, neglectful, and non-maltreating mothers. *Couple and Family Psychology: Research and Practice, 2*(2), 95–115. https://doi.org/10.1037/cfp0000005

Slade, A. (2005) Parental reflective functioning: An introduction. *Attachment and Human Development, 7*(3), 269-281. https://doi.org/10.1080/14616730500245906

Sroufe, A.L., Carlson, E., Levy, A., & Egeland, B. (1999). Implications of attachment theory for developmental psychopathology. *Development and Psychopathology, 11,* 1–13. https://doi.org/10.1017/s0954579499001923

*Steele, H., Murphy, A., Bonuck, K., Meissner, P., & Steele, M. (2019). Randomized control trial report on the effectiveness of Group Attachment-Based Intervention (GABI©): Improvements in the parent-child relationship not seen in the control group. *Development and Psychopathology, 31,* 203-217. https://doi.org/10.1017/S0954579418001621

*Suchman, N. E., DeCoste, C., Castiglione, N., McMahon, T. J., Rounsaville, B., & Mayes, L. (2010). The mothers' and toddlers' program, an attachment-based parenting intervention for substance using women: Post-treatment results from a randomized clinical pilot. *Attachment and Human Development, 12*(5), 483-504. https://doi.org/10.1080/14616734.2010.501983

*Suchman NE, Decoste C, McMahon TJ, Rounsaville B, Mayes L. (2011). The mothers and toddlers' program, an attachment-based parenting intervention for substance-using women: results at 6-week follow-up in a randomized clinical pilot. *Infant Mental Health Journal, 32*(4), 427-449. doi:10.1002/imhj.20303

*Suchman, N. E., DeCoste, C. L., McMahon, T. J., Dalton, R., Mayes, L., & Borelli, J. (2017). Mothering from the inside out: Results of a second randomized clinical trial testing a mentalization-based intervention for mothers in addition treatment. *Development and Psychopathology, 29,* 617-636. http://doi.org/10.1017/S0954579417000220

*Suess, G. J., Bohlen, U., Carlson, E. A., Spangler, G., Maier, M. F. (2016). Effectiveness of an attachment based STEEP™ intervention in a high-risk sample. *Attachment and Human Development, 18*(5), 443-460. http://dx.doi.org/10.1080/14616734.2016.1165265

Sutton, T. E. (2019) Review of attachment theory: Familial predictors, continuity and change, and intrapersonal and relational outcomes. *Marriage and Family Review, 55*(1), 1-22. https://doi.org/10.1080/01494929.2018.1458001

Tarabulsy, G. M., Pascuzzo, K., Moss, E., St-Laurant, D., Bernier, A., Cyr, C., & Dubois-Comtois, K. (2008). Attachment-based intervention for maltreating families. *American Journal of Orthopsychiatry, 78*(3), 322-332. https://doi.org/10.1037/a0014070.

*Thomas, R., & Zimmer-Gembeck, M. J. (2011). Accumulating evidence for parent-child interaction therapy in the prevention of child maltreatment. *Child Maltreatment, 82*(1), 177-192. http://doi.org/10.1111/j.1467-8624.2010.01548.x

*Thomas, R., & Zimmer-Gembeck, M. J. (2012). Parent-child interaction therapy: An evidence based treatment for child maltreatment. *Child Maltreatment, 17(*3), 253-266. http://doi.org/10.1177/1077559512459555

*Toth, S. L., Rogosch, F. A., Manly, J. T., Cicchetti, D. (2006). The efficacy of toddler-parent psychotherapy to reorganize attachment in the young offspring of mothers with major depressive disorder: A randomized preventative trial. *Journal of Consulting and Clinical Psychology, 74*(6), 1006-1016. http://doi.org/10.1037/0022-006X.74.6.1006

van der Voort, A., Juffer, F, Bakermans-Kranenberg, M. J. (2014). Sensitive parenting is the foundation for secure attachment relationships and positive social-emotional development of children. *Journal of Children's Services, 9(*2), 165-178. http://doi.org/10.1108/JCS-12-2013-0038

*van Doesum, K. T. M., Riksen-Walraven, J. M., Hosman, C. M. H., & Hoefnagels, C. (2008). A randomized controlled trial of a home-visiting intervention aimed at preventing relationship problems in depressed mothers' and their infants. *Child Development, 79*(3), 547-561. http://doi.org/10.1111/j.1467-8624.2008.01142.x

van Ijzendoorn, M. H., Schuengel, C., Bakermans-Kranenburg, M. J. (1999). Disorganised attachment in early childhood: Meta-analysis of precursors concomitants, and sequelae. *Development and Psychopathology, 11,* 225-249.https://doi.org/10.1017/s0954579499002035

Vella, L., Butterworth, R. E., Johnson, R., & Law, G. U. (2015). Parents' experiences of being in the Solihull Approach parenting group, 'Understanding Your Child's Behaviour': an interpretative phenomenological analysis. *Child: Care, Health, and Development, 41*(6), 882-894. https://doi.org/10.1111/cch.12284

Wampold, B. E. (2015). How important are common factors in psychotherapy? An update. *World Psychiatry, 14,* 270-277. https://doi.org/10.1002/wps.20238

Wamser-Nanney, R., & Campbell, C. L. (2020). Predictors of parenting attitudes in an at risk sample: Results from the LONGSCAN study. *Child Abuse and Neglect, 99,* 104282. https://doi.org/10.1016/j.chiabu.2019.104282

Widom, C. S., Czaja, S. J., Kozakowski, S. S., & Chauhan, P. (2018). Does adult attachment style mediate the relationship between childhood maltreatment and mental and physical health outcomes? *Child Abuse and Neglect, 76,* 533-545. https://doi.org/10.1016/j.chiabu.2017.05.002

Wilkerson, D. A., Gregory, V. L., & Kim, H. (2019). Online psychoeducation with parent management training: Examining the contribution of peer support. *Child and Family Social Work,* 1-12. https://doi.org/10.1111/cfs.12701

Winnicott D. W. (1965). *The Family and Individual Development.* Tavistock: London.

Woodhouse, S. S., Scott, J. R., Hepworth, A. D., & Cassidy, J. (2019). Secure base provision: A new approach to examining links between maternal caregiving and infant attachment. *Child Development, 91*(1), e249–e265. https://doi.org/10.1111/cdev.13224

Wright, B., & Edginton, E. (2016). Evidence-based parenting interventions to promote secure attachment: Findings from a systematic review and meta-analysis. *Global Pediatric Health, 3,* 1-14. https://doi.org/10.1177/2333794X16661888

*Yarger, H. A., Hoye, J. R., & Dozier, M. (2016). Trajectories of change in attachment and biobehavioral catch up among high risk mothers: A randomized clinical trial. I*nfant Mental Health Journal, 37*(5), 525-536. http://doi.org/10.1002/imhj.21585

Zeegers, M. A. J., Colonnesi, C., Stams, G.-J. J. M., & Meins, E. (2017). Mind matters: A meta-analysis on parental mentalization and sensitivity as predictors of infant–parent attachment. *Psychological Bulletin, 143*(12), 1245–1272. https://doi.org/10.1037/bul0000114

CHAPTER TWO

EMPIRICAL PAPER

MANAGING CLOSENESS AND CONFLICT:
WHAT HELPS AND HINDERS STAFF IN RESIDENTIAL CHILDREN'S HOMES TO DEVELOP AND/OR MAINTAIN RELATIONSHIPS WITH CHILDREN DISPLAYING BEHAVIOUR THEY EXPERIENCE AS CHALLENGING?

Abstract

Background. Good quality staff-child relationships are suggested to improve outcomes for 'looked after' children in residential children's homes, however developing these relationships can be challenging for staff due to the children's emotional and behavioural difficulties. This study sought to identify factors that help and/or hinder care staff to develop or maintain good quality relationships with children in residential homes displaying behaviours they experience as challenging.

Method. Five residential support workers each completed five structured diary entries of their responses to a child's challenging behaviours, informed by Diary-Interview Method. Participants were subsequently interviewed to identify factors that helped or hindered them from developing or maintaining their relationship with the child when responding to the behaviour. Interviews were analysed using Enhanced Critical Incident Technique (ECIT), following the nine ECIT credibility checks.

Results. From the five interviews, 275 critical incidents (CIs) were extracted, of which 62% were helping, 32% were hindering, and 7% were 'wish list' factors. Seventeen viable categories of CIs were formed, which were grouped into five super-ordinate categories: *'behaviour meaning-making factors'*, *'individual staff characteristics'*, *'relational factors'*, *'strategies and techniques'*, and *'systemic and organisational factors'*.

Discussion. The findings highlight that responding to children's behaviours is a complex relational process, influenced by a broad range of interacting individual, relational, and systemic factors. The findings indicate a potentially important role for attachment and trauma informed practice at an organisational level for supporting residential childcare staff to develop good quality staff-child relationships in the context of children's challenging externalising, internalising, and relational behaviours.

Introduction

As of 2020, approximately 6,500 'looked after' children in England were being cared for within residential children's homes (Ofsted, 2020). Within the local authority care system, residential children's homes are often considered to be an option of last resort (Narey, 2016), with children placed within these services often displaying significant emotional and behavioural difficulties and having had multiple failed previous foster placements (González-Garcia et al., 2017; Jozefiak et al., 2016; Leloux-Opmeer et al., 2017; Narey, 2016). Relative to their non-looked after or foster/kinship care peers, children placed in residential care are more likely to demonstrate severe emotional and behavioural difficulties during care, alongside demonstrating particularly poor long-term outcomes upon leaving care (Dregan & Guildford, 2012; Gutterswijk et al., 2020; Teyan et al., 2018). Indeed, children in residential care have consistently been shown to be an at-risk population in relation to demonstrating poor educational attainment, life-long mental health difficulties, as well as being at greater risk of later transitioning into the criminal justice system (Dregan & Guildford, 2012; Schofield et al., 2015; Teyhan et al., 2018; Viner & Taylor, 2005). Despite the poor long-term outcomes observed for children placed in residential care, research attempting to identify potential resilience-promoting factors or evaluating interventions to improve these children's outcomes remains relatively limited (Mezey et al., 2015).

Staff-Child Relationships in Residential Children's Homes

Of the few resilience-promoting factors identified for 'looked after' children, the role of a trusting and supportive relationship with at least one significant adult has emerged as a potentially influential factor that can be targeted through support and intervention (Lou et al., 2018). Where research has been conducted with children residing in residential care and care leavers, positive staff-child relationships have consistently been found to be highly valued (Gallagher & Green, 2012; Welch et al., 2018), with young people emphasising the importance

of having an available and trusted adult to seek support from (Moore et al., 2018; Rice et al., 2020; Swan et al., 2018). A recent systematic review of 15 studies by Lou et al. (2018) reinforced these findings, finding that support for children in residential care focusing on promoting interpersonal relationships between children and carers had the greatest resilience promoting effect. Consequently, there is a developing consensus that facilitating good quality staff-child relationships should be the central focus of residential childcare settings (Steckley, 2020; Welch et al., 2018).

Derived from Bowlby's (1988) attachment theory, researchers argue a child's experience of a positive and supportive staff-child relationship can improve their resilience through providing the child with an opportunity for a reparative attachment experience (Harder et al., 2013; Lou et al., 2018). Many children placed in residential care have experienced early maltreatment from caregivers, where caregivers either did not respond to emotional or physical needs or responded with frightening behaviours that led to further distress (Sherman et al., 2015). These adverse early caregiving experiences result in the child developing an insecure or disorganised attachment style and an internal working model of relationships as unsafe (Morison et al., 2020; Quiroga & Hamilton-Giachritsis et al., 2016). It is these maladaptive attachment-related internal working models that are thought to contribute towards the adverse emotional and behavioural outcomes observed among children exposed to maltreatment (Groh et al., 2017; Lowell et al., 2014). Given their close contact with the children, it has been suggested that residential care staff can act as a 'secure attachment figure' for children in residential care, providing a secure base that can facilitate longer-term resilience through re-organising the child's attachment behaviours and internal working models of themselves, others, and relationships (Cahill et al., 2016; Harder et al., 2013; Swan et al., 2018).

The Impact of Challenging Behaviour on Staff Burnout and Staff-Child Relationships

Although high levels of commitment to developing secure relationships with children are observed among care staff (Audin et al., 2018; Morison et al., 2020; Seti, 2008), the process of developing and maintaining relationships with children placed in residential care is generally considered to be a challenging process (McLean, 2015; Moses, 2000; Steckley, 2020). The children placed in residential care often demonstrate characteristics and histories (e.g., insecure or disorganised attachment, maltreatment history) that impact their ability to develop trusting relationships with others (Costa et al., 2020; Leloux-Opmeer et al., 2017; Quiroga & Hamilton-Giachritsis, 2016), with further challenges arising due to the nature of the behaviours displayed by the children (e.g., aggression, self-harm, sexual disinhibition), and the two-way interactions between children and multiple others (e.g., staff and peers) (Brend, 2020; McLean, 2015). As a consequence of these challenges, research has highlighted that staff can find negotiating the process of responding to children to be challenging, sometimes experiencing relationships to be unrewarding, and often facing a dilemma between managing a behaviour safely versus responding sensitively to a child so as to maintain their relationship with them (Brend, 2020; McLean, 2015; Moses, 2000; Steckley, 2020).

The challenges residential care staff encounter when balancing responding to and managing a child's behaviour with the need to develop and maintain positive relationships is suggested to contribute towards the experience of occupational burnout (Brend, 2020; McLean, 2015; Brouwers & Tomic, 2016; Colton & Roberts, 2007). Occupational burnout among those working in caring professions, such as residential care, refers to a multidimensional syndrome that includes feelings of emotional exhaustion (i.e., lethargy, wanting to 'give up'), depersonalisation of those whom they care for, and a reduced sense of personal accomplishment (i.e., feelings of reduced competence or achievement) (Audin et al., 2018; Maslach & Jackson, 1981; Seti et al., 2008). Rates of occupational burnout among residential childcare staff are observed to be high, with some studies suggesting up to a third of staff may be experiencing

high burnout at any given time (Audin et al., 2018), with these high rates of burnout shown to be a key predictor of staff resignations, and hence high rates of staff turnover (Colton & Roberts, 2007).

While the inherent challenges of developing relationships with children in residential children's homes are known to contribute to staff burnout and turnover (Audin et al., 2018; Colton & Roberts, 2007; Kind et al., 2018), the relationship between these two factors is likely bi-directional (Kind et al., 2018; Winstanley & Hales, 2015). Specifically, while child behaviours and unrewarding relationships increase the likelihood of burnout, staff burnout and turnover are also likely to have a detrimental impact on the quality of staff-child relationships (Seti et al., 2008; Warner et al., 2017; Winstanley & Hales, 2015). Increased burnout has been found to negatively impact on staffs' ability to respond to children sensitively (McLean, 2015), increasing staffs' emotional detachment from those they care for (Kind et al., 2018), and increasing the likelihood of responding to behaviours using negative, controlling or depersonalised strategies (Taris et al., 2005; Winstanley & Hales, 2015). Regarding staff turnover, high rates are likely to have a further detrimental impact through causing further relationship rupture and inconsistency for the children (Seti, 2008; Warner et al., 2017), who are likely to already have experienced relationship trauma, and demonstrating insecure attachments and difficulties building and maintaining relationships. Consequently, supporting staff and services to minimise burnout and turnover is imperative when considering how to facilitate good quality staff-child relationships in residential settings.

Factors Impacting upon how Care Staff Respond to Challenging Behaviour

Despite their potentially key role in developing children's resilience, staff groups in residential children's homes remain a very under-researched population. Research investigating how residential care staff respond to challenging behaviours is heavily dominated by research using staff working in intellectual disability (ID) services (Williams, 2016), meaning the limited

existing research investigating staff responses to children's challenging behaviour in residential children's homes has focused on applying the attribution models of helping behaviour (e.g., Weiner, 1980; 1986) often applied within these ID settings (McGuinness & Dagnan, 2001). However, it has been noted that these models may not apply to the complex relational processes that exist between staff and children within residential children's homes (Johoda & Wanless 2005; Williams, 2016).

Attribution models propose an individual's emotional response and motivation to help and provide support is influenced by their cognitive appraisals of the cause (i.e., internal or external to the individual) and controllability of the behaviour displayed by the person (Weiner, 1980; 1986). While some support has been found for the application of these models among carers of looked after children (Lamothe et al., 2018; McGuinness & Dagnan, 2001; McGuinness, 2007), the validity of these studies' conclusions is limited by their reliance upon measuring self-reported responses to fictional vignettes of challenging behaviours, which research has demonstrated often does not correspond to carer responses to 'actual' behaviours when they occur (Bailey et al., 2006; Lucas et al., 2009; Wanless & Jahoda, 2002). Consequently, there is a need for current and more naturalistic research into staff responses to challenging behaviour in residential children's homes that focuses on live interactions. Specifically, there is a need for research that considers the influence of a broader range of internal and external factors in order to understand the complex relational and interpersonal processes involved when staff respond to children's challenging behaviours (Harder et al., 2013; Morgan & Baron, 2011). A better understanding of internal and external factors, as well as the facilitators or barriers to staff-child relationship maintenance and development, can then inform how staff can be supported to manage the impact of these behaviours on their relationships with the children they care for (Cahill et al., 2016; Quiroga & Hamilton-Giachritsis, 2017; West, 2015).

Where research has been conducted into factors and processes involved in staff responses to challenging behaviours, it has supported the perspective that a broad and complex range of interpersonal and organisational factors are likely to be relevant, and need to be considered. Thus far, research has considered the role of interpersonal perceptions on how staff may interpret child behaviours (i.e., the bidirectional relationship between how staff acts and reacts to others, and how these interact with their beliefs about themselves and others) (Back et al., 2011; Johoda & Wanless, 2005; Williams, 2016), alongside the influence of caregiver self-care practices (Kind et al., 2020) and attachment style on vulnerability to burnout (Sochos & Aljasas, 2020; West, 2015), which may impact on how staff relate to and respond to children (Winstanley & Hales, 2015). While these studies have considered the role of these factors, however, research is yet to establish how they might positively or negatively impact staff-child relationships and staff's ability to respond effectively and sensitively to child behaviours.

Aims of the Current Study

The current study sought to build upon previous research into the importance of facilitating positive staff-child relationships in residential children's homes through increasing understanding into the impact of responding to challenging behaviours on promoting or preventing the development of positive and trusting staff-child relationships, and the factors that might influence this process. Using two exploratory qualitative methods, diary-interview method and Enhanced Critical Incident Technique (Butterfield et al., 2009), this study aimed to identify potential internal (e.g., attributions, personality) and external (e.g., organisational characteristics) factors that either help or hinder residential care staff to develop and maintain their relationships with children when responding to behaviours they personally experience as challenging to manage or respond to. It was hoped this increased understanding could be used to inform the support provided to residential children's homes to enable staff to better manage the challenges of their role, allowing for increased staff resilience to burnout and facilitating

better quality staff-child relationships, which ultimately may improve the resilience of the children they care for.

Method

Ethical Approval

Ethical approval was granted by the University of Birmingham Science, Technology, Engineering and Mathematics Ethical Review Committee (Appendix 2A).

Participants and Sample

Residential support workers were recruited using purposive sampling across 22 residential children's homes for children under local authority care presenting with emotional and behavioural difficulties, provided by two UK private-sector organisations (18 homes in organisation A, and 4 homes in organisation B). Residential homes providing specialist single-placement care or caring for children with specialist needs (e.g., autism spectrum disorder, forensic etc.) were excluded from recruitment due to the potential influence the specialist focus may have on staff training and/or the range of child behaviours displayed, and hence increasing the generalisability of the findings to broader residential childcare contexts. Participant inclusion and exclusion criteria are shown in Table 1.

Due to the ethical requirements, participant characteristics are presented at a sample level to protect participant and child anonymity. The final sample consisted of five (four females, one male) residential support workers aged between 23 and 40 years (M_{age}= 27, *SD* = 7.38). Participants had been working in their current home for between 7 and 24 months (*M* = 14, *SD* = 7.90) and had between 8 months and 15 years (Mdn = 13 months) total experience working in residential childcare. None of the participants had attended specialist training courses (e.g., Dyadic Developmental Psychotherapy) relevant to working with 'looked after' children. Further demographic information is presented in Table 2. The five participants worked

across four different residential homes providing care to between 2 and 5 children (100% male) at the time of their participation.

Table 1.
Participant inclusion and exclusion criteria.

Inclusion Criteria	Exclusion Criteria
1. Currently employed as a residential support worker or senior residential support worker within a generic residential children's home for children <18 years-old with emotional and behavioural difficulties.	1. Staff with management or supervision responsibilities.
2. Worked in their current home for > 3 months to ensure time to understand the service and role.	2. Staff working within specialist single-placement homes or homes focused on caring for children with specific needs (e.g., ASD or forensic).
3. Could identify a child, displaying challenging behaviour, who had been living in the home for >3 months to ensure time to develop a relationship with the child.	3. Staff with <3 months experience in current home.

Of the children chosen by the participants, all chose boys. The boys were aged between 14 and 17 years (M_{age}= 15, *SD* = 1.22), had between 1 and 4 (*M* = 2.4, *SD* = 1.14) placements prior to their current placement, had lived in their current home for a mean of 22.4 months (*SD* = 8.62, range = 13–36), and had been known to the participant for a mean of 12.4 months (*SD* = 6.88, range = 7–24). As the children's identities were not disclosed to the researcher (for ethical reasons), it was possible for multiple participants to choose the same child. However, given the participants' workplaces and the child demographic information provided, this did not occur within this study.

Table 2.
Participant demographic information

Participant Characteristic	*n*	%
Gender		
Male	1	20
Female	4	80
Ethnicity		
White British	2	40
White Other	1	20
British Pakistani	1	20
Black British	1	20
Highest Educational Qualification		
GCSE or Equivalent	1	20
A Level/NVQ Level 3	2	40
Degree (Bachelors or Masters)	2	40
Attended Specialist Training		
Yes	0	0
No	5	100

Qualitative Approach

The qualitative approach used within this study integrated the diary-interview method (Zimmerman & Weider, 1977) within an Enhanced Critical Incident Technique methodology (Butterfield et al., 2009).

Diary-Interview Method. The diary-interview method, described by Zimmerman and Wieder (1977), is an ethnographic approach to studying behaviours that aims to gather information both on the observable aspects of the behaviour alongside the participant's subjective experience and perceptions of the behaviour that would otherwise be inaccessible to the researcher. The method involves the participant keeping a chronological diary of events of interest (i.e., responding to behaviours experienced as challenging), with a subsequent 1:1 semi-structured interview focused on the diary's contents. Within this method, the participant takes the role of 'reflective informant', providing the researcher with greater insight into subjective aspects (e.g., beliefs, attitudes, personal meaning etc.) of the described behaviour or incident (Zimmerman & Wieder, 1977). Rather than being considered data itself, the diary is considered

a ‘data-generating device’, assisting with generating questions and topics to be discussed within the subsequent interview (Zimmerman & Wieder, 1977).

Participants were required to reflect during the interview on events occurring over an extended period, up to a few months after the event, hence the inclusion of a diary added a methodological benefit through improving the accuracy of recalled events (i.e., responses to challenging behaviour), increasing the depth and quality of the data collected, and hence the robustness and reliability of any potential findings (Filep et al., 2018; Mackrill, 2008). The use of diaries has also been noted to encourage participants to reveal information that might otherwise be concealed or withheld, such as exposure to violence (Mackrill, 2008). Given the current study focused on behaviours that participants personally experienced as challenging, encouraging disclosure of such information was particularly important. Hence, the inclusion of a diary was designed to encourage participants to disclose socially or professionally undesirable information, such as feeling challenged by relatively mild behaviours (e.g., being ignored by the child), or where their response was felt to be ineffective or perceived as damaging to their relationship with the child.

Enhanced Critical Incident Technique (ECIT). ECIT, developed from Flanagan’s (1954) ‘Critical Incident Technique’ (CIT), describes a qualitative research methodology that explores *“little-understood events, incidents, factors or psychological constructs that help promote or detract from the effective performance of some activity or the experience of a specific situation or event”* (Butterfield, 2005; Butterfield et al., 2009, pp. 268). The CIT method was initially developed by Flanagan (1954) for organisational psychological research that sought to identify categories of critical factors, known as critical incidents (CI), that contributed to the success or failure of systems or individuals in particular contexts.

Since its initial development, the CIT method has been applied beyond job behaviour research (Butterfield et al., 2005; Viergever et al., 2019; Woolsey, 1986), with Woolsey (1986)

highlighting the potential for the method to contribute to the development of psychological theories and models through its capacity to explore psychological phenomena alongside discrete events (Butterfield et al., 2009). To facilitate exploration of psychological phenomena and enable research into psychological processes, ECIT 'enhances' Flanagan's original CIT method through the addition of 'checks' to increase the credibility and trustworthiness of the findings (Butterfield et al., 2009). Specifically, these 'enhancements' relate to the inclusion of a contextual component, identification of 'wish list' (WL) factors (i.e., factors that would have been helpful were they available to the participant at the time) alongside helping/hindering CIs, and nine credibility checks within the analysis process (Butterfield et al., 2009).

Butterfield et al. (2009) described the ECIT methodology as appropriate for any research question seeking to investigate factors that *"help or hinder a particular experience or activity"* (Butterfield, 2005; Butterfield et al., 2009, pp. 268), making it an appropriate qualitative methodology to investigate the current research question (Viergever et al., 2019). For the current study, the participants' process of responding to a child's behaviours in a way that developed or maintained their relationship with the child represented the 'activity of interest'. The potential internal (e.g., personality traits, attributions etc.) and external (e.g., access to formulation and supervision) factors represented the possible CIs that may promote or detract from the participants' ability to complete this activity successfully.

Procedure

Participant recruitment. Participants were recruited from the 22 residential children's homes through flyers and posters (Appendices 2B & 2C) distributed by home managers and qualified psychologists providing consultation to the homes. The flyers provided brief information about the study and inclusion criteria for participation. Staff were then able to contact the researcher directly or give consent for their home manager or psychologist to contact the researcher on their behalf. Staff expressing an interest were then given the participant

information sheet (Appendix 2D), with the participant returning a consent form if they consented to participate.

Pre-Interview diary. Before the interview, participants completed a structured diary (Appendix 2F) of five instances where they had responded to behaviours displayed by one specific child, chosen by the participant, that they experienced as challenging. A 'challenging behaviour' was defined broadly to the participant as *"any behaviour you find challenging to manage or respond to in your day-to-day work"*. The broad definition of a challenging behaviour was actively chosen to facilitate the potential inclusion of a range of behaviours, including externalised behaviours (e.g., verbal/physical aggression), internalised behaviours (e.g., self-harm), sexualised behaviours, alongside more subtle relational behaviours (e.g., clinginess, ignoring).

The diary entries were structured to gather information on the behaviour and encourage initial reflections on their response to the behaviour regarding contributing factors and consequences. Diary questions are shown in Figure 1.

a) What was the behaviour you experienced as challenging?
b) How did you respond to the behaviour?
c) What made you respond to the behaviour in the way that you did?
d) What happened after you responded to the behaviour?

Figure 1. *Questions included within the participant diary.*

Although there was no specified time period within which all five entries had to be completed, the participant was advised to complete each entry within 24-hours of the behaviour occurring to increase the likelihood of accurate recall. The mean delay between the behaviour occurring and the entry being completed was 14.25 hours *(SD* = 8.80, range = 2.25–38.5), with 23 entries (92%) completed within 24hrs of the behaviour occurring. Behaviours documented

within the diaries, and experienced as *'challenging to manage or respond to'* by participants, are shown in Table 3.

Table 3.
Behaviours documented within participant diary entries. Behaviours are listed in descending order according to incidence (n).

Behaviour	*n*	% of total [a]
Going missing from/not returning to the home	10	40
Not following staff instructions	8	32
Verbally abusive comments (e.g., personal insults)	7	28
Ignoring staff	7	28
Damaging property	4	16
Pushing boundaries	2	8
Self-harm/suicidal behaviour	2	8
Verbal aggression (e.g., threats to harm others)	1	4
Clinginess towards staff	1	4
Physical aggression towards others	1	4
Fire setting	1	4

Note. One diary entry could include more than one behaviour.
[a] 25 total diary entries (5 entries per participant)

Individual interview. Following completion of the diary, participants engaged in a 1:1 semi-structured interview with the researcher for 60-90 minutes (M = 93.2, SD = 9.93, range = 75-105), conducted in-person at the participant's workplace (n = 1) or remotely using videoconference (n = 4) due to COVID-19 social-distancing regulations. In the 15-20 minutes before the interview, the researcher reviewed the diaries and made notes on the behaviours documented, CIs mentioned, and possible follow-up questions.

The interview involved an initial contextual component focused on discussing the residential home, their role within the home, aspects of their role they liked or disliked, and their relationship with the child. The contextual component was then followed by the CI component, which involved discussing each diary entry with the participant. Both the participant and researcher were able to review and return to the diary throughout the interview. The interview followed a topic guide (Appendix 2I) adapted from Butterfield et al. (2009), which included prompts and follow-up questions designed to elicit CIs that 'helped' or 'hindered'

the participant from responding to the behaviour in a way that would have maintained or further developed their relationship with the child. Consistent with the ECIT credibility checks (Butterfield et al., 2009), interviews were audio-recorded to facilitate verbatim transcription.

Follow-up interview. Following transcription, and extraction and categorisation of CIs, participants were sent a summary of the categories emerging from their individual interview consistent with step seven of the ECIT credibility checks. Three of the five (60%) participants responded and agreed to engage in a 30-minute follow-up telephone interview with the researcher. The participant was asked to review the categories and comment on whether the categories made sense, whether anything was missing or surprising, and whether anything needed revising. The interview was not recorded, although the researcher kept notes of the discussion.

Data Analysis

Epistemology. Unlike phenomenological approaches, where the researcher is part of the interpretive process, within CIT/ECIT, the researcher aims to remain objective in order to accurately reflect the participants' perspectives (Viergever et al., 2019). Thus, the analysis process of extracting CI/WL items should represent a descriptive, rather than interpretive, process (Flanagan, 1954; Butterfield et al., 2009; Viergever et al., 2019).

ECIT is suggested to sit between post-positivist and constructivist epistemological positions in that it acknowledges the researcher's values and biases may influence the objectivity of the analysis process, and will need to be controlled, although the aim of this control is to ensure the participants' subjective and valid constructed reality is accurately reflected and preserved (McDaniel et al., 2020). Indeed, instead of aiming to control and eradicate researcher influence to achieve an objective truth, McDaniel et al. (2020) suggests the ECIT credibility checks (Table 4) provide an *"audit trail [...] to evaluate the trustworthiness of the analysis and get a sense of how the researcher's values and bias have shaped the*

findings" (pp. 750). Following McDaniel et al.'s recommendations, Appendix 2J includes a reflexive statement.

ECIT analysis. The ECIT analysis process involved reviewing each interview transcript and extracting distinct factors that helped, hindered or would have helped the participant, and where the participant described the importance or impact of the CI on their relationship with the child. The type and level of specificity of the CIs extracted was informed by the 'frame of reference' for the study (i.e., the use that is intended to be made of the data), which referred to factors that influence the quality of staff-child relationships, informing the support offered to staff and homes to create environments that facilitate good quality staff-child relationships. Following extraction, each CI/WL item was given a descriptive summary related to what was directly expressed by the participant.

An iterative process of inductive reasoning was used to develop categories from the extracted CI/WL items. Initial categories were formed by clustering CIs according to observable patterns, similarities and differences. Following the development of initial categories, an iterative process of re-examining the CIs within each category was undertaken to determine whether categories made sense or demonstrated overlap, resulting in the re-naming, merging and creation of new categories. As with CI extraction, category formation was informed by the use that was intended to be made of the data, with re-organisation of categories informed by the level of specificity needed to *"create a richer understanding of the research area"* (Butterfield et al., 2009, pp. 273) given the study's frame of reference. Following the development of the final categories, each category was given an operational definition.

Credibility and trustworthiness. Following category formation and description, the nine credibility checks described by Butterfield et al. (2009) were followed. These credibility checks were intended to increase the objectivity within the analysis, reduce the influence of researcher subjectivity and biases, and increase the "trustworthiness" of the findings through

ensuring fidelity to the ECIT approach, establishing the reliability of the CI/WL extraction, and confirming the descriptive validity of the final categories (Butterfield et al., 2009;Viergever et al, 2019). The nine credibility checks are described in Table 4.

Although the standards described by Butterfield et al. (2009) were followed for eight of the nine credibility checks, the participation rate threshold was adapted due to the small sample size. Butterfield et al. suggested a category should be retained when the participation rate reaches 25%, however, this threshold meant contribution from only two participants was required for a category to be considered viable. Given the specificity sought within the categories, this low threshold would have resulted in a large number of categories where comparisons of the relative strength and importance of each one would have been difficult. Hence, the participation rate threshold was increased to 50% for the current study, such that the final categories were those that demonstrated both depth and breadth within the interview data.

Table 4.

The nine credibility checks described by Butterfield et al. (2009) for ECIT analysis, including descriptions of their application in the current study.

Credibility Check	Description and Implementation
1. Descriptive validity	Interviews were transcribed verbatim, removing identifiable information.
2. Interview fidelity	40% (n = 2) were randomly selected and were reviewed by the researcher and the supervisor for adherence to the interview topic guide, ensuring prompts for CI/WL items were followed and that the interviewer did not ask leading questions.
3. Independent extraction of CI/WL items	At least 25% (n = 2; 40%) of the transcripts were randomly chosen, with CIs independently extracted by the research supervisor. Extracted CIs were compared against those extracted by the researcher, with a discussion to resolve discrepancies that occurred. Where the discrepancy could not be resolved, the CI was not included. Overall, very consistent extraction and good agreement between the researcher and the supervisor was identified.
4. Exhaustiveness	The point at which no new categories are created from interviews. No new categories emerged from the fifth interview, although claims of exhaustiveness are not made due to a lack of further follow up interviews.
5. Participation rate	To evaluate the relative importance of a category, a category was only considered viable when at least 50% (n = 3; 60%) participants contributed towards the category.
6. Independent categorisation of CI/WL items	Following extraction and categorisation of CIs, 25% (n = 69) of CIs were selected randomly and given to an individual independent to the research to categorise according to the category descriptions. While 80% agreement is deemed satisfactory, an agreement rate of 86% was achieved. Where there was discrepancy, final categorisation was based upon consensus. If consensus could not be achieved, categorisation would have been based upon the participants decision at follow-up, however this was not required. Due to two categories consistently being mistaken for each other, the label for one category was altered following this check to further emphasise its meaning.
7. Cross-checking by participants	Participants (n = 3; 60%) engaged in a follow-up telephone call to review extracted CIs from their interview, discuss categories, and clarify potential CIs where importance/impact was not established at interview. Overall, participants agreed with extracted CIs and categories. One participant requested for an additional hindering CI to be added to '*back up from other staff*', which they felt was missing, although this didn't alter the category description or participation rate.
8. Expert opinion	Categories were reviewed by two experts (clinical and/or forensic psychologists) working with looked after children and residential childcare settings. The experts commented on whether categories were useful, whether any categories were surprising, and whether anything was missing.
9. Theoretical agreement	Categories were compared against the relevant literature (see discussion), both directly in terms of residential childcare and looked after children, but also in related fields (e.g., development of staff-client relationships, attachment, managing challenging behaviour, staff burnout etc.).

Note. CI = Critical Incident; WL = Wish List Item

Results

A total of 275 CIs were extracted across the five interviews. Of these, 170 (62%) CIs were described as 'helping', 87 (32%) as 'hindering' CIs, and 18 (7%) as 'wish list' factors. From these CIs, 26 categories were formed, with 17 of these categories meeting the participation criteria to be considered viable (see Appendix 2L for non-retained categories). These 17 categories were grouped into five super-ordinate categories: '*behaviour meaning-making factors'*, '*individual staff characteristics'*, '*relational factors'*, '*strategies and techniques'* and *'systemic and organisational factors'* (Table 5).

Table 5.
Summary descriptions for the five super-ordinate categories

Super-ordinate Category	Description
Behaviour meaning-making factors	Factors that affect how the staff member interprets, makes sense of, or understands the child's behaviour.
Individual staff characteristics	Factors specific to the qualities of the individual staff member.
Relational factors	Factors that exist within the staff-child relationship or the interpersonal dynamics during the interaction.
Strategies and techniques	Specific behavioural strategies or techniques used by the staff member when responding to behaviour.
Systemic and organisational factors	Factors involving the wider context, beyond the staff member and child as individuals, involving the other staff, or qualities of the home and/or organisation.

Overall, 244 (89%) of the 275 extracted CIs (159 helping, 67 hindering, 18 wish list) were included within the final 17 categories, with incidence rates and participation rates presented in Table 6. The majority of categories included a combination of helping, hindering or wish list CIs depending on the presence or absence of the factor described by the category. Each category is presented in the text below with supporting quotes to demonstrate helping, hindering, and wish list CIs in each category (additional quotes presented in Appendix 2M). Categories have been grouped by super-ordinate category and presented in descending order according to the total number of CIs in each category.

Table 6.

Retained categories of critical incidents with respective incidence rates (n) and participation rates (PR%). Categories have been grouped according to super-ordinate categories and then listed in descending order according to total number of CIs (incidence rate).

	Total CIs (n = 244)		Helping CIs (n = 159)		Hindering CIs (n = 67)		Wish List (n = 18)	
Category	*n*	PR%	*n*	PR%	*n*	PR%	*n*	PR%
Behaviour Meaning-Making Factors								
Personalising the behaviour	20	100	**12**	**60**	**8**	**100**	-	-
Understanding contextual factors behind the behaviour	17	100	**12**	**80**	**5**	**60**	-	-
Considering the impact of developmental trauma	11	80	**10**	**80**	1	20	-	-
Taking the child's perspective	10	60	**8**	**60**	2	20	-	-
Individual Staff Characteristics								
Capacity for emotional awareness and regulation	13	80	**10**	**60**	2	40	1	20
Staff temperament and personality	8	100	**7**	**80**	1	20	-	-
Relational Factors								
Quality of the existing relationship	19	100	**14**	**100**	4	20	1	20
Feeling that care efforts are rejected or ineffective	17	80	1	20	**16**	**80**	-	-
Responsiveness and engagement from the child	11	100	3	40	**8**	**80**	-	-
Strategies and Techniques								
Emotional connection and trust *before* upholding boundaries	18	100	**18**	**100**	-	-	-	-
Taking responsibility for creating an opportunity to re-establish the relationship	17	80	**17**	**80**	-	-	-	-
Active learning from observing and reflecting on the child's reactions to staff	14	80	**14**	**80**	-	-	-	-
Flexibility in the implementation of boundaries	14	80	**10**	**60**	4	40	-	-
Upholding boundaries and consequences	7	100	**6**	**80**	1	20	-	-
Systemic and Organisational Factors								
Consistency within teams and systems	21	100	**10**	**100**	**9**	**60**	2	40
Back up from other staff	16	80	2	40	**6**	**60**	**8**	**60**
Supervision and training	11	60	**5**	**60**	-	-	6	20

Abbreviations. CI = Critical Incident; PR = Participation Rate

Note. A category was considered viable when more than half (n = 3; PR = 60%) of participants contributed to the category as determined by the total CIs in the category (first column) as per ECIT viability criteria. Bold numbers indicate where more than half (n = 3; PR = 60%) of participants contributed a helping, hindering or wish list CI for that category, indicating where a category predominantly represented a helping, hindering or wish list category.

Behaviour Meaning-Making Factors

Personalising the behaviour (20 CIs, 100% Participation). This category was the largest of the behaviour-meaning factors and included helping (*n* = 12) and hindering (*n* = 8) CIs. This category involved hindering CIs where a child's behaviour was perceived by the staff to be an intentional personal attack on them, to be specifically targeted towards them, or the extent to which the staff member perceived the child genuinely meant any personal comments or insults. Where the staff member perceived the behaviour to be personally directed, they may experience negative feelings towards the child and feel less able or willing to respond sensitively. Below, Participant 4 describes a hindering CI, where feeling targeted by the child hindered them by affecting their mood, and their judgement on how they should respond.

> Because I felt targeted, I think it affected my mood and my feelings in that moment because I was like, “oh why me today, I’m in pain and I just don’t need this today”. It kind of affected me and then, because I was, it brought me down, I was kind of wondering how I was supposed to deal with it. It kind of affected my judgement on things, I wasn’t really able to find a solution, I was just like “oh please just leave me alone today”. (P4; Hindering CI)

Conversely, helping CIs related to the staff member feeling able to create distance between themselves and the behaviour. The importance of not taking a child's behaviour personally was described as a helping CI by all participants, with Participant 1 describing below the importance of "brushing off" personally offensive comments not to let it affect how they respond to the child and their behaviour.

> Some of the kids, especially [child], will pick personal, very personal things about you and be horrible. Like, urm, he's called me all sorts of names under the sun. He's called me like "a skinny bitch" and stuff like that. Urm, and he will be quite horrible. [...] But I think it depends on how you respond to that in general. [...] If you take it personal then it's going to affect you and the way you respond to it. I think if you just sort of, instead of, not just brushing it off, but you do sort of have to brush it off. (P1; Helping CI)

Understanding contextual factors behind the behaviour (17 CIs, 100% Participation). This category (12 helping, 5 hindering) describes where a staff member used their understanding of the different ongoing contextual factors (e.g., school, family, life stressors) to help them understand changes in the child's behaviour, which influenced their own emotional response and how they then adapted their response. Participant 4 describes below how knowledge of ongoing factors can increase the predictability of challenging behaviour, and helps them to understand why challenging behaviour is occurring at that time.

> So there have been times where he's acted on a certain way because he's spoken to others, like he's spoken to his parents, like he's had a bad conversation with them, or he's had a bad day at school and he's acted a certain way because of that. It's kind of predictable that he would do something. (P4; Helping CI)

This category also refers to staff's proactive attempts to find out what contextual factors may be influencing behaviour where they weren't clear, and also the difficulties with responding they experienced when they were unable to understand what contextual factors might be influencing behaviour, which affected their capacity to empathise with the child. In the following example, Participant 3 explains how not knowing what was going on for the child

caused them to struggle to understand the behaviour, acknowledging that knowing would have affected their empathy and may have allowed them to avoid the incident.

> That was a bit of a weird one because it just kind of came out of the blue. [...]. It did turn out that it was other things, it was other things, and things to do with him family and other stuff. It was yeah, a few other things that were unrelated. [...] Yeah, it was something we found out a few hours later. [...] I think, he might have been less angry because he might have had that out of him and if he was communicating about things. I don't think it probably would have happened at all if he had been. I guess it was because it was inside him all bubbling up. [...] I would have been more empathetic I suppose. [...] Yeah, we would have had more of an understanding. At the time we were all like, "what on earth is going on?" (P3; Hindering CI)

Considering the impact of developmental trauma (11 CIs, 80% Participation). This category included predominantly helping CIs (10 Helping, 1 Hindering), and describes the awareness a staff member has of the child's previous experiences of maltreatment, and how this has impacted upon the child, their behaviour, and their expectations of relationships. Where the staff member has an awareness, they can use this to make meaning of current behaviour, which allows them to feel more empathetic towards the child and/or is considered when choosing how to respond to the behaviour. Below, Participants 3 and 4 describe how they keep in mind the child's past experiences to make sense of why a child may be behaving a particular way, understand situational triggers and adapt how they respond.

> I think I've kind of, urm, sessions where he's told me about what he's been through. Like, his relationships with other people, like his family or whatever, i've found out

about that and I can see how he acts a certain way. Like, knowing that information it kind of helps me with my relationship with him, because I don't want to be like that and I don't want to bring up any, you know, any triggers for him. (P4; Helping CI)

There were, urm, I've just seen how he can react if they are very loud and because his mother was, urm. Sometimes people remind him of his mother if they are too loud and "in your face", he will just go off basically. (P3; Helping CI)

Taking the child's perspective (10 CIs, 60% Participation). Often described in a helping capacity (8 helping, 2 hindering), this category involved the staff member making a conscious effort to take the child's perspective. Taking the child's perspective included attempting to consider how that child may be thinking and feeling, alongside how they may be perceiving a situation or staff member at that moment, with the staff member potentially reflecting on their own childhood experiences to facilitate this. Based on the staff member's reflections, this category also describes how the staff member then consciously adapts how they respond or changes their response, if necessary. In the quote below, Participant 4 described how they consciously tried to take the child's position during interactions and situations to support them to empathise with the child, reflecting on themselves as a child.

I think with previous occasions I have like thought about how I would feel if that happened to me, if certain things happened to me how I would feel. I've kind of just reflected on my own behaviour as a child, when I was at his age and thought how if someone had done something a certain way, how would that affect me. That's helped me before. [...] I think when working with kids I do tend to do that quite a lot, just

> reflecting on how I was when I was their age and how I would have wanted an adult to respond in that situation. (P4; Helping CI)

Individual Staff Characteristics

Capacity for emotional awareness and regulation (13 CIs, 80% Participation). Participants often referred to their 'capacity for emotional awareness and regulation' as a helpful factor (10 helping, 2 hindering, 1 wish list). CIs in this category referred to the extent to which staff were able to stay aware of their own emotional response(s) to a situation in the moment, were able to recognise that any negative emotional responses could cause them to respond less sensitively to the child's needs, and engaging in emotion regulation strategies to help facilitate a more sensitive response to the behaviour. An example of a helping CI where a staff member paid attention to their emotional response in the moment, and then regulated themselves before reacting, is reflected in a quote from Participant 3:

> I think it can just make me a bit angry sometimes. Usually I can deal with that, but sometimes I will need like five minutes to take time out for myself if I feel like I can't deal with it appropriately or something like that. Not in a bad way, but if I feel like I'm not going to say the right thing or something, I'll just take a minute away. [...] I think just recognising when my emotions get to a certain point, that's when I need to step outside and take some fresh air. If I didn't have that then I probably wouldn't be able to regulate that as well. (P3; Helping CI)

Staff temperament and personality (8 CIs, 100% Participation). This generally helping category (7 helping, 1 hindering) emphasised the influence and importance of the staff member's personality and calm temperament as an essential personal characteristic. All the

participants described how their temperament and personality influenced how hard or easy they find it to stay calm in response to challenging behaviour. For example, Participant 2 describes how being an “angry person” creates more difficult feelings to regulate when responding to behaviour:

> I mean I do find it hard, because I am quite an angry, I can be quite an angry person. I can get quite (inaudible). I do really struggle myself with anger and stuff, so to know that I can’t sort of react like I would do if I was at home. (P2; Hindering CI)

In contrast, most participants described being generally "calm", which supported them to not become "heightened" during an interaction and react to the behaviour emotionally, as reflected by Participant 5:

> I would say my personality, because he knows my personality, he knows what I’m like. I’m very calm, I’m not a shouty person. You know what I mean? Again, I didn’t approach him like “arrrghh”. [...] So, if you like, if I’m this person who’s just talking and the other person is just shouting, then this person eventually will stop shouting and will start to be on my level. [...] You know what I mean? That’s how I always approach everything, I’m very calm, you know. For me to be like, up there (indicates with hand up high), it has to be something like major. (P5; Helping CI)

Relational Factors

Quality of the existing relationship (19 CIs, 100% Participation). All participants referred to the importance (14 helping, 4 hindering, 1 wish list) of a good quality and/or trusting relationship between the child and a staff member, which facilitated being able to respond to a

challenging behaviour in a way that protects the relationship from harm during a response. CIs described a good quality/trusting relationship as helpful in allowing for difficult conversations about inappropriate behaviour, supporting the child feeling able to open up to the staff, alongside increasing the child's acceptance of the implementation of boundaries. This helping effect is highlighted by Participant 1:

> I think it's mainly because obviously, urm, I had a good relationship with him anyway. [...] So I think, it's all about what kind of relationship you have. If you have a positive relationship with him, there's certain things you can do that people would say wouldn't have the opportunity to do. (P1; Helping CI)

Conversely, where the relationship is not as strong, or poor, staff perceived more risk that an overly firm or boundary-focused approach to responding to a behaviour could harm the relationship. These fears are described by Participant 4, who suggested a stronger relationship would have helped reduce this risk.

> I know that I'm not as experienced, and if I was to do that then it might have a different effect on his behaviour, so I try not to get that stuck in. [...] I think that if I was to do that, then because they would know that I'm new, the child knows that I'm new as well. [...] I think it's the length, like the total duration of working with him. I think if I were to spend more time with him, then our bond would increase I haven't spent as much time, it's not there yet. (P4; Wish List)

Feeling that care efforts are rejected or ineffective (17 CIs, 80% Participation). Described almost exclusively as a hindering factor (16 hindering, 1 helping), this category

refers to the emotional response staff experience in relation to how their care efforts are received and appreciated by the child. In situations where they perceive their care is accepted and appreciated, or make a positive difference, the staff members describe experiencing positive emotions and job satisfaction. However, many of the CIs in this category reflected hindering CIs. Staff described experiencing hurt or anger when they thought their efforts had been rejected or were unwanted by the child. Examples of hindering CIs in this category are shown below for Participants 1 and 5, where the child's behaviour (physical assault and declining help with schoolwork, respectively) led the participant to feel hurt and to want to withdraw from their relationship with the child.

> So yeah, it was quite negative, because obviously he'd assaulted me, we'd had quite a good relationship before that. [...] It was quite negative actually, because obviously I thought that we had like a really good relationship. So as soon as he did that, I actually stepped back a bit and was like, actually I've done a lot for you and you've clearly not recognised how much I've actually done for you. (P1; Hindering CI)

> For him to say that to me, it felt very disrespectful, and not only that, he said to me I was only in it for the money, which is another thing that really, you know what I mean, upsets me. I find it very disrespectful, because he knows I'm not in it for the money, [...] Yeah? So that's why I took it personally like that. If it was anything else I'd be like "cool", you know what I mean, cool. [...] I was upset that day. I was upset, so I kind of went "okay then, if that's how you feel, yeah, I'm going to sit here and I'm going to watch you do that work. When you want that interaction with me, with regards to the work yeah, then you talk to me. But otherwise, I'm just going to stay silent for a bit because I want you to reflect on what you've just said to me." (P5; Hindering CI)

While the above CIs involved feeling their care had been rejected, this category also included CIs where staff felt their efforts were failing to have an effect on the child's behaviour, and how these feelings led them to feel negatively towards the child, want to withdraw from the interaction/relationship or 'give up' trying. An example of feeling efforts are ineffective is reflected in Participant 2's CI below, where the child's behaviour was failing to improve over time.

> I mean, it's frustrating for me, to know that. He's been in the home for long enough, he knows the rules, he knows what he has to do. It's frustrating that he does push it sometimes, and that he does stay out later than he needs to. Like, when he's like "oh I'll be home in a minute", I know it's not going to be a minute. [...] It can be frustrating at times. It does get me a bit, not angry, just a bit a like. (P2; Hindering CI)

Responsiveness and engagement from the child (11 CIs, 100% Participation). In this category (3 helping, 8 hindering), staff referred to the extent the child withdrew or engaged in a reciprocal two-way interaction that provided some relational feedback to the staff member. This category also related to how the level of responsiveness/engagement from the child then impacted upon the staff's ability to engage in the interaction, as well as their broader feelings towards the child. Participant 1 describes below how getting some engagement from the child, even though verbally abusive, helped the interaction:

> So I think, urm, as soon as you are out there, and you are looking for him and you are trying to speak to him. If you, like again, if you can get on his level and sort of, try sort of engaging him a little bit, even if it's him being verbally abusive, it's better than him

> sort of just walking off and ignoring you. So I think as soon as you engage him a little bit, it's sort of good. (P1; Helping CI)

Responsiveness and engagement was often described as a hindering CI (80% participants), where participants described a lack of responsiveness or engagement as making it difficult to know how to respond and continue the interaction. Participant 3 describes a CI where the child ignored their attempts to engage, and how this led to them to feel negatively towards the child, and she disengaged from the interaction.

> At the time it wasn't really reciprocated. I'm not going to be too lovey dovey to someone if they're not being respectful in their response. If he had been respectful, then I probably would have been more positive in my response. But he just wasn't engaging with me at all, so for me I was like, I'm just going to go and give him space. (P3; Hindering CI)

Strategies and Techniques

Emotional connection and trust *before* boundaries (18 CIs, 100% Participation). Described in an exclusively helping context, this category refers to the extent the staff member prioritised establishing an emotional connection with the child. Establishing an emotional connection involved communicating trust in the relationship through demonstrating they were emotionally available to the child if needed, alongside communicating to the child their understanding of the child's thoughts and feelings. The importance of focusing on security within the relationship is emphasised by Participant 4 in the following quote:

> I think it's something I think about daily. I don't want it to be, I just want them to just come, to be able to rely on me. I don't want them to think I'm just a support worker and I don't care about them. I think that's it; I just want them to be in a good, have a good relationship with me so they can open up to me and speak to me about anything. (P4; Helping CI)

Additionally, where the staff member prioritised establishing the connection with the child *prior to* subsequently upholding a boundary, this has the impact of increasing the quality and trust within the relationship, and improving the likelihood that boundaries will be received well by the child. An example of increasing acceptance of boundaries is demonstrated by Participant 2 below, who was attempting to enforce a boundary relating to leaving the house at night.

> But then I also think it didn't affect our relationship much as it showed him again that I did care and that I was there for him, and that I was being persistent with him. I wanted him home. [...] I mean that's how I see it, so I don't know how he sees it. But for me, I feel like it shows that I'm consistent with him and shows that I do care. [...] So I was trying to sort of, "I understand that you want to be out with your friends, and I know it's hard that they can be out until whatever time, but you can't". So, I was trying to make him know that I understand. (P2; Helping CI)

Taking responsibility for creating an opportunity to re-establish the relationship (17 CIs, 80% Participation). This unanimously helping category referred to where there had been a deterioration in the quality of the relationship, and the staff member's role in taking responsibility for creating an opportunity to rebuild the relationship and work through the staff-

child relationship difficulties. CIs in this category included reflecting on the incident, explaining and sharing perspectives for actions from both sides, or apologising for where mistakes were made. The following quote from Participant 1 describes the importance of proactively making oneself available to the child to enable a reflective conversation after the child had gone missing.

> It was more just about sitting with him, not directly talking to him. Just yeah, like, I'm here if you want to talk, and I literally just sat on the sofa and he was sat on the sofa, and it was after about half an hour I think before he actually spoke to me. I ended up finding out where he'd been and what he'd been doing, who he'd been with, you know. [...] I'd asked him that question and he told me he didn't want to talk about it. So me sitting there, I'm not just going to walk away and leave him, so when he feel's ready, he'll talk to me. (P1; Helping CI)

In contrast, Participant 5 emphasises the importance of initiating an apology following a difficult interaction:

> Because as I said, you'll think about it and then you're going to have to come back to me, yeah. Same way, if I do a wrong, I'm going to be different though because I'm going come straight back to you and say to you, you know what, I really apologise for how I carried on. I was out of order, so can you accept my apology, you know what I mean. But it won't be that quick for him, it's going to take longer. (P5; Helping CI)

Active learning from observing and reflecting on the child's reactions to staff (14 CIs, 80% Participation). An exclusively helping category, CIs described the importance of actively observing previous or current interactions between the child and themselves/other staff,

and observing how the child has responded to different responses to develop their knowledge of what works best with a particular child. CIs also emphasised then consciously using their observations and gained knowledge to adapt their response in order to be able to protect their relationship. The importance of learning from observations is reflected below by Participant 3, who used their observations of reactions to other staff to understand relational triggers and strategies to calm themselves, and helped their felt confidence in responding effectively.

> I think I'm quite observant with how children react with other people and just how they are and their personality. I think I'm quite observant of the triggers and I try to keep a note of that for myself so that I can manage their behaviours with that. [...] I think it makes me calmer and less anxious and helps with the kids as well in terms of their emotions. I think it helps to keep a stable relationship, because I've worked so hard with the kids to form a bond, I think it just kind of helps that to stay the same. (P4; Helping CI)

Similarly, Participant 4 described how, knowing that demanding and loud behaviour can distress the child and escalate their behaviour, they consciously choose not to act this way towards the child.

> Because I have seen people in the past who have been very demanding and loud, and not given him a bit of breathing space in between and then gone back to him later to say, "let's try this again". They haven't done that, and he really has heightened to the point where a fire extinguisher went through the window. It was just in my end there's no point of getting him to that stage. [...] It's just not what I prefer to do because I know how it can affect him. (P3; Helping CI)

Flexibility in the implementation of boundaries (14 CIs, 80% Participation). Involving both helping and hindering CIs (10 helping, 4 hindering), this category emphasised the degree of flexibility a member of staff had to adapt agreed care plans, rules and boundaries to the needs of a specific situation. Helping CIs described how the option to implement boundaries flexibly allowed them to facilitate a positive outcome to an interaction through rewarding positive behaviour or meeting the child's emotional needs in the moment. In the following quote, Participant 1 described how being flexible on the rules around leaving the house, and not enforcing that he should return, facilitated increased trust within their relationship.

> I think as soon as we'd left him, he saw well, they have left me, they are giving me a little bit of trust. I think it meant quite a lot to him because he hadn't really had that within the placement in general. When he came here, he came here as someone who was half missing, and then he's also built that up since being here. (P1; Helping CI)

Opting for a more flexible approach is compared to the hindering CIs, which emphasised the detrimental impact of implementing care plans and boundaries rigidly without reference or sensitivity to the situation in hand. An example from Participant 2 demonstrates how feeling required to implement a behaviour plan rigidly meant they could not reward progress in a child's behaviour.

> Yeah, the fact that he'd done it. Like he's done it and he's proud because he's done his work, and then I'm like "no" because you haven't done enough work. But then he has done his work. So, it's frustrating for him and it's frustrating for me. I'd love to be like,

> mate you've done your work, you can go on it now. But then he didn't get up until late. If he's got up an hour earlier, then he could have had his time. [...] but the fact that he's got up and he's done education like we've asked. [...] But then I'm like saying "no" because you've not done enough. (P2; Hindering CI)

Upholding boundaries and consequences (7 CIs, 100% Participation). Although the smallest category, the importance of upholding boundaries (6 helping, 1 hindering) was reflected by all participants. This category emphasised the need to uphold boundaries with proportionate consequences as necessary in residential care to support the development of appropriate behaviour, for a child's future beyond the home, and to create structure and predictability for the child. In the following example, Participant 3 reflected on how upholding boundaries helped to establish expectations of behaviour within the relationship.

> I feel like less you do try to have those conversations with him and that the things he's doing are not okay. [...] I think they do help. Because there was an incident where he wouldn't get off his PlayStation, so I just turned the internet off. I did tell him I was going to do it, I was "nah you can come off now or I'm going to turn it off". He just went very like, urh, he didn't want to speak to me. I think the more he's gotten used to me having those conversations, I think it has, urm, it's definitely better than it was before. It has helped. (P3; Helping CI)

Systemic and Organisational Factors

Consistency with teams and systems (21 CIs, 100% Participation). Representing the largest category, this category included both helping and hindering CIs (10 helping, 9 hindering, 2 wish list). CIs within this category emphasised the importance of the level of consistency and

communication between different staff team members, and between the involved systems, in terms of their working styles, values, goals, and overall cohesiveness. Where consistency was greater in these areas, staff described how this contributed towards increased consistency in how members of the team approach difficulties, communicate with one another, and respond to the child and any other problems that arise. The following quote from Participant 3 reflects the importance staff placed on consistency between team members in their response to challenging behaviours.

> We do have quite a good team at the moment, so that definitely helps. [...] the way everyone deals with him as well. At the moment we are at a point where we are all pretty consistent in how we deal with him and we can all reflect on that and talk about it with each other, so that really helps because if you have one person in the team that you are not getting along with or that is causing drama it really does affect your practice and how you feel in that home. (P3; Helping CI)

In comparison, Participant 5 describes how a lack of communication between the home and school, and inconsistency in their goals regarding social media use, led to more problems at home that needed to be managed.

> So clearly in my head, there's a problem. Because I'm now trying to implement that you shouldn't be on social media, and this laptop's been given to him which is now open to social media. The reason he has a brick phone is because we're stopping him from social media, so now, we've now defeated the object. Which is that we're trying to stop him using social media, but then he's got social media through the laptop. [...] They don't really have a concern about him using it for social media. So then again,

there's a problem for us, isn't it? So, we haven't really been helped by the school, in order to say. (P5; Hindering CI)

Back up from other staff (16 CIs, 80% Participation). Although including a range of helping, hindering and wish list CIs, 'back up from other staff' was the only category to emerge as a predominantly 'wish list' category (8 CIs; 60% participation). This category referred to the level of support available from other staff during a challenging interaction or behaviour. Staff perceived support as important for providing the back up if a behaviour escalated, or if the child becomes more distressed. As described by Participant 4, lack of support could lead to anxiety about how to respond due to the potential for escalation.

Well, I kind of felt a bit weird as to why he did that when no one was around. I kind of, I was getting a bit anxious about it as well because I was thinking in my head that I was there by myself and that if he did escalate in his behaviour then I don't know how I would handle it by myself. I've only been working there for a short amount of time, I'm not as experienced as other staff members. (P4; Hindering CI)

Alongside easing anxiety in case of an escalation in behaviour, having support from staff was often described as being desired as it was felt that intervention from other staff could take the pressure off the responding staff member. It was felt this could then disperse any perceived negative impact on the relationship across multiple staff, rather than just one staff member, as described in the wish list item from Participant 2:

Probably staffing, just having someone else who knew him a bit better and could deal with the situation so that it didn't again just fall on me and be the one that had to sort

> everything out and be the one that was constantly there being like, do this, do this. Because I think that's a common thing. Most of the time it's me that's having to deal with it all. (P2; Wish List)

Supervision and training (11 CIs, 60% Participation). Involving helping (n = 5) and wish list (n = 6) CIs, this category referred to the provision of specific training or clinical supervision, such as with the home manager or linked psychologist, in enabling reflection on one's own practice, to gain a new perspective, improve knowledge and skills/techniques in relation to understanding and responding to challenging behaviours, and then using this to adapt practice to allow for more effective responding and improved relationships. The value of gaining a new perspective on how to respond is emphasised by Participant 1 concerning their understanding of when the child went missing from the home.

> Because it's all about getting fresh eyes on something. Say I spoke to my manager about a situation that had happened, she can talk to me about how she would have done it differently. [...] So, there are two main kids, one was [child] and another was my other keywork. Yeah, so we are discussing [child] quite regularly. It was mainly because we didn't understand what to do in regard to his missings (child going missing from the home) and stuff like that, and how we should respond to it, because we were doing absolutely everything. (P1; Helping CI)

Wish list CIs related to the desire to have training on a broader range of internalised behaviours, rather than focusing on externalised behaviours, to understand how to respond to them. This is reflected by Participant 4:

> Just knowing how to deal with that behaviour. I think that's the main thing that would have helped me. [...] Maybe just more training? On just how to deal with behaviour like ignoring, or just like that sort of behaviour. The behaviour that's not like aggression or anything like that, but it's more like withdrawn behaviour. Having training on that would help me quite a lot. [...] But with like, more minor things, like distancing and ignoring, I think not having training on that impacts it because you don't really know what to do. It's different to them like lashing out. How do we, you know, connect with them? (P4; Wish List)

Discussion

The current study aimed to build upon previous research into staff-child relationships in residential children's homes through increasing theoretical understanding into the impact of responding to challenging behaviours on staff-child relationships. Using an enhanced critical incident technique approach to identify factors that helped or hindered staff from developing or maintaining the staff-child relationship during actual interactions and challenging behaviours, this study identified a range of influential factors that included those internal to the individual staff member, the use of specific behavioural approaches, dyadic factors within the staff-child relationship, and characteristics of the broader organisational context. Overall, 17 categories were identified, organised into five super-ordinate categories: *behaviour meaning-making factors, individual staff characteristics, relational factors, strategies and techniques, and systemic and organisational factors.*

Of the 17 categories identified, four categories were considered to represent *'behaviour-meaning making factors'* related to staff's understanding and sense-making of a child's behaviour or changes in behaviour. These categories included considering the child's previous experience of trauma or abusive relationships, ongoing contextual stressors or triggers for the child, whether they interpreted a behaviour to be personally directed, and considering a situation

from the child's perspective. Broadly, all of these categories had the impact of affecting the staff member's ability to empathise with the child, the staff member's emotional response and the extent they experienced negative feelings towards the child, and ultimately their ability or willingness to respond sensitively to the child.

The importance of the staff member's meaning-making of the behaviour within this study, with staff understanding appearing to influence staff emotional and behavioural response to the behaviour, is consistent to an extent with the assumptions of attribution models of helping behaviour (Weiner, 1980; Weiner, 1986; Willner & Smith, 2008). While attribution models are frequently applied within ID settings for behaviours that challenge (McGuinness & Dagnan, 2001; Williams, 2016), it is notable that systematic reviews of attribution theory have identified inconsistent findings, with support for attribution models much weaker among naturalistic studies (Willner & Smith, 2008). Indeed, the suggestion that it may be over-simplistic to focus on internal staff attributions to explain residential childcare staff responses to children's behaviours is reinforced by this study. While staff understanding of the child's behaviour appeared to be important, this represented just one area of key factors, with the characteristics of the individual staff member, their skills and knowledge of different behavioural responses, and the systemic context within which they are working also all being described as influencing this process. These findings are in line with previous research by Morison et al. (2020), who highlighted the role of system factors (e.g., staff-child fit, placement instability, staffing ratios) when investigating attachment-informed care in residential homes, also emphasising the need to acknowledge the complexity and challenges of the residential context when applying theory in these contexts (Kor et al., 2021). Although determining how the various factors interact with one another is beyond the scope of this research, the findings reinforce the view that responding to children's behaviours represents a complex process involving multiple individual, relational, and system factors.

Notably, many of the identified categories of helping, hindering and wish list factors are consistent with the theoretical assumptions of attachment theory and formation of secure child-caregiver attachments, and are consistent with previous research that has suggested staff-child relationships are stronger when staff are engaging in attachment-based practices, even if unknowingly (Morison et al., 2020; Quiroga & Hamilton-Giachritsis, 2017). For example, the *behaviour-meaning making* categories, and particularly *"taking the child's perspective"*, parallel the attachment processes of attunement (i.e., 'tuning in' to the child's perspective and needs) (Bowlby, 1988; Chu et al., 2021) and reflective functioning (i.e., understanding others' actions in terms of mental states) (Rostad & Whitaker, 2016; Slade et al., 2005). Furthermore, many of the behavioural strategies described as helpful when encountering challenging behaviours, again, corresponded with the assumptions of attachment theory for facilitating a secure attachment. For example, the emphasis of staff taking creating space to re-establish the relationship reflects the need for a repair process following a relational rupture (Seigel & Hartzell, 2003), while the *"emotional connection and trust before boundaries"* category involved staff use of similar behavioural strategies to the *"connection before/with correction"* strategy taught within Dyadic Developmental Psychotherapy (Golding, 2015). Consequently, the findings indicate the importance of attachment-informed care within residential children's homes, supporting arguments for system-wide attachment-focused practice in these settings to create a foundation for facilitating good quality staff-child relationships (Cahill et al., 2016; McLean et al., 2013; NICE, 2015)

The hindering category of *"feeling care efforts are rejected or ineffective"* described a strong emotional response that staff experienced when they felt that their care was rejected or unwanted by the child, or where they were failing to make a positive difference, which led to negative feelings towards the child, and withdrawal from the relationship. Alongside the hindering impact of a lack of *"responsiveness and engagement from the child"*, these categories

align with the concept of ‘blocked care’ in the fostering and adoption literature, described by Hughes and Baylin (2012). Blocked care refers to a self-protective response within the caregiver that occurs in response to the stress of caring for a child that remains mistrustful of the caregiver and rejects their care, resulting in reactive care and suppression of empathy for the child (Baylin, 2017; Hughes & Baylin, 2012).

While ‘blocked care’ has not been studied within residential childcare settings, nor tested empirically in any context (Harris-Waller et al., 2016; Staines et al., 2019), it has been compared with the construct of "empathic distress" in the adult literature. Empathic distress is defined as a strong negative and self-focused stress response to others' distress and/or suffering, accompanied by the desire to withdraw and disconnect from those who are suffering (Hofmeyer et al., 2017; Kilmecki & Singer, 2012). Empathic distress has been suggested to be a key predictor associated with occupational burnout in caring professions, and the adoption of depersonalised caregiving behaviours (Hofmeyer et al., 2017), and is particularly associated with caring for traumatised populations, such as children in the 'looked after' system (Ireland & Huxley, 2018). These findings support the notion of a bi-directional relationship between staff burnout and children’s behaviours in residential care, where the attachment behaviours of the children contribute towards staff burnout and use of unhelpful depersonalised staff responses to challenging behaviour, which in turn have a further detrimental impact on staff-child relationships (Kind et al., 2018; Winstanley & Hales, 2015). Hence, any organisation-wide support offered within these contexts needs to focus not only on the knowledge and skills of residential care staff, but also on emotional support available given relational challenges of working with those that have experienced relational trauma.

Within the findings, there was an apparent contradiction concerning the use of boundaries. While staff all acknowledged boundaries were helpful via the category *‘upholding boundaries and consequences’*, staff emphasised both a need for consistency between team

members to create predictability for the child (i.e., *"consistency within teams and systems"*), alongside the need to adapt behaviour plans and boundaries depending on the situation (i.e., *"flexibility in the implementation of boundaries"*). Within residential childcare contexts, this suggests a need for services to strive for consistency within the team in *how* and *when* they adapt agreed boundaries and behaviour plans, rather than achieving consistency via rigid implementation regardless of context, in order to promote positive staff-child relationships. While such a balance may be complex for organisations to achieve, the need for consistent flexibility within the system is comparable to the concept of "flexibility within fidelity" in the psychotherapy literature (Fonagy & Luyten, 2019), where interventions adhere sufficiently to a protocol, but where the therapist has the permission within the system to flexibly adapt the protocol to the specific individual's needs (Kendall & Frank, 2019).

Strengths and Limitations

The primary limitation is the small homogenous sample. With only five participants, mostly female, all reflecting on their relationships with adolescent boys, caution should be taken in generalising the findings of this study to all staff-child relationships. There may be notable gender differences, both in terms of the gender of staff and the children in residential care, that are influential in the formation and maintenance of staff-child relationships, which were not identified. While adolescent boys represent the majority of those placed in residential care, with women representing the majority of care staff (Berridge et al., 2010), research into predictors of staff-child relationships has suggested significant gender differences in emotional closeness and support seeking, versus relation avoidance and conflict, between adolescent girls and boys respectively (Costa et al., 2020; Sonderman et al., 2021). Given no participants reflected on their relationships with girls, it is not possible to determine whether gender differences would have been observed, or whether the focus on boys skewed the documented challenging behaviours towards those associated with relational avoidance and conflict (e.g., running away,

ignoring staff, abusive comments). Furthermore, a larger, more heterogenous sample may have meant the categories that did not meet the participation criteria may have achieved greater representation and hence met the required participation rate. Hence, the findings of this study should be interpreted and applied in the context of the small homogenous sample.

The small sample also meant exhaustiveness could not be confidently achieved, as per the fourth credibility check described by Butterfield et al. (2009). Although no new categories emerged after the fourth interview, with only one subsequent interview, it cannot be confidently known that more categories would not have emerged with subsequent interviews given the small sample. This is particularly pertinent given the range of influential factors identified may have been limited by the homogenous sample, with more categories potentially emerging with a more heterogeneous sample. Hence claims of exhaustion would be inappropriate for this study.

Despite the small sample limiting generalisability, this study demonstrates strengths that increase the confidence in the findings obtained. ECIT has previously been criticised for its reliance upon participant recall, which may be vulnerable to inaccuracy due to recall errors and biases (Bott & Tourish, 2016; Gremler, 2004). The current study addressed this limitation by including a pre-interview diary, with 92% of entries written within 24-hours of the behaviour occurring, increasing confidence in the reliability of the information discussed at the interview (Bott & Tourish, 2016). Alongside aiding participant recall during the interview, the diary potentially acted to reduce the influence of social desirability bias, compared to an interview alone, through encouraging disclosure of professionally or socially undesirable information (Mackrill, 2008). The use of diaries of actual behaviours also adds ecological validity, overcoming the limitations of previous literature into staff responses to challenging behaviours, which have generally relied upon use of fictional vignettes, which may not represent the complexity of live interactions (Bailey et al., 2006; Lucas et al., 2009; Willner & Smith, 2008).

The trustworthiness of the findings is also increased by the ECIT credibility checks (Butterfield et al., 2009). These included establishing consistency of CI extraction and descriptive validity of the final categories through independent categorisation, alongside cross-checking with participants. Although exhaustion could not be confidently achieved, all other checks achieved satisfactory results. As a descriptive and objective qualitative method, these credibility checks increase the confidence that individual researcher biases and interpretations have not overly influenced conclusions.

Implications for Practice

Consistent with ECIT, analysis was conducted within a 'frame of reference' defined by the use intended to be made of the findings (Butterfield et al., 2009). In this study, this referred to factors influencing the quality of staff-child relationships and could inform support offered to staff and homes to create environments that facilitate good quality staff-child relationships.

Given the helpful role of *behaviour meaning-making factors*, and the categories of *'active learning from observing and reflecting on the child's reactions to staff'* and *'supervision and training',* the findings support the potential value of attachment-focused and trauma-informed staff training and formulation focused on understanding the impact of developmental trauma on child development and relationships for staff in residential children's homes. As highlighted within the 'expert opinion' gained within the eighth credibility check, while staff may receive training to understand the impact of early developmental trauma, they often need ongoing support to hold this in mind and apply during their interactions with the children. Consequently, the findings of this study would support the value of ongoing psychological formulations and facilitated reflective practice for the staff to support them to make sense of a child's behaviour, increase their capacity to empathise, and respond more sensitively.

To date, the impact of team formulation has not been researched in residential childcare settings, although qualitative research with staff working with other complex populations (e.g.,

secure care, probation) suggests formulation meetings are valued for increasing patient understanding and increasing cohesion (Berry et al., 2016; Knauer et al., 2017), which was highlighted as important by staff within the helping category of *"consistency within teams and systems"*. While conclusive outcome evidence for the impact of formulation meetings among care staff is lacking (Geach et al., 2018), recent research has provided some early evidence that formulation meetings can effectively increase psychological understanding and empathy among staff working with other complex populations (Buckley et al., 2020; Whitton et al., 2016).

While psychological formulation may be helpful for care staff, when a staff member holds in mind a child's formulation, they are also required to hold in mind the child's trauma, which can be distressing for staff and, in turn, increase vulnerability to vicarious trauma and empathic distress (Brend, 2020). Given the potential role of empathic distress, it may be beneficial for residential childcare providers to focus on known predictors for empathic distress (e.g., compulsive caregiving, insecure attachment style, poor self-care etc.) (Salloum et al., 2015; Sochos & Aljasas, 2020) in their recruitment processes, alongside implementing emerging evidence-based staff support that focuses on development of self-care and emotion regulation capabilities (e.g., compassion-focused staff support) (Lucre & Taylor, 2020). Finally, residential childcare organisations and staff may benefit from support that focuses less on outcomes achieved, or effectiveness, and instead reinforces positive examples of attachment-focused caregiving, regardless of the outcome.

Directions for Future Research

The findings of this study emphasise both the role of systemic factors on the development and maintenance of staff-child relationships and the role of organisation-wide support to enable a system-wide approach to support staff to better manage the challenges of their role. While conducting research in residential childcare is challenging (Mezey et al.,

2016), future quantitative research into the impact of organisation-wide attachment-informed and trauma-informed care models (e.g., ARC; Kinniburgh et al., 2005) on staff-child relationships in residential care would be beneficial (Bailey et al., 2019; Brend, 2020; Parry et al., 2021), particularly given the growing qualitative research support indicating the importance of these processes (Morison et al., 2020; Quiroga & Hamilton-Giachritsis, 2017).

Conclusions

In conclusion, a complex range of factors both internal to the staff member, within the staff-child relationship, and within the organisational context, appear to influence the formation and maintenance of staff-child relationships given the challenges posed by the emotional, behavioural and relational difficulties of the children placed in residential homes. The findings support, to an extent, existing attribution theories for helping behaviour, as well as the role of attachment theory in facilitating good quality staff-child relationships. Given these findings, organisation-wide interventions that include staff training and ongoing formulation and reflective practice are likely to be necessary to support the development and maintenance of supportive staff-child relationships given the complexity and challenges posed by these settings.

References

Audin, K., Burke, J., Ivtzan, I. (2018). Compassion fatigue, compassion satisfaction and work engagement in residential child care. *Scottish Journal of Residential Care, 17(*3), 3-25.

Back, M. D., Baumert, A., Denissen, J. J., Hartung, F. M., Penke, L., Schmukle, S. C., ... & Wrzus, C. (2011). PERSOC: A unified framework for understanding the dynamic interplay of personality and social relationships. *European Journal of Personality, 25*(2), 90-107. https://doi.org/10.1002/per.811

Bailey, B. A., Hare, D. J., Hatton, C., & Limb, K. (2006). The response to challenging behaviour by care staff: Emotional responses, attributions of cause and observations of practice. *Journal of Intellectual Disability Research, 50(*3), 199-211. https://doi.org/10.1111/j.1365-2788.2005.00769.x

Bailey, C., Klas, A., Cox, R, Heidi, B., Avery, J., & Skouteris, H. (2019). Systematic review of organisation-wide, trauma-informed care models in out-of-home care (OoHC) settings. *Health & Social Care in the Community, 27*(3), e10-22. https://doi.org/10.1111/hsc.12621

Baylin, J. (2017). Social buffering and compassionate stories: The neuroscience of trust building with children in care. *Australian and New Zealand Journal of Family Therapy, 38,* 606-612. https://doi.org/10.1002/anzf.1272

Berridge, D., Biehal, N., & Henry, L. (2010). *Living in Children's Residential Homes – Research Report DFE-RR201.* London, UK : Department for Education.

Berry, K., Haddock, G., Kellett, S., Roberts, C., Drake, R., & Barrowclough, C. (2016). Feasibility of a ward-based psychological intervention to improve staff and patient relationships in psychiatric rehabilitation settings. *The British Journal of Clinical Psychology, 55*(3), 236–252. https://doi.org/10.1111/bjc.12082

Bott, G., & Tourish, D. (2016). The critical incident technique reappraised: Using critical incidents to illuminate organisational practices and build theory. *Qualitative Research in Organizations and Management, 11*(4), 276-300. https://doi.org/10.1108/QROM-01-2016-1351

Bowlby, J. (1988) *A Secure Base: Clinical Applications of Attachment Theory.* London, UK: Routledge.

Brend, D. M. (2020). Residential childcare workers in child welfare and moral distress. *Children and Youth Services Review, 119,* 105621. https://doi.org/10.1016/j.childyouth.2020.105621

Brouwers, A., & Tomic, W. (2016). Job-demands, job control, social support, self-efficacy, and burnout of staff of residential children's homes. *Educational Practice and Theory, 38*(1), 89-107. https://doi.org/10.7459/ept/38.1.07

Buckley, S. Tickle, A., & McDonald, S. (2020). Implementing psychological formulation into complex needs homeless hostels to develop a psychologically informed environment. *Journal of Social Distress and Homelessness.* Advance online publication. https://doi.org/10.1080/10530789.2020.1786922

Butterfield, L. D., Borgen, W. A., Amundson, N. E., & Maglio, A. T. (2005). Fifty years of the critical incident technique: 1954-2004 and beyond. *Qualitative Research, 5,* 475-497. https://doi.org/10.1177/1468794105056924

Butterfield, L. D., Borgen, W. A., Maglio, A, T., & Admundson, N. E. (2009). Using the enhanced critical incident technique in counselling psychology research. *Canadian Journal of Counselling, 43*(4), 265-282. https://cjc-rcc.ucalgary.ca/

Butterfield, L. D., Borgen, W. A., Amundson, N. E., & Erlebach, A. C. (2010). What helps and hinders workers in managing change. *Journal of Employment Counselling, 47,* 146-156. https://doi.org/10.1002/j.2161-1920.2010.tb00099.x

Cahill, O., Holt, S., & Kirwan, G. (2016). Keyworking in residential childcare: Lesson's from research. *Children and Youth Services Review, 65,* 216-223. https://doi.org/10.1016/j.childyouth.2016.04.014

Chu, A. T., Ippen, C. G., & Lieberman, A. F. (2021). It's all about the relationship: The role of attachment in Child-Parent Psychotherapy. *Research on Child and Adolescent Psychopathology, 49(*5), 591-593. https://doi.org/10.1007/s10802-020-00741-5

Colton, M. & Roberts, S. (2007). Factors that contribute to high turnover among residential child care staff. *Child and Family Social Work, 12*. 133-142. https://doi.org/10.1111/j.1365-2206.2006.00451.x

Costa, M. Melim, B., Tagliabue, S. Mota, A. P. (2020) Predictors of the quality of the relationship with caregivers in residential care. *Children and Youth Services Review, 108,* 104579. https://doi.org/10.1016/j.childyouth.2019.104579

Dregan, A., & Guildford, M. C. (2012). Foster care, residential care and public care placement patterns are associated with adult life trajectories: Population-based cohort study. *Social Psychiatry and Psychiatric Epidemiology, 47*, 1517-1526. https://doi.org/10.1007/s00127-011-0458-5

Filep, C. V., Turner, S., Eidse, N., Thompson-Fawcett, M., & Fitzsimons, S. (2018). Advancing rigour in solicited diary research, *Qualitative Research, 18*(4), 451-470. https://doi.org/10.1177/1468794117728411

Flanagan, J. C. (1954). The critical incident technique. *Psychological Bulletin, 51*, 327-358. https://doi.org/10.1037/h0061470

Fonagy, P. & Luyten, P. (2019). Fidelity vs. flexibility in the implementation of psychotherapies: Time to move on. *World Psychiatry, 18*(3), 270-271. https://doi.org/10.1002/wps.20657

Gallagher, B., & Green, A. (2012). In, out and after care: Young adult's views on their lives as children in a therapeutic residential establishment. *Children and Youth Services Review, 34*(2), 437-450. https://doi.org/10.1016/j.childyouth.2011.11.014

Geach, N., Moghaddam, N. G., & De Boos, D. (2018). A systematic review of team formulation in clinical psychology practice: Definition, implementation, and outcomes. *Psychology and Psychotherapy: Theory, Research and Practice*, *91*(2), 186-215. https://doi.org/10.1111/papt.12155

Golding, K. S. (2015). Connection before correction: Supporting parents to meet the challenges of parenting children who have been traumatized within their early parenting environments. *Children Australia, 40*(2), 1-8. https://doi.org/10.1017/cha.2015.9

González-Garcia, C., Bravo, A., Arruabarrena, I., Martin, E., Santos, I., & Del Valle, J. F. (2017). Emotional and behavioural problems of children in residential care: Screening detection and referrals to mental health services. *Children and Youth Services Review, 73,* 100-106. https://doi.org/10.1016/j.childyouth.2016.12.011

Gremler, D. D. (2004). The critical incident technique in service research. *Journal of Service Research, 7*(1), 65-89. https://doi.org/10.1177/1094670504266138

Groh, A. M., Narayan, A. J., Bakermans-Kranenburg, M. J., Roisman, G. I., Vaughn, B. E., Fearon, R., & van IJzendoorn, M. H. (2017). Attachment and temperament in the early life course: A meta-analytic review. *Child Development, 88*(3), 770–795. https://doi.org/10.1111/cdev.12677

Gutterswijk, R. V. Kuiper, C. H. Z., Lautan, N., Kunst, E. G., van der Horst, F. C. P., Stams, G. J. J. M., & Prinzie, P. (2020). The outcome of non-residential youth care compared to residential youth care: A multi-level meta-analysis. *Children and Youth Services Review, 113,* 104950. https://doi.org/10.1016/j.childyouth.2020.104950

Harder. A. T., Knorth. E. J., & Kalverboer, M. E. (2013). A secure base? The adolescent-staff relationship in secure residential youth care. *Child and Family Social Work, 18*, 305-317. https://doi.org/10.1111/j.1365-2206.2012.00846.x

Harris-Waller, J., Granger, C., & Gurney-Smith, B. (2016). A comparison of parenting stress and children's internalising, externalising and attachment-related behaviour difficulties in UK adoptive and non-adoptive families. *Adoption & Fostering, 40*(4), 340-351. https://doi.org/10.1177/0308575916667911

Hofmeyer, A., Kennedy, K., & Taylor, R. (2020). Contesting the term 'compassion fatigue': Integrating findings from social neuroscience and self-care research. *Collegian, 27*(2), 232-237. https://doi.org/10.1016/j.colegn.2019.07.001

Hughes DA and Baylin J (2012) *Brain-based Parenting: The neuroscience of caregiving for healthy attachment.* London: Norton.

Ireland, C. A., & Huxley, S. (2018). Psychological trauma in professional working with traumatised children. *Journal of Forensic Practice, 20*(2), 141-151. https://doi.org/10.1108/JFP-10-2017-0045

Jahoda, A., & Wanless, K. (2005). Interpersonal perceptions of staff towards aggressive individuals. *Journal of Intellectual Disability Research, 49*(7), 544-551. https://doi.org/10.1111/j.1365-2788.2005.00693.x

Jozefiak, T., Kayed, N. S., Rimehaug, T., Wormdal, A. K., Brubakk, A. M., & Wichstrøm, L. (2016). Prevalence and comorbidity of mental disorders among adolescents living in residential youth care. *European Child & Adolescent Psychiatry, 25(*1), 33-47. https://doi.org/10.1007/s00787-015-0700-x

Kendall, P. C., & Frank, H. A. (2018). Implementing evidence-based treatment protocols: Flexibility within fidelity. *Clinical Psychology Science and Practice,* e12271. https://doi.org/10.1111/cpsp.12271

Kilmecki, O., & Singer, T. (2012). Empathic distress fatigue rather than compassion fatigue? Integrating findings from empathy research in psychology and social neuroscience. In B. Oakley, A. Knafo, G. Madhavan, & D. Wilson (Ed.).*Pathological Altruism* (pp. 369-383). Oxford University Press.

Kind, N., Eckert, A., Steinlin, C., Fegert, J. M. & Schmid, M. (2018). Verbal and physical client aggression: A longitudinal analysis of professional caregiver's psychophysiological stress response and burnout. *Psychoneuroendocrinology, 94,* 11-16. https://doi.org/10.1016/j.psyneuen.2018.05.001

Kinniburgh, K. J., Blaustein, M., Spinazzola, J., van der Kolk, B. (2005). Attachment, self-regulation and competence: A comprehensive intervention framework for children with complex trauma. *Psychiatric Annals, 35*(5), 424-430. https://journals.healio.com/journal/psych/about-the-journal

Knauer, V., Walker, J., & Roberts, A. (2017). Offender personality disorder pathway: The impact of case consultation and formulation with probation staff. *The Journal of Forensic Psychiatry & Psychology*, *28*(6), 825-840. https://doi.org/10.1080/14789949.2017.1331370

Kor, K., Fernandez, E., & Spangaro, J. (2021). Relationship-based practice in therapeutic residential care: A double-edged sword. *The British Journal of Social Work*. Advance online publication. https://doi.org/10.1093/bjsw/bcab018

Lamothe, J., Couvrette, A., Lebrun, G., Yale-Soulière, G., Roy, C., Guay, S., Geoffion, S. (2018). Violence against child protection workers: A study of workers' experiences, attributions and coping strategies. *Child Abuse and Neglect, 81*, 308-321. https://doi.org/10.1016/j.chiabu.2018.04.027

Leloux-Opmeer, H., Kuiper, C. H. Z., Swaab, H. T., & Scholte, E. M. (2017). Children referred to foster care, family-style group care, and residential care: (How) do they differ?

Children and Youth Services Review, 77, 1-9. https://doi.org/10.1016/j.childyouth.2017.03.018

Lou, Y., Taylor, E. P., & Di Folco, S. (2018). Resilience and resilience factors in children in residential care: A systematic review. *Children and Youth Services Review, 89*, 83-92. https://doi.org/10.1016/j.childyouth.2018.04.010

Lowell, A., Renk, K., Adgate, A. H. (2014). The role of attachment in the relationship between child maltreatment and later emotional and behavioral functioning. *Child Abuse and Neglect, 38*(9), 1436-1449. https://doi.org/10.1016/j.chiabu.2014.02.006

Lucas, V. L., Collins, S., & Langdon, P. E. (2009). The causal attributions of teaching staff towards children with intellectual disabilities: A comparison of 'vignettes' depicting challenging behaviour with 'real' incidents of challenging behaviour. *Journal of Applied Research in Intellectual Disabilities, 22,* 1-9. https://doi.org/10.1111/j.1468-3148.2008.00428.x

Lucre K., Taylor J. (2020) To suffer with: compassion focused staff support as an antidote to the cost of caring in forensic services. In: Swaby H., Winder B., Lievesley R., Hocken K., Blagden N., Banyard P. (eds) *Sexual Crime and Trauma. Sexual Crime.* Palgrave Macmillan, Cham. https://doi.org/10.1007/978-3-030-49068-3_6

Mackrill, T. (2008). Solicited diary studies of psychotherapy in qualitative research - Pros and cons. *European Journal of Psychotherapy and Counselling, 10*(1), 5-18. https://doi.org/10.1080/13642530701869243

Maslach, C., & Jackson, S. (1981). The measurement of experienced burnout. *Journal of Organizational Behaviour, 2*(2), 99-113. https://doi.org/10.1002/job.4030020205

McAuley, C., & Davis, T. (2009). Emotional well-being and mental health of looked after children in England. *Child & Family Social Work, 14*(2), 147-155. https://doi.org/10.1111/j.1365-2206.2009.00619.x

McDaniel, M. M., Borgen, W. A., Buchanan, M. J., Butterfield, L. D., & Amundson, N. E. (2020). The philosophical underpinnings of the Enhanced Critical Incident Technique. *Canadian Journal of Counselling and Psychotherapy, 54*(4), 738-755. https://doi.org/10.47634/cjcp.v54i4.68139

McGuinness, P. & Dagnan, D. (2001). Cognitive emotional reactions of care staff to difficult child behaviour, *Behavioural and Cognitive Psychotherapy, 29,* 295-302. https://doi.org/10.1017/S1352465801003034

McGuinness, C. (2007). *Foster carers' attributions about problematic behaviour in 'children looked after' by local authorities* (Doctoral thesis).

McLean, S., Riggs, D., Kettler, L., & Delfabbro, P. (2013). Challenging behaviour in out-of-home care: Use of attachment ideas in practice. *Child & Family Social Work, 18*(3), 243–252. doi:10.1111/j.1365-2206.2012.00825.x

McLean, S. (2015). Managing behaviour in child residential group care: Unique tensions. *Child and Family Social Work, 20,* 344-353. https://doi.org/10.1111/cfs.12083

Mezey, G., Robinson. F., Campbell, R., Gillard, S., Macdonald, G., Meyer, D., … White, S. (2015). Challenges to undertaking randomised controlled trials with looked after children in social care settings. *Trials, 16,* 206. https://doi.org/10.1186/s13063-015-0708-z

Moore, T., McArthur, M., Death, J., Tilbury, C., & Roche, S. (2018). Sticking with us through it all: The importance of trustworthy relationships for children and young people in residential care. *Children and Youth Services Review, 84*, 68-75. https://doi.org/10.1016/j.childyouth.2017.10.043

Morgan, K., & Baron, R. (2011). Challenging behaviour in looked after young people, feelings of parental self-efficacy and psychological wellbeing in foster carers. *Adoption and Fostering, 35*(1), 18-32. https://doi.org/10.1177/030857591103500104

Morison, A., Taylor, E., & Gervais, M. (2020). How a sample of residential childcare staff conceptualise and use attachment theory. *Child and Youth Services, 41*(1), 3-27. https://doi.org/10.1080/0145935X.2019.1583100

Moses, T. (2000). Attachment theory and residential treatment: A study of staff-child relationships. *American Journal of Orthopsychiatry,* 70(4), 474-490. https://doi.org/10.1037/h0087681

Narey, M. (2016). *Residential Care in England: Report of Sir Martin Narey's Independent Review of Children's Care*. London, UK: Department for Education.

National Institute for Health and Care Excellence [NICE]. (2015). *Children's attachment: Attachment in children and young people who are adopted from care, in care or at high risk of going into care. NICE Guidelines NG26*. London, UK: National Institute for Health and Care Excellence. Retrieved from www.nice.org.uk/guidance/ng26.

Ofsted. (2020). *Children's Social Care in England 2020.* London, UK: Ofsted. Retrieved from: www.gov.uk/government/statistics/childrens-social-care-data-in-england-2020

Parry, S. L., Williams, T., Burbidge, C. (2021). Restorative parenting: Delivering trauma-informed residential care for children in care. *Child & Youth Care Forum.* Advance online publication. https://doi.org/10.1007/s10566-021-09610-8

Quiroga, M. G., & Hamilton-Giachritsis, C. (2016). Attachment styles in children living in alternative care: A systematic review of the literature. *Child & Youth Care Forum, 45*, 625-653. https://doi.org/10.1007/s10566-015-9342-x

Quiroga, M. G., & Hamilton-Giachritsis. C. (2017). The crucial role of the micro-caregiving environment: Factors associated with attachment styles in alternative care in Chile. *Child Abuse & Neglect, 70,* 169-179. https://doi.org/10.1016/j.chiabu.2017.05.019

Rostad, W. L., & Whitaker, D. J. (2016). The association between reflective functioning and parent–child relationship quality. *Journal of Child and Family Studies, 25*(7), 2164-2177. https://doi.org/10.1007/s10826-016-0388-7

Salloum, A., Kondrat, D. C., Johnco, C., & Olson, K. R. (2015). The role of self-care on compassion satisfaction, burnout and secondary trauma among child welfare workers. *Children and Youth Services Review, 49,* 54-61. https://doi.org/10.1016/j.childyouth.2014.12.023

Schofield, G., Biggart, L., Ward, E., & Larsson, B. (2015). Looked after children and offending: An exploration of risk, resilience and the role of social cognition. *Children and Youth Services Review, 51,* 125-133. https://doi.org/10.1016/j.childyouth.2015.01.024

Siegel, D. J., & Hartzell, M. (2003). *Parenting from the inside out: How a deeper self-understanding can help you raise children who thrive.* New York, NY: Tarcher.

Seti. C. L. (2008). Causes and treatment of burnout in residential child care workers: A review of the research. *Residential Treatment for Children and Youth, 24*(3), 197-229. https://doi.org/10.1080/08865710802111972

Sherman, L. J., Rice, K., & Cassidy, J. (2015). Infant capacities related to building internal working models of attachment figures: A theoretical and empirical review. *Developmental Review, 37,* 109-141. https://doi.org/10.1016/j.dr.2015.06.001

Slade, A., Grienenberger, J., Bernbach, E., Levy, D., & Locker, A. (2005). Maternal reflective functioning, attachment, and the transmission gap: A preliminary study. *Attachment & Human Development, 7(*3), 283-298. https://doi.org/10.1080/14616730500245880

Sochos, A., & Al-Jasas, N. (2020). Attachment provision in the Saudi orphanages: Exploring the narratives of residential staff. *International Journal of Social Welfare, 29,* 224-254. https://doi.org/10.1111/ijsw.12415

Sonderman, J., van der Helm, G. H. P., Kuiper, C. H. Z., Roest, J. J., van de Mheen, D., & Stams, G. J. J. M. (2021). Differences between boys and girls in perceived group climate in residential youth care. *Children and Youth Services Review, 120,* 105628. https://doi.org/10.1016/j.childyouth.2020.105628

Straines, J., Golding, K., Sewlyn, J. (2019). Nurturing attachments parenting program: The relationship between parents' reflective functioning and perception of their child's difficulties. *Developmental Child Welfare, 1*(2), 143-158. https://doi.org/10.1177/2516103219829861

Steckley, L. (2020). Threshold concepts in residential child care: Part 2, relational practice as threshold. *Children and Youth Services Review, 112,* 104825. https://doi.org/10.1016/j.childyouth.2020.104825

Swan, M., Holt, S., Kirwan, G. (2018). 'Who do I turn to if something really bad happens?' Key working and relationship-based practice in residential child care. *Journal of Social Work Practice, 32*(4), 447-461. https://doi.org/10.1080/02650533.2018.1503161

Taris, T. W., Le Blanc, P. M., Schaufeli, W. B., & Schreurs, P. J. G. (2005). Are there causal relationships between the dimensions of the Maslach burnout inventory? A review and two longitudinal tests. *Work and Stress, 18*(3), 238-255. https://doi.org/10.1080/02678370500270453

Teyhan, A. T., Wijedasa, D., & Macleod, J. (2018). Adult psychosocial outcomes of men and women who were looked-after or adopted as children: Prospective observational study. *BMJ Open, 8*(2), e019095. https://doi.org/10.1136/bmjopen-2017-019095

Viner, R. M., & Taylor, B. (2005). Adult health and social outcomes of children who have been in public care: Population-based study. *American Academy of Pediatrics, 115*(4), 894-899. https://doi.org/10.1542/peds.2004-1311

Wanless L. K. & Jahoda A. (2002) The responses of staff to aggressive behaviour in adults with mild to moderate intellectual disability: a cognitive-emotional analysis. *Journal of Intellectual Disability Research, 46*, 507-516. https://doi.org/10.1046/j.1365-2788.2002.00434.x

Warner, H. A., McCall, R. B., Groarch, C. J., Kim, K. H., Muhamedrahimov, R. J., Palmov, O. L., & Nikiforova, N. V. (2017). Caregiver-child interaction, caregiver transitions, and group size as mediators between intervention condition and attachment and physical growth outcomes in institutionalized children. *Infant Mental Health Journal, 38*(5), 645-657. https://doi.org/10.1002/imhj.21666

Weiner, B. (1980). A cognitive (attribution)-emotion-action model of motivated behavior: An analysis of judgements of help-giving. *Journal of Personality and Social Psychology, 39,* 186–200. https://doi.org/10.1037/0022-3514.39.2.186

Weiner, B. (1986). *An attribution theory of motivation and emotion.* New York, NY: Springer-Verlag.

Welch, V. Fowler, N., Ross, E., Withington, R., McGhee, K. (2018). *In and beyond the care setting: Relationships between young people and care workers. A Literature Review.* Centre for Excellence for Looked After Children in Scotland.

West, A. L. (2015). Associations among attachment style, burnout, and compassion fatigue in health and human service workers: A systematic review. *Journal of Human Behavior in the Social Environment, 25*(6), 571-590. https://doi.org/10.1080/10911359.2014.988321

Whitton, C., Small, M., Lyon, H., Barker, L., & Akiboh, M. (2016). The impact of case formulation meetings for teams. *Advances in Mental Health and Intellectual Disabilities, 10*(2), 145–157. https://doi.org/10.1108/AMHID-09-2015-0044

Williams, H. (2016). *An exploration of the interpersonal perceptions of care staff working in residential children's homes about the children and young people whose behaviour they experience as challenging* (Doctoral thesis). University of Southampton.

Willner, P., & Smith, M. (2008). Attribution theory applied to helping behaviour towards people with intellectual disabilities who challenge. *Journal of Applied Research in Intellectual Disabilities, 21*(2), 150-155. https://doi.org/10.1111/j.1468-3148.2007.00390.x

Winstanley, s., & Hales, L. (2015). A preliminary study of burnout in residential social workers experiencing workplace aggression: Might it be cyclical? *The British Journal of Social Work, 45*(1), 24-33. https://doi.org/10.1093/bjsw/bcu036

Woolsey, L. (1986). The critical incident technique: An innovative method of research. *Canadian Journal of Counselling, 20,* 242-254. https://cjc-rcc.ucalgary.ca/

Viergever, R. F. (2019). The critical incident technique: method or methodology? *Qualitative Health Research, 29*(7), 1065-1079. https://doi.org/10.1177/1049732318813112

Zimmerman, D. H. & Wieder, D. L. (1977). The diary: Diary-interview method. *Urban Life, 5*(4), 479-498. https://doi.org/10.1177/089124167700500406

CHAPTER THREE

PRESS RELEASE

Chapter 1 – Meta-Analysis

Children who experience maltreatment from their parent are more likely to have mental health problems and be involved in crime. Some researchers have suggested the poor outcomes for maltreated children are due to the children not being able to form a secure and trusting relationship with their parent.

Trying to identify the children at risk of maltreatment is difficult, and we know social services will not identify most cases of maltreatment. However, we know parents who have a history of mental health problems, substance use, or domestic violence are more likely to maltreat their children. Researchers have developed psychological interventions that aim to help these high-risk parents and children develop a secure and trusting relationship, known as "attachment-based parenting interventions", to improve outcomes for children who may experience parental maltreatment.

We examined 37 studies where researchers had investigated how effective their attachment-based parenting intervention was at improving the relationship between the parent and the child, how sensitive they were towards their child, and their ability to take their child's perspective. We also compared the impact the interventions had on the parents' stress and depression and children's emotional well-being and behaviour. We examined how well each study had been conducted and compared how large the improvements were across studies to determine whether, overall, these types of interventions help parents at high risk of child maltreatment. We only included research studies where they compared those receiving a parenting intervention against those that did not receive an intervention.

Across all the studies, we found attachment-based parenting interventions do help high-risk parents. Among those who did receive an intervention, 29% more children had a secure and trusting relationship with their parents than those whose parents did not receive anything. Parents were also found to be more sensitive towards their children and more able to take their

child's perspective after an intervention. However, our findings suggest attachment-based parenting interventions do not improve the parent's symptoms of depression or stress. We also did not find any improvements in the child's well-being or behaviour, but this could be because researchers did not follow up on the children long-term.

These findings suggest attachment-based parenting interventions would benefit high-risk parents as they improve parenting behaviours and promote a secure and trusting relationship, but we don't yet know if this leads to longer-term benefits for the child due to current studies not following up on the children long-term.

Chapter 2 – Empirical Paper

'Looked after' children living in residential children's homes demonstrate particularly poor long-term outcomes. They are more likely to leave school without any educational qualifications, experience mental health problems, and get a criminal record. However, researchers have found outcomes are better for these children if they can develop at least one strong and trusting relationship with an adult, such as a residential care worker. Relationships between staff and children can be hard to develop, however, as staff often find working with children's behaviour challenging.

We interviewed five residential care workers about their relationships with children. Before the interview, the staff completed a diary of five times they responded to a particular child's behaviour. In the interview, we asked them about things that 'helped', 'hindered', or *would have* helped them to respond in a way that could develop or maintain a good quality relationship with the child, shown in Figure 1.

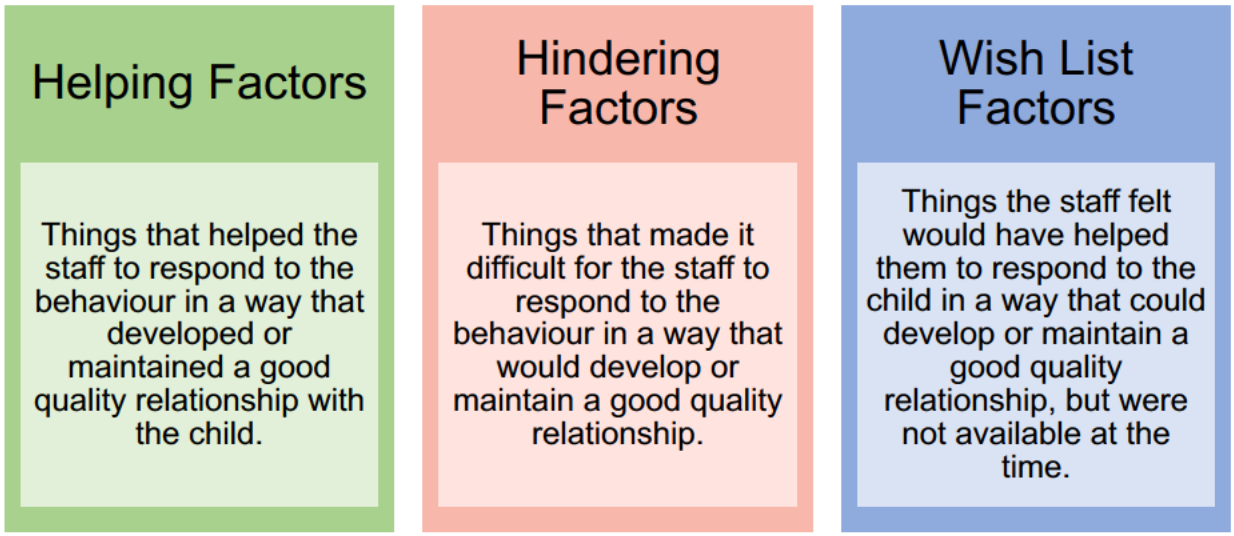


Figure 1. *Definitions of helping, hindering and wish list factors, which the interview attempted to identify.*

We then compared all of the interviews and identified patterns and similarities in the types of things that 'helped' or 'hindered' the staff to respond in a way that strengthened or maintained their relationship. We then formed "categories" of similar types of factors. To check whether the findings were accurate, we asked independent researchers in the field, psychologists working in residential care, and the residential staff, whether they agreed with the categories formed.

Overall, we formed 17 categories, which we grouped into five areas. These areas related to staff's understanding of the child's behaviour, characteristics about the staff themselves, aspects of the staff-child relationship, particular strategies of responding to behaviour, and also characteristics of the organisation and other involved systems (e.g., school and social workers). These are shown in Figure 2, with colours indicating whether they were mostly helping (green), hindering (red) or wish list (blue).

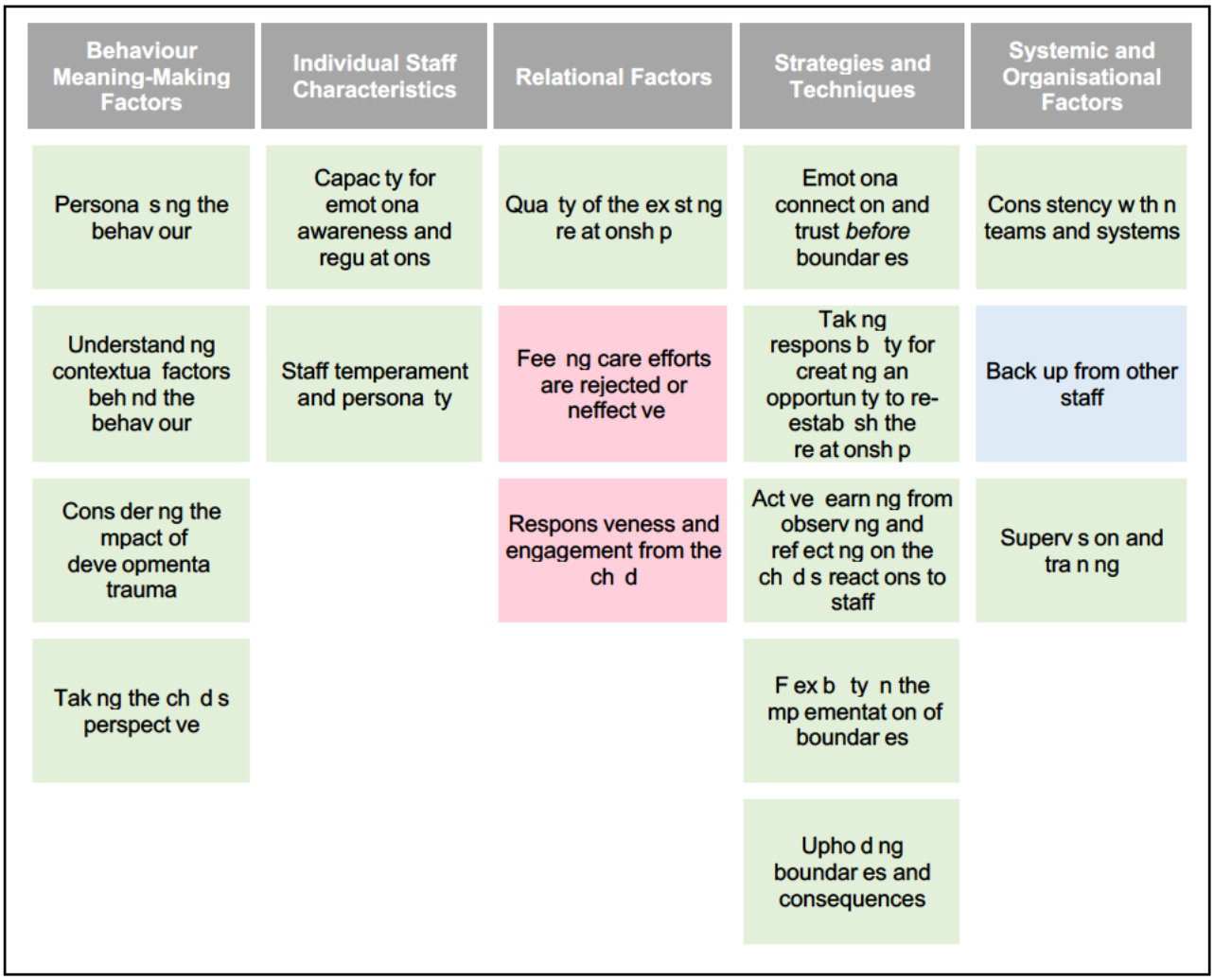


Figure 2. *Categories of factors that helped, hindered, or could have helped (wish list) residential care staff to respond to child challenging behaviours in a way that strengthened, protected or maintained their relationship with the child.*

The findings highlight that developing and maintaining staff-child relationships while responding to challenging behaviour is a complex and emotionally demanding process for staff. Given staff found it helpful if they could make sense of the child's behaviour, they may benefit from training and specific staff team meetings that focus on helping them understand why a child may behave the way they do, such as understanding past trauma or current ongoing stressors, to support them to empathise with the child. Such meetings may also increase team consistency in approach, as well as emotionally supporting staff by providing an opportunity to think about positive areas of practice.

Appendices: Chapter One

APPENDIX 1A

Search strategy for Web of Science, searched up to 2nd March 2020.

1. TS=(parent* OR mother* OR father* OR caregiver*)
2. TS=maltreat* OR abus* OR neglect* OR "high risk" OR "at risk" OR "child welfare" OR "child protect*" OR depress* OR ((mental OR psychiatric) near2 (health OR illness OR inpatient)) OR trauma* OR ((substance OR drug OR alcohol*) near2 (using OR use OR abus* OR dependen*)) OR addict* OR "parent stress" OR “domestic violen*” OR “partner violen*”)
3. TS=("circle of security" OR group OR training OR program* OR psychotherap* OR therap* OR treat* OR education* OR "intervention" OR "video feedback")
4. TS=(attachment OR "parent-child" OR "mother-child" OR "parent-infant" OR “mother-infant” OR "reflective function*" OR "mentali*" OR "mind minded*" OR "maternal sensitiv*" OR "parental sensitiv*")
5. TS=(evaluat* OR outcome* OR effectiv* OR RCT OR ((randomi* OR control*) near2 (trial OR study)) OR pilot)
6. #1 AND #2 AND #3 AND #4 AND #5
7. #1 AND #2 AND #3 AND #4 AND #5 Refined by: DOCUMENT TYPES: (ARTICLE) AND [excluding] DOCUMENT TYPES: (PROCEEDINGS PAPER OR BOOK CHAPTER) AND LANGUAGES: (ENGLISH)

Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI, CCR-EXPANDED, IC Timespan=All years

Search strategy for PubMed, searched up to 2nd March 2020.

((((mother*[Title/Abstract]) OR father*[Title/Abstract]) OR parent*[Title/Abstract]) OR caregiver*[Title/Abstract]))

AND

((((((((((((maltreat*[Title/Abstract]) OR neglect*[Title/Abstract]) OR abus*[Title/Abstract]) OR "high risk"[Title/Abstract]) OR "at risk"[Title/Abstract]) OR "child welfare"[Title/Abstract]) OR "child protection"[Title/Abstract]))) OR "child protective"[Title/Abstract]) OR ((((((("mental health"[Title/Abstract]) OR "mental illness"[Title/Abstract]) OR psychiatric[Title/Abstract]) OR depress*[Title/Abstract]) OR trauma*[Title/Abstract]))) OR (((((((substance abus*[Title/Abstract]) OR drug abus*[Title/Abstract]) OR alcohol abus*[Title/Abstract]) OR substance depend*[Title/Abstract]) OR drug depend*[Title/Abstract]) OR alcohol depend*[Title/Abstract]) OR addict*[Title/Abstract]))) OR ((("domestic violence"[Title/Abstract]) OR "partner violence"[Title/Abstract])

AND

((((((((((group[Title/Abstract]) OR training[Title/Abstract]) OR therap*[Title/Abstract]) OR psychotherap*[Title/Abstract]) OR program*[Title/Abstract]) OR intervention*[Title/Abstract]) OR treatment[Title/Abstract]) OR education[Title/Abstract]))

OR "video feedback"[Title/Abstract]) OR "parent child interaction therapy"[Title/Abstract]) OR "circle of security"[Title/Abstract]))

AND

((((((((((attachment[Title/Abstract]) OR dyadic[Title/Abstract]) OR "mother child"[Title/Abstract])) OR ((("parent child"[Title/Abstract]) OR "parent infant"[Title/Abstract]) OR "mother infant"[Title/Abstract])) OR ((((("reflective function*"[Title/Abstract]) OR mentalisation[Title/Abstract]) OR mentalization[Title/Abstract]) OR "mind minded*"[Title/Abstract])) OR (("maternal sensitivity"[Title/Abstract]) OR "parental sensitivity"[Title/Abstract])))

AND

(((((((evaluat*[Title/Abstract]) OR RCT[Title/Abstract]) OR randomi*[Title/Abstract]) OR trial[Title/Abstract]) OR outcome*[Title/Abstract]) OR effectiv*[Title/Abstract]) OR pilot[Title/Abstract])

Filters: Humans; English

Search strategy used for PsycINFO, searched up to 2nd March 2020.

1. (parent* or mother* or father* or caregiver*).ab.
2. (maltreat* or abus* or neglect* or "high risk" or "at risk" or "child protect*" or "child welfare" or "mental health" or "mental illness" or "psychiatric" or depress* or trauma* or "substance abus*" or "substance dependen*" or "drug abus*" or "drug dependen*" or "alcohol abus*" or "alcohol dependen*" or "alcoholic" or addict* or "domestic violen*" or "partner violen*").ab
3. (group or training or program* or intervention or treatment or psychotherap* or therap* or "video feedback" or "circle of security" or "interaction therapy" or psychoeducation).ab.
4. (mentali* or "mind minded*" or "maternal sensitivity" or "parental sensitivity" or attachment or dyadic or "mother child" or "parent child" or "parent infant" or "mother infant" or "reflective function*").ab.
5. (outcome* or evaluat* or RCT or randomi* or trial or effectiv* or pilot).ab.
6. 1 and 2 and 3 and 4 and 5
7. Limit 6 to English language
8. (journal or “peer reviewed journal”).pt
9. 7 and 8

APPENDIX 1B

QQ plots for each outcome, using the random effects model. QQ plots showed that the distribution of effects for all outcomes were normally distributed using a random effects model.

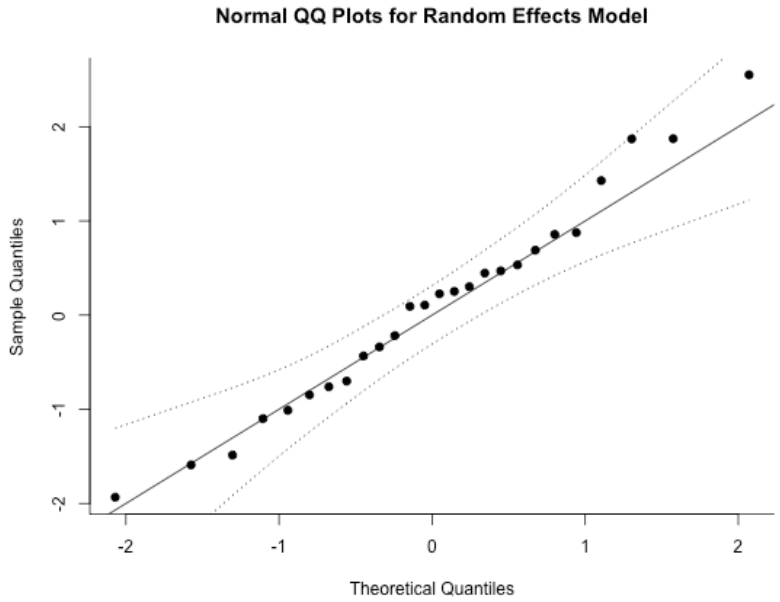


Figure 1. *QQ plots for sensitive and responsive parenting outcomes, using the random effects model.*

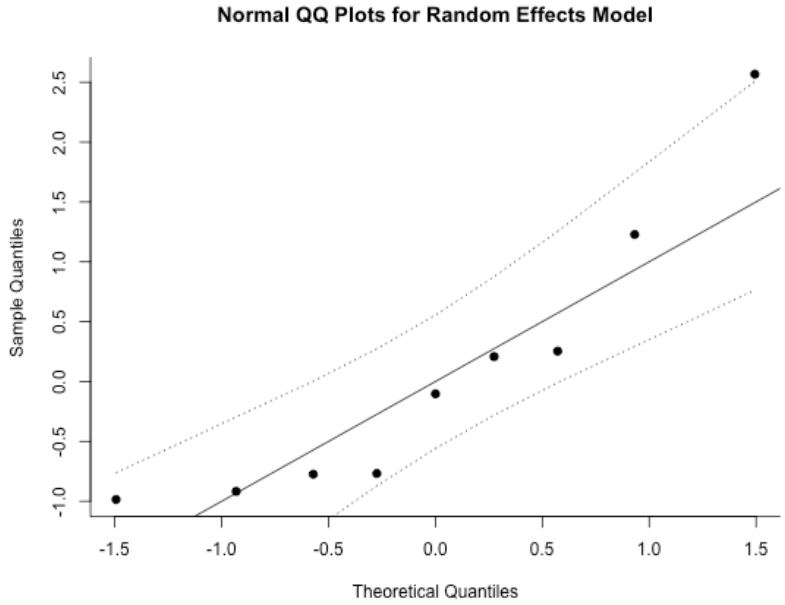


Figure 2. *QQ plots for child secure attachment to parent outcomes, using the random effects model.*

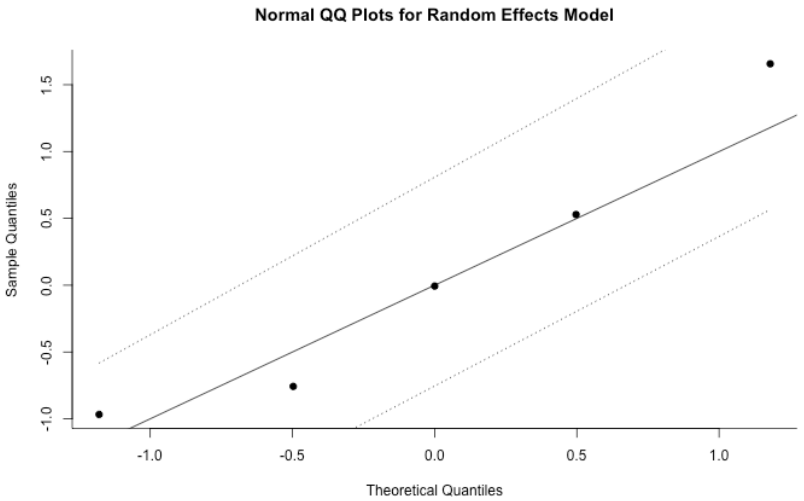


Figure 3. *QQ plots parent reflective functioning outcomes,, using the random effects model.*

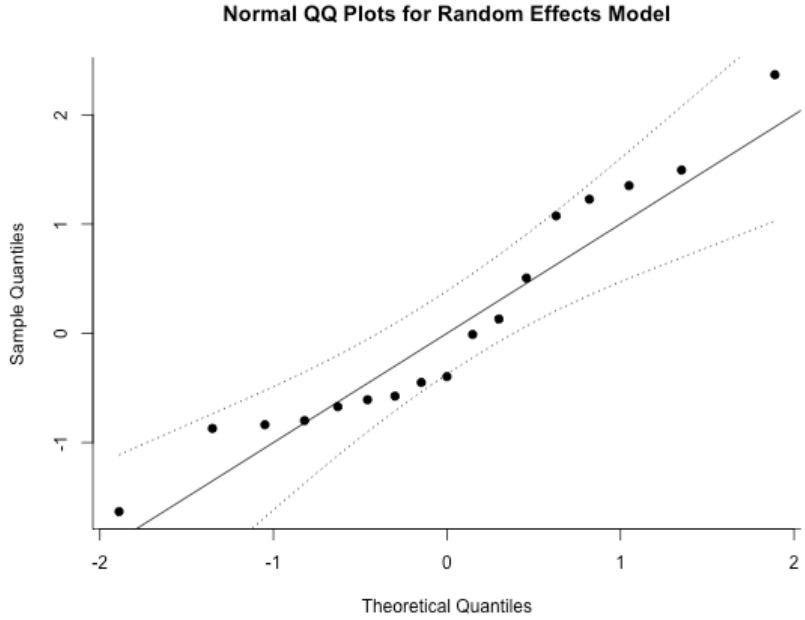


Figure 4. *QQ plots parent depression outcomes, using the random effects model.*

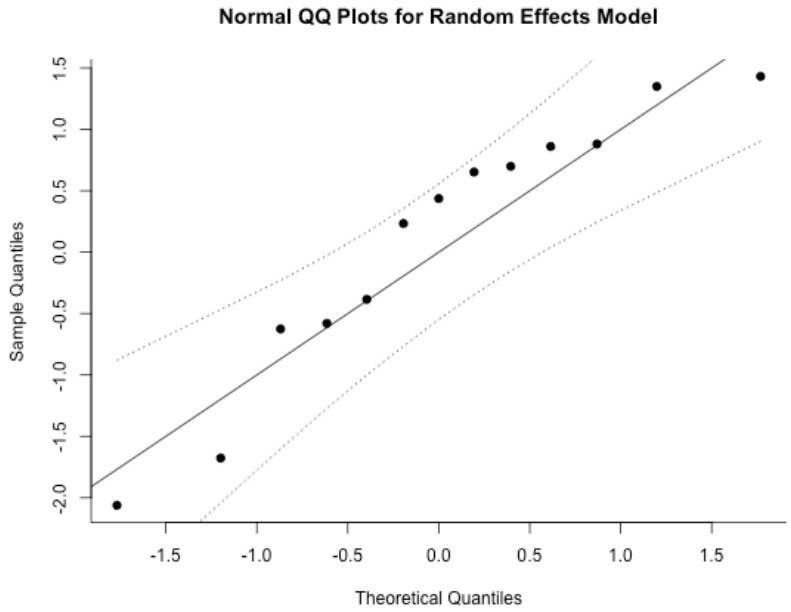


Figure 5. *QQ plots parenting stress outcomes, using the random effects model.*

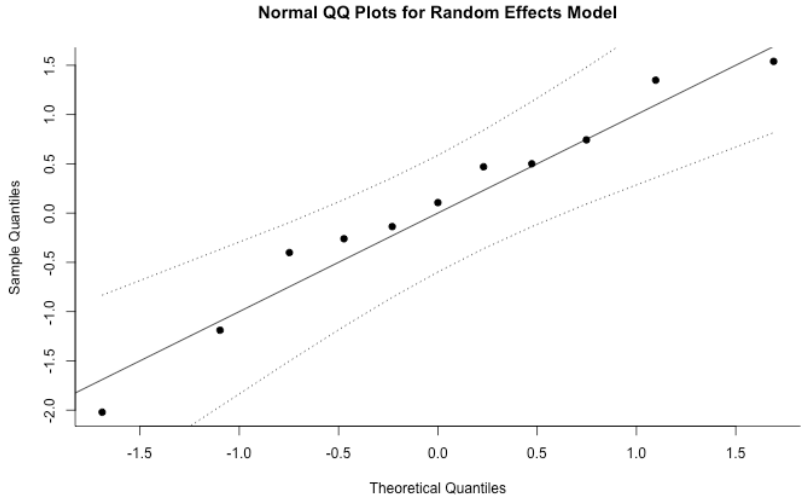


Figure 6. *QQ plots for child emotional and behavioural outcomes, using the random effects model.*

APPENDIX 1C

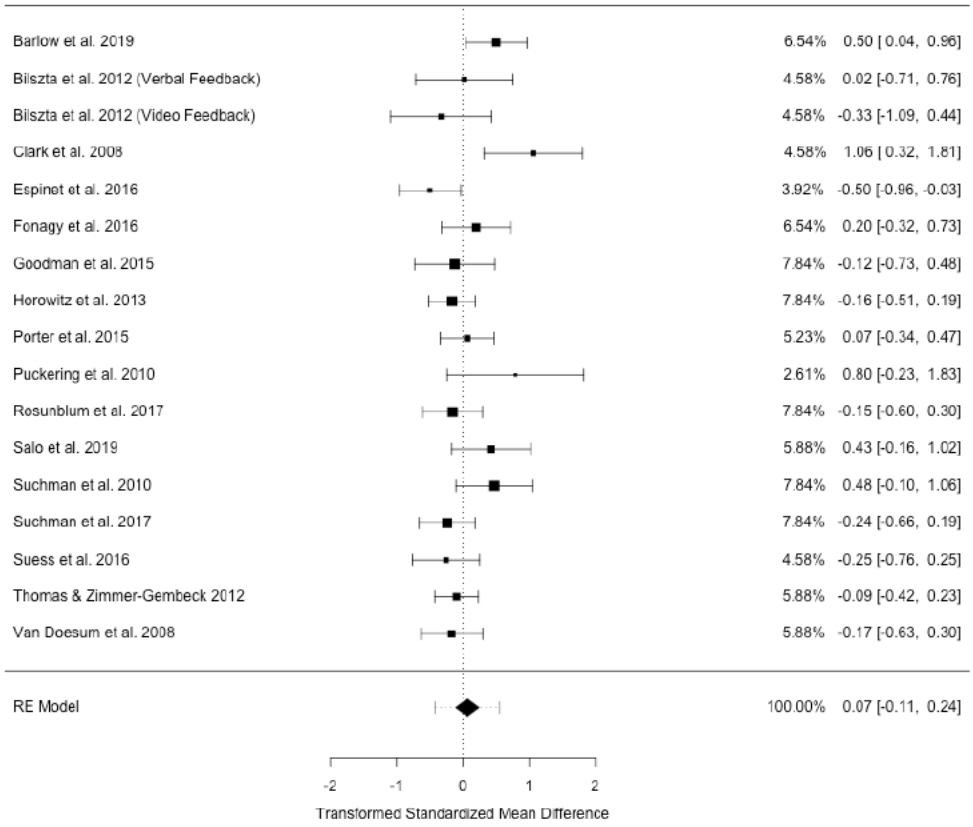


Figure 1. *Forest plot of depression outcomes using a quality effects model.*

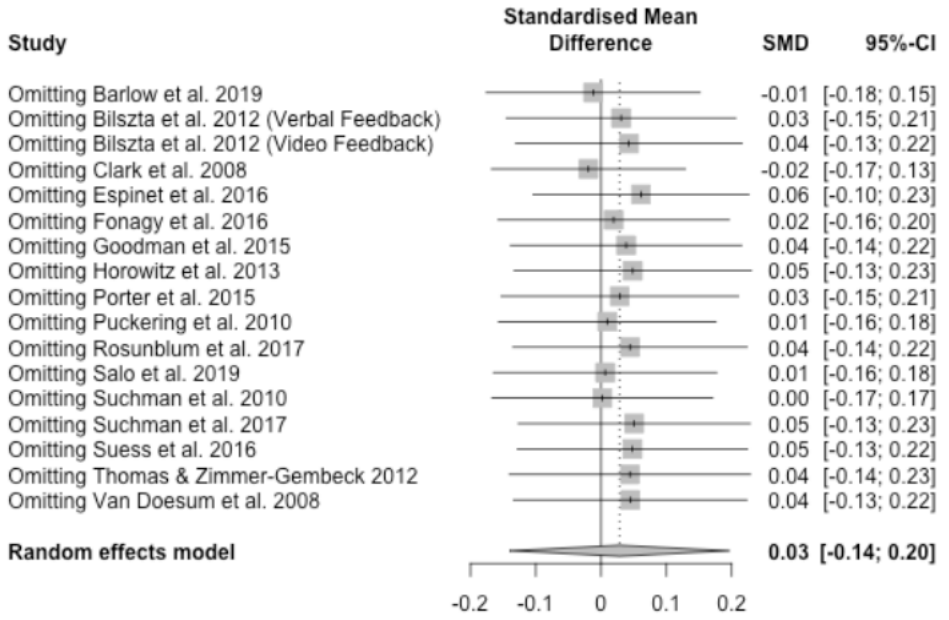


Figure 2. *Forest plot of a 'leave one out' analysis for depression outcomes.*

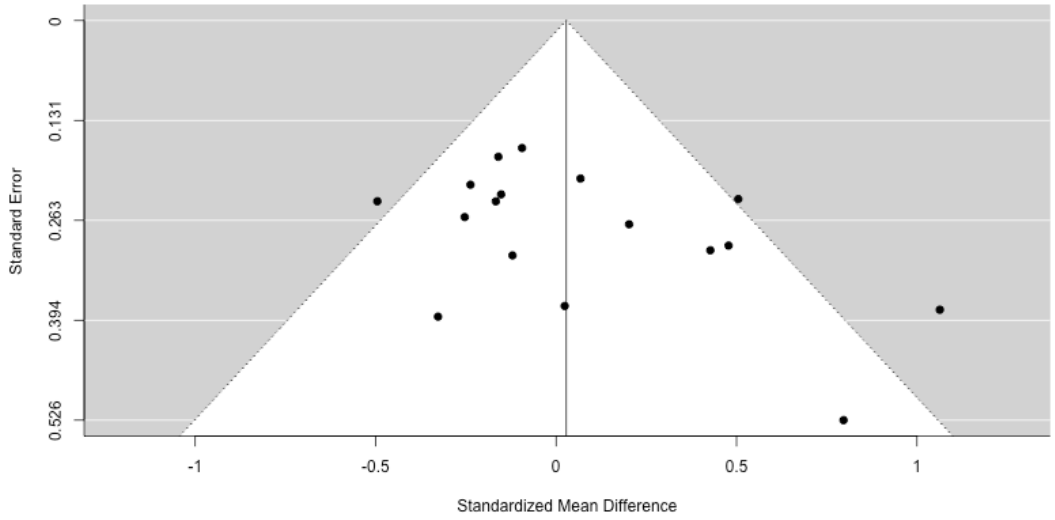


Figure 3. *Funnel plot of depression effect sizes, showing no additional studies added following a 'trim and fill' procedure.*

Table 1.
Parent depression summary effect sizes using a random effects model for planned subgroup contrasts.

Subgroup	*k*	SMD	95% CI	I^2	*Q*	*df*	*p*
Parent risk status					1.47	2	.479
CPS Involved/Maltreating	2	-0.141	[-0.417; 0.134]	0%			
At risk only	15	0.067	[-0.127; 0.261]	50%			
Parent mental health	10	0.076	[-0.161; 0.313]	41%			
Parent substance use	5	0.048	[-0.322; 0.418]	69%			
Child age					5.41	2	.067†
Infant (<3yrs)	15	0.082	[-0.099; 0.263]	42%			
Child (>3yrs)	1	-0.094	[-0.423; 0.234]	--			
Not Reported	1	-0.495	[-0.961; -0.029]	--			
Intervention components					0.17	2	.918
Interaction guidance only	8	0.012	[-0.225; 0.248]	48%			
Interaction guidance + verbal feedback	4	0.113	[-0.308; 0.534]	66%			
Interaction guidance + verbal feedback + video feedback	5	0.025	[-0.344; 0.398]	43%			
Intervention delivery					0.88	1	.349
Group	6	0.190	[-0.230; 0.609]	70%			
Individual	11	-0.025	[-0.187; 0.136]	18%			
Intervention length					1.93	2	.038
Short (<8 sessions)	5	-0.009	[-0.230; 0.211]	0%			
Medium (8-15 sessions)	9	0.138	[-0.129; 0.405]	59%			
Long (>15 sessions)	3	-0.196	[-0.595; 0.203]	48%			

Note. † $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$.
Effect size: Small = 0.2; Medium = 0.5; Large = 0.8 (Cohen, 1988).

APPENDIX 1D

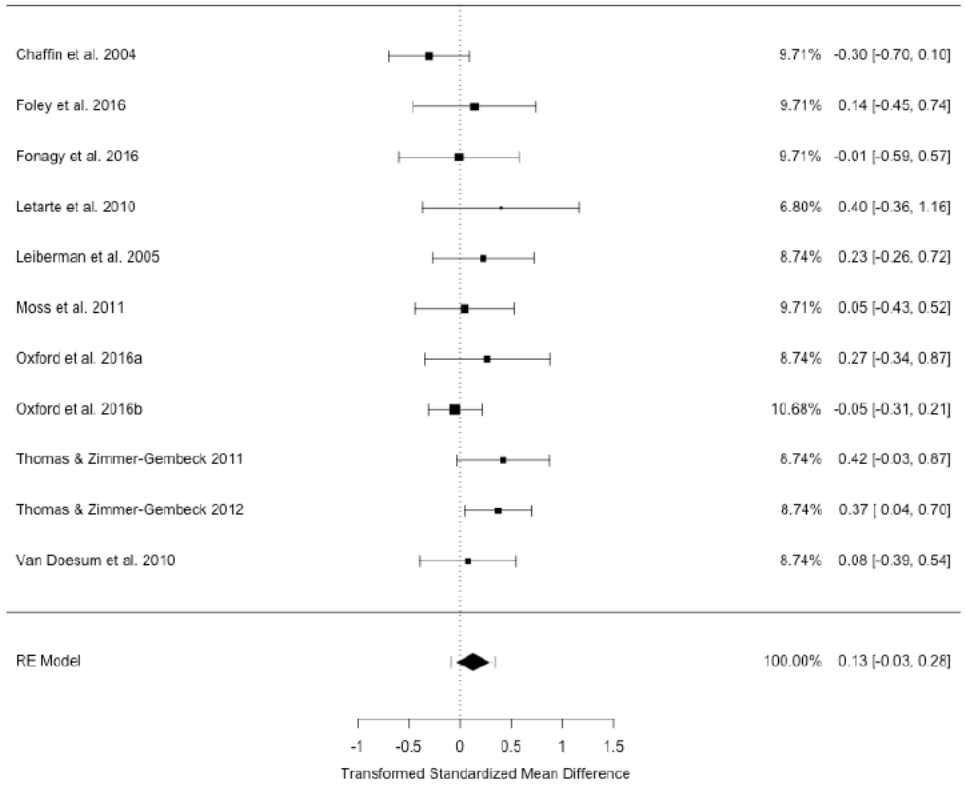


Figure 1. *Forest plot of child emotional and behavioural difficulties summary effect sizes using a quality effects model.*

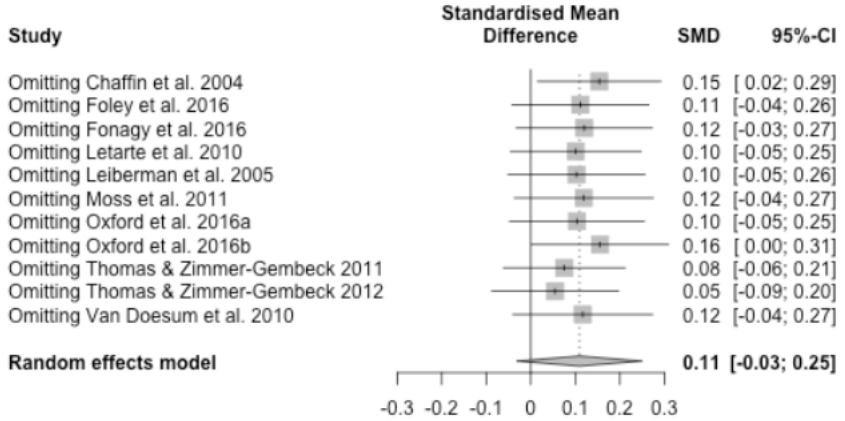


Figure 2. *Forest plot of a 'leave one out' analysis for child emotional and behavioural difficulties summary effect sizes.*

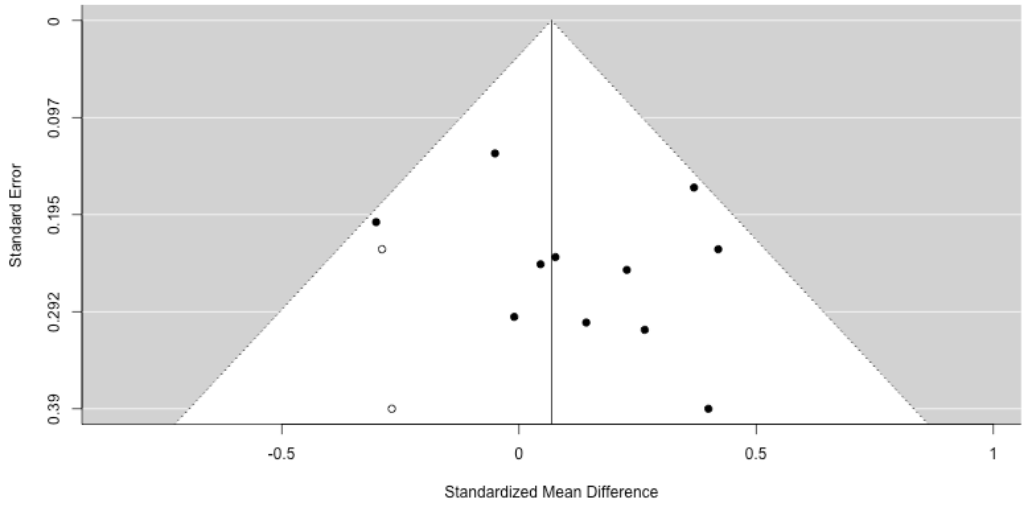


Figure 3. *Funnel plot of child emotional and behavioural difficulties effect sizes, showing two additional studies (white markers) added following a 'trim and fill' procedure to correct for publication bias. This corrected summary effect is d = 0.069 (95%CI -0.07-0.21).*

Table 1.
Child emotional and behavioural difficulties summary effect sizes using a random effects model for planned subgroup contrasts.

Subgroup	*k*	SMD	95% CI	I^2	*Q*	*df*	*p*
Parent risk status					0.36	2	.837
CPS Involved/Maltreating	8	0.122	[-0.069; 0.314]	34%			
At risk only	3	0.108	[-0.184; 0.401]	0%			
Parent mental health	2	0.043	[-0.321; 0.407]	0%			
Domestic Violence	1	0.227	[-0.263; 0.718]	--			
Child age					1.13	1	.289
Infant (<3yrs)	4	0.012	[-0.188; 0.213]	0%			
Child (>3yrs)	7	0.171	[-0.043; 0.384]	31%			
Intervention components					4.38	2	.112
Interaction guidance only	5	0.012	[-0.235; 0.259]	7%			
Interaction guidance + verbal feedback	3	0.311	[0.080; 0.541]	0%			
Interaction guidance + verbal feedback + video feedback	3	0.008	[-0.207; 0.223]	0%			
Intervention delivery					0.30	1	.586
Group	2	0.239	[-0.230; 0.708]	0%			
Individual	9	0.101	[-0.060; 0.262]	23%			
Intervention length					0.01	1	.943
Medium (8-15 sessions)	9	0.114	[-0.055; 0.282]	25%			
Long (>15 sessions)	2	0.129	[-0.247; 0.504]	0%			

Note. $^{\dagger}p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$.
Effect size: Small = 0.2; Medium = 0.5; Large = 0.8 (Cohen, 1988).

APPENDIX 1E

Characteristics of attachment-based interventions evaluated among the 37 primary studies.

Table 1.
Characteristics of interventions evaluated across the 37 included studies.

Intervention	# of Studies	(1) Length	(2) Delivery Format	(3) Setting	(4) Focus / Components	(5) Parent and/or Child	(6) Risk Specific [a]	(7) Risk Focused Components [b]
1. Attachment and Biobehavioural Catch-up (ABC)	4	M	I	HV	PE, SP, IVF, VF	CI	MT	N
2. Attachment-focused Home Visiting (Moss et al., 2011)	1	M	I	HV	SP, VF	CI	MT	N
3. Attachment-focused Home Visiting (van Doesum et al., 2008)	1	M	I	HV	VF, IM, BMT	CI	D	N
4. 'Breaking the Cycle'	1	L	I + G	CC	FS, PE, GI, SP	CI	SU	Y
5. Circle of Security	1	L	G	CC	PE, VF	CI	NRS	N
6. Communicating and Relating Effectively (CARE)	1	M	I	HV	GI; IVF	CI	D	N
7. Dyadic Music Therapy	1	M	I	CC	GI	CI	NRS	N
8. Group Attachment Based Intervention (GABI)	1	L	G	CC	FS, VF	CI	NRS	N
9. Incredible Years	2	M	G	CC	PE, BMT	PO	NRS	N
10. Infant/Toddler/Child-Parent Psychotherapy	5	L	I	CC or HV	PP, SP, BMT	CI	NRS	N
11. Infant Massage Intervention (Porter et al., 2015)	1	S	G	CC	PE, SP, IM	CI	SU	N
12. Mellow Babies	1	M	G	CC	PP, SP, IM, VF	CI	PPD	Y
13. Mom Power	1	M	G	CC	PE, PP, GI	PO	MH	Y
14. Mothering from the Inside Out	1	M	I	CC	PP, MBT	PO	SU	N
15. Mother-Infant Therapy Group (MITG)	1	M	G	CC	PP, GI, SP, IVF	CI	PPD	Y
16. Mothers and Toddlers Program	1	M	I	CC	PP, MBT, VF	CI	SU	N
17. Nurture and Play	1	S	G	CC	PE, PP, MBT, SP	CI	PPD	Y
18. Parent-Child Interaction Therapy (PCIT)	5	M	I	HV	IVF, BMT	CI	NRS	N
19. Parents Under Pressure	1	M	I	HV	FS, PE, PP, BMT	PO	NRS	Y
20. Perinatal Dyadic Psychotherapy	1	M	I	HV	PE; PP; GI	CI	PPD	Y
21. Promoting First Relationships	2	M	I	HV	PE, MBT, VF	CI	MT, CPS	N
22. Steps Toward Effective and Enjoyable Parenting (STEEP)	1	L	I	HV	PP, VF	CI	NRS	N
23. Ulm Model	1	S	I	HV	VF	CI	NRS	N
24. Video-feedback intervention (Bilszta et al., 2012)	1	S	1	R	PE, VF	CI	MH	N

[a] Intervention has been specifically developed, or specially adapted, for a specific high risk parent population.
[b] Intervention includes additional components to target/reduce specific parent risk factor beyond increasing sensitivity and/or promoting attachment (e.g., reduce depression or substance use).
(1) Intervention Length: S = Short (<8 Sessions), M = Medium (8-15 Sessions), L = Long (>15 Sessions); *(2) Delivery Format:* G = Group Format, I = Individually Delivered; *(3) Setting:* CC = Community Clinic, HV = Home Visitation, R = Residential; *(4) Focus/Components:* BMT = Behaviour Management Training, FS = Family Support, GI = Guided Interactions, IM = Infant Massage, IVF = *In Vivo* Verbal Feedback, MBT = Mentalisation Based Therapy, PE = Psycho-education, PP = Parent Psychotherapy, SP = Structured Play, VF = Video-Guided Verbal Feedback; *(5) Parent and/or Child Involvement:* CI = Child Involved, PO = Parent Only; *(6) Risk Specific:* CPS = Child Protective Services Involved, D = Depression, DV = Domestic Violence, MH = Mental Health, MT = Maltreating, NRS = Not Risk Factor Specific, PPD = Post-Partum Depression, SU = Substance Use; *(7) Risk Focused Components:* N = No, Y = Yes.

APPENDIX 1F

Table 1.
Operationalisation of constructs measured as outcomes to be extracted for meta-analysis.

Outcome Construct	Operationalisation/Definition
Sensitive Parenting	A scale or subscale that measures the parent's ability to attune to or correctly interpret the child's needs or signals, and to respond with appropriate caregiving.
Child Secure Attachment to Parent	A categorical/nominal measure of attachment classification, using Bowlby's attachment categories, that determined whether a child could be categorised as having a 'secure attachment'.
Reflective Functioning	A scale or subscale that measures a parent's ability to understand and hold in mind their child's intentional metal states (e.g., thoughts, feelings, wishes, goals).
Parenting Stress	A scale or subscale that measures the experience of stress in relation to the parenting role.
Parental Depression	A scale or subscale that measures the emotional experience of depression according to a recognised diagnostic criteria, or in terms of feelings of low mood, hopelessness, sadness, and low self-esteem.
Child Emotional and Behavioural Difficulties	A scale or subscale that measures aspects of child's emotional competences, difficulties in internalising or externalising emotions, and/or demonstration of behavioural problems.

APPENDIX 1G

Table 1.
Operationalisation of key terms used to categorise studies by moderator variables.

Category	Operationalisation/Definition
Parent Population	
CPS Involved	Current or previous involvement in child protective services.
Maltreating	Current or previous substantiated report of child maltreatment or neglect by the primary caregiver.
Parent Mental Health	Parent population presents with a diagnosis or clinically raised symptoms levels of a mental health and/or personality disorder.
Parent Substance Use	Parent presents with current or recent problematic, excessive or dependent use of alcohol or drugs.
Domestic Violence	Previous or current report of domestic violence between primary caregivers while the child was in the parents' custody.
Multiple/non-specific risk factors	Parents were not recruited into the study on the basis of one specific risk factor, but the study's participant inclusion criteria specified the same range of risk factors as those included within the current review.
Intervention Components	
Interaction Guidance Only	Therapist guidance was limited to psychoeducation and direction on effective, sensitive or attuned interactions and/or opportunities provided for supported parent-child interaction (e.g., structured parent-child play). No positive or negative feedback was provided by the therapist to the parent on the quality of observed parent-child interactions.
Interaction Guidance + Verbal Feedback	Intervention included verbal *in vivo* positive and/or negative feedback by the therapist on the quality of observed parent-child interactions.
Interaction Guidance + Verbal Feedback + Video Feedback	Intervention included the use of video to record and replay parent-child interactions, with verbal positive and/or negative feedback by the therapist during the interaction replay.

Appendix 1H

Characteristics of outcome measures used among included studies.

Table 1.
Outcome measures across included studies.

Outcome Measure		# of Studies	Validated	Scoring
Sensitive Parenting				
Assessment of Parenting Competencies	APC	1	No/Bespoke	Observation
CARE-Index	CARE-Index	2	Yes	Observation
Coding Interactive Behaviour	CIB	4	Yes	Observation
Dyadic Parent-Child Interaction Coding System–2nd Edition	DPICS-II	4	Yes	Observation
Emotional Availability Scale	EAS	4	Yes	Observation
Maternal-Behaviour Q-Sort	MBQS	3	Yes	Observation
Mellow Parenting Observation Coding System	MPOCS	1	No/Bespoke	Observation
Nursing Child Assessment Satellite Training	NCAST	4	Yes	Observation
Observation Checklist on Mother-Infant Interaction	OMII	1	Yes	Observation
Observational Record of Caregiving Environment	ORCE	2	Yes	Observation
Parent-Child Early Relational Assessment	PCERA	1	Yes	Observation
Parenting Skills Observation Scale	PSO	1	No/Bespoke	Observation
Secure Attachment to Parent				
Attachment Q-Set	AQS	1	Yes	Parent Report
Strange Situation Procedure	SSP	8	Yes	Observation
Parent Reflective Functioning				
Parent Development Interview	PDI	4	Yes	Clinician Rated
Working Model of the Child Interview-Parent Reflectivity Scale	WMCI-PRS	1	Partially	Clinician Rated
Parenting Stress				
Parental Stress Index	PSI	13	Yes	Parent Self-Report
Parent Depression				
Beck Depression Inventory	BDI	6	Yes	Parent Self-Report
Centre for Epidemiological Studies–Depression	CES-D	2	Yes	Parent Self-Report
Depression, Anxiety and Stress Scale	DASS	1	Yes	Parent Self-Report
Edinburgh Postnatal Depression Scale	EPDS	6	Yes	Parent Self-Report
Postpartum Depression Scale	PPDS	1	Yes	Parent Self-Report
Postpartum Depression Screening Scale	PDSS	1	Yes	Parent Self-Report
Child Emotional and Behavioural Difficulties				
Ages and Stages Questionnaire–Social-Emotional Edition	ASQ-SE	1	Yes	Parent Report
Behaviour Assessment System for Children	BASC	1	Yes	Parent Report
Brief Infant Toddler Social Emotional Assessment	BITSEA	2	Yes	Parent Report
Bayley Rating Scale	BRS	1	Yes	Clinician Rated & Parent Report
Child Behaviour Checklist	CBCL	6	Yes	Parent Report
Eyberg Child Behaviour Inventory	ECBI	4	Yes	Parent Report
Infant Toddler Social Emotional Assessment	ITSEA	1	Yes	Parent Report
Sutter-Eyberg Student Behaviour Inventory–Revised	SESBI-R	1	Yes	Parent Report

Appendices: Chapter Two

APPENDIX 2A

Email confirming ethical approval from the University of Birmingham Science, Engineering and Mathematics Research Ethics Committee.

Dear Dr Law

Re: "Managing Closeness and Conflict in Residential Children's Homes"
Application for Ethical Review ERN_18-0948

Thank you for your application for ethical review for the above project, which was reviewed by the Science, Technology, Engineering and Mathematics Ethical Review Committee.

On behalf of the Committee, I confirm that this study now has full ethical approval.

I would like to remind you that any substantive changes to the nature of the study as described in the Application for Ethical Review, and/or any adverse events occurring during the study should be promptly brought to the Committee's attention by the Principal Investigator and may necessitate further ethical review.

Please also ensure that the relevant requirements within the University's Code of Practice for Research and the information and guidance provided on the University's ethics webpages (available at https://intranet.birmingham.ac.uk/finance/accounting/Research-Support-Group/Research-Ethics/Links-and-Resources.aspx) are adhered to and referred to in any future applications for ethical review. It is now a requirement on the revised application form (https://intranet.birmingham.ac.uk/finance/accounting/Research-Support-Group/Research-Ethics/Ethical-Review-Forms.aspx) to confirm that this guidance has been consulted and is understood, and that it has been taken into account when completing your application for ethical review.

Please be aware that whilst Health and Safety (H&S) issues may be considered during the ethical review process, you are still required to follow the University's guidance on H&S and to ensure that H&S risk assessments have been carried out as appropriate. For further information about this, please contact your School H&S representative or the University's H&S Unit at healthandsafety@contacts.bham.ac.uk.

Kind regards
Susan Cottam
Research Ethics Officer
Research Support Group
C Block Dome
Aston Webb Building
University of Birmingham
Edgbaston B15 2TT
Tel: [redacted] Email: [redacted]

APPENDIX 2B

Participant recruitment flyer

UNIVERSITY OF BIRMINGHAM

Version 2
01/11/2018

[redacted]

OPPORTUNITY TO TAKE PART IN RESEARCH

Title of Project: Managing Closeness and Conflict in Residential Children's Homes
Lead Researcher: Megan Wright (Trainee Psychologist)

You are invited to take part in this research study, which hopes to interview residential care staff about their work with children who display behaviours that may be challenging to respond to.

This research hopes to increase our understanding of staff's perspectives on what factors help and/or hinder care staff in residential children's homes when developing their relationships with children who present with behaviours that challenge.

The hope is to increase knowledge and understanding of how residential care staff manage a complex job and how they can be supported with the challenges of the role.

WHAT WILL THE STUDY INVOLVE?

Participating will involve completing five short and simple diary entries of one child / young person's behaviour, meeting with the researcher for one 60 min face-to-face interview, and time for a short follow-up phone call.

WHO CAN TAKE PART?

We are looking to talk to residential care staff who:

- Have been working in their current children's home for at least 3 months.
- Do not have management responsibilities.
- Can think of a child / young person that you have known for at least 3 months, and who presents with any behaviours you find challenging to respond to.

If you are interested in taking or part or would like to know more about the study, please contact the researcher using the details below:

CONTACT DETAILS: Megan Wright

Email: [redacted]

Phone:

Address: School of Psychology, University of Birmingham, Edgbaston, B15 2TT

APPENDIX 2C

Participant recruitment Poster

UNIVERSITY OF BIRMINGHAM Version 2 02/11/18

[redacted]

OPPORTUNITY TO TAKE PART IN RESEARCH

Title of Project: Managing Closeness and Conflict in Residential Children's Homes

Lead Researcher: Megan Wright (Trainee Psychologist)

You are invited to take part in this research study, which hopes to interview residential care staff about their work with children who display behaviours that may be challenging to or respond to.

This research hopes to increase understanding of staff perspectives of what factors help and/or hinder care staff in residential children's homes when developing their relationships with children who present with behaviours that challenge.

The hope is to increase knowledge and understanding of how residential care staff manage a complex job and how they can be supported with the challenges of the role.

CONTACT DETAILS

Megan Wright (Lead Researcher)

Email: [redacted]

Phone:

Address: School of Psychology, University of Birmingham, Edgbaston, B15 2TT

If you would like to know more about the study, please contact the lead researcher using the contact details above (or tear off a tab below) who will provide more information.

You can also fill in a permission slip for your contact details to be given to the researcher if you prefer by your home manager.

WHO CAN TAKE PART?

We are looking to talk to residential care staff who:

- Have been working in their current children's home for at least 3 months.
- Do not have management responsibilities.
- Can think of a child / young person that you have known for at least 3 months, and who presents with any behaviours you find challenging to respond to.

WHAT WILL THE STUDY INVOLVE?

Participating will involve completing five short and simple diary entries of one child / young person's behaviour, meeting with the researcher for one 60 min face-to-face interview, and time for a short follow-up phone call.

[redacted]

APPENDIX 2D

Participant information sheet

PARTICIPANT INFORMATION SHEET

Research Project Title: Managing closeness and conflict in residential children's homes.

1) Invitation and brief summary

Previous research has shown high levels of burnout and staff turnover among staff working in residential children's homes. Some research has suggested this may be related to the characteristics of the children placed in these settings, and the resulting challenges staff may encounter when building relationships with these children. It is important to increase our understanding of these challenges, not only so that support can be offered to staff, but also because positive staff-child relationships are argued to improve the resilience of the children placed within residential homes.

In this study, we are investigating what factors may help or hinder staff from developing and/or strengthening relationships with children that display challenging behaviours. Within this study, a challenging behaviour is defined as *any behaviour that you find challenging to manage and/or respond to in your day to day work.*

You are being invited to participate in this study because you are currently working as a residential care worker within a residential children's home. You are eligible to participate if:

- You have worked in your current residential home for at least 3 months.
- You are able to identify a child that has lived within the residential home for at least 3 months, and who displays any behaviours you find challenging to manage/respond to.

To ensure the conclusions of the study are generalizable to other staff and homes, we need to ensure that a number of different homes and children are represented in the overall study. This means that if more than one person from a particular home wishes to participate in the study, we may need to delay your participation until we have recruited participants from a range of different homes. You will be informed by the chief investigator if this is the case and you can decide if you wish to be contacted at a later time when you are able to participate. You will be able to decide when contacted if you still want to participate in the study.

2) What would taking part involve?

Participating in this study will involve completing a short and simple diary and two 1:1 interviews with the chief investigator. In total, your participation in the study will require up to 3 hours (5x10min diary entries, 1x60-90min interview and 1x30 min follow-up phone-call) of your time over a period of 1-4 months. However, it is likely that the majority of this time can be included within your normal working hours/shifts if desired.

Diary: You will be asked to identify a child who has lived within the home for a minimum of 3 months, and who demonstrates behaviours that you find difficult or challenging to respond to or manage in your day to day work. You will be asked to keep a structured diary of five times you responded to behaviours you experienced as challenging. These diary entries will take approximately 10 minutes each to complete and will be completed during your shift. You will need to ensure you keep the diary anonymous and is stored in a secure/locked location if you wish to take it away from your workplace (e.g., at home), otherwise you must store it in a secure/locked location within your workplace – only you and the researcher will see the diary.

First Interview: After completing the diary, the chief investigator will arrange to meet with you for a 1:1 interview. This interview can take place in a private room within the children's home, the University of Birmingham, or a St Andrew's Healthcare location (Northampton, Birmingham or Mansfield). The choice of location will be yours. This interview will be audio-recorded and will last between 60-90 mins (including time to take your consent and to discuss the study after). During the interview, the chief investigator will discuss your diary interviews with you, and the factors that helped or hindered you from responding in a way that developed or maintained your relationship with the child.

Second Interview: Approximately 1-3 months after your first interview, the chief investigator will arrange a follow-up telephone interview with you. This interview will last approximately 30 minutes and will involve the chief investigator sharing initial findings from your first interview. During this interview, you will have the opportunity to offer your opinion on the findings, clarify misunderstandings, and will give you the opportunity to contribute to the analysis process. This interview will not be audio-recorded, but the chief investigator will take notes of the discussion.

3) Expenses and travel

If you choose to participate at a location away from your place of work you will receive a reimbursement for any reasonable (i.e., the most cost-effective) travel expenses incurred. Please note that while interviews at your workplace can take place during your shift, interviews at other locations will need to occur on a non-working day for you.

4) What are the possible benefits of taking part?

You are not likely to immediately or directly benefit from participating in this study. It is hoped that this study may benefit residential childcare staff more generally in the future through increasing understanding of how support can be provided to assist with the challenges of the role.

5) What are the possible disadvantages of taking part?

It is not anticipated that taking part in this research will be associated with any significant disadvantages, distress, or risks. However, as you will be asked during the interview about how you have responded to behaviours that you experienced as challenging, it is possible you may find this difficult if this is a sensitive topic for you. Should you find topics uncomfortable or upsetting you can terminate the interview at any time without giving a reason, and the chief investigator will ensure that support is available to you.

6) Do I have to take part?

No, your participation in the study is voluntary. No one except the researchers will know whether or not you decide to participate. If you choose to participate and later decide you no longer want to, you are free to withdraw from the study at any time by notifying a member of the research team. You will not need to give a reason.

7) If I participate and then decide to withdraw, can I withdraw my data from the study?

Due to the design of the study, there are limitations to your ability to withdraw your data. You must notify the chief investigator within 2 weeks of the first 1:1 interview if you wish to withdraw your data. Where you notify the chief investigator within 2 weeks, all personal information and data will be securely deleted and will not be used in the study. After these two weeks have passed, you will not be able to request that your data is withdrawn from the study.

8) Data Protection and Confidentiality

Your personal information/data will be stored and processed in accordance with the Data Protection Act 2018. We will be using information from you in order to undertake this study and will act as the data controller for this study. This means that we are responsible for looking

after your information and using it properly. The University of Birmingham will keep identifiable information about you for 10 years after the study has finished.

Your rights to access, change or move your information are limited, as we need to manage your information in specific ways in order for the research to be reliable and accurate. If you withdraw from the study, we will keep the information about you that we have already obtained unless you notify the chief investigator within two weeks of the first 1:1 interview. To safeguard your rights, we will use the minimum personally-identifiable information possible.

You can find out more about how we use your information at
https://www.birmingham.ac.uk/schools/psychology/centres/cap/index.aspx

9) Under what circumstances will confidentiality be breached?

Confidentiality will only be breached when information is disclosed which raises safeguarding concerns regarding the safety or welfare of a young person (i.e., concerns that a child may be being maltreated, abused or neglected). Under these circumstances, the chief investigator will discuss the concerns with the research supervisor, and if necessary, the chief investigator will escalate the concerns in line with the [Organisation Name] safeguarding policies. This means your information may need to be shared or made available to relevant professionals, and consequently you will not be able to request for your data to be deleted. You will be informed by the chief investigator if there is a need to breach confidentiality for safeguarding purposes.

10) What will happen to the results of the study?

This study will be written up as part of the chief investigator's doctoral thesis and may be further disseminated through publication in a peer-reviewed journal article that will be available to the public. The written up report may include selected anonymised direct quotes from your interview. These quotes will be anonymous, meaning you will not be identified in any report or publication that results from this research.

11) Who can I contact if I have any questions about the study?

If you have any questions or would like to discuss any aspect of this study further, please contact the chief investigator or the research supervisor using the contact details below:

Chief Investigator: Megan Wright
Address: School of Psychology, University of Birmingham, Edgbaston, B15 2TT
Email:
Telepho

Academic Supervisor: Dr Gary Law
Address: School of Psychology, University of Birmingham, Edgbaston, B15 2TT
Email:

APPENDIX 2E

Participant consent form

PARTICIPANT CONSENT FORM

Title of Project: Managing closeness and conflict in residential children's homes.

Researcher Name: Megan Wright

	Please Initial in box
1. I confirm that I have read and understood the participant information dated 09/11/18 (Version 2) for the above study.	
2. I confirm that I have had the opportunity to ask questions if necessary, and these have been answered satisfactorily.	
3. I understand that my participation in the above study is voluntary and that I am free to withdraw at any time without giving a reason.	
4. I agree to complete five diary entries of challenging behaviour demonstrated by a specific child.	
5. I consent for my first 1:1 interview to be audio-recorded.	
6. I understand that if I wish to withdraw my data from the study I must notify the chief investigator within two weeks of the first 1:1 interview.	
7. I understand that my confidentiality may be breached if I disclose information which raises safeguarding concerns.	
8. Based on the above, I agree to participate in this study.	

Are you currently involved in any other research projects related to your work in with 'looked after' children or residential children's services?

YES / NO (please delete as appropriate)

Would you like to be provided with a summary of the findings of the above study after the study has ended (approximately September 2021)?

YES / NO (please delete as appropriate)

Name of Participant (Please Print)	Date	Signature

Name of Person Taking Consent (Please Print)	Date	Signature

APPENDIX 2F

Participant diary instructions

DIARY INSTRUCTIONS

Prior to arranging your 1:1 interview, we would like you to document times where one child has demonstrated behaviours you have experienced as personally and /or professionally challenging, as well as your response to these behaviours. These diary entries will be used as discussion points with you at the interview, and subsequently retained by the researcher. The diaries are purely to aid remembering and to make the 1:1 interview more productive.

What do I need to do?

1. Identify a child currently living in the residential home that you have known for **at least three months** who displays behaviours that you find challenging to manage and/or respond to. **All diary entries must relate to the same child.**
2. Use this diary to document **five** times where the child has demonstrated challenging behaviours. Although all entries must relate to same child, your entries can include a range of different behaviours, or all relate to the same/similar behaviours. Depending on the frequency of the challenging behaviours, these can be documented over the course of a single shift, or over the course of a week.
3. To aid accurate recall, please complete the diary entry **within 24 hours** of the behaviour or interaction taking place. Each time you complete an entry, document the approximate time and date that the behaviour occurred, and the time and date that you completed the entry.
4. Please refrain from using any identifiable information within the diary entry. This includes your name, the child's name, the names of other staff or children, and references to locations that may identify the home. Instead, please use pseudonyms or other means of identifying people and/or places (e.g., child A, staff member B, "the home").**The diary should be completely anonymous.**
5. Please store the diary in a **locked location** within the residential home while you are completing the diary, and prior to the 1:1 interview. You can store the diary at another location (e.g., at your home) so long as you are confident the entries **do not include any identifiable information** relating to the children, staff, or the home. If taken off the premises, **you must** ensure that the diary is kept in a secure **locked** location.

What do you mean by "challenging behaviour"?
For the purposes of completing this diary, a "challenging behaviour" is **any behaviour or behaviours that you find challenging to manage and/or respond to in your day to day work**.

A wide range of behaviours may be experienced as challenging by different people. These might include behaviours directed towards others (e.g., verbal/physical aggression), behaviours directed towards themselves (e.g., self-harm), sexualised behaviours, as well as more subtle relational behaviours such as being ignored by the child or "clingy" behaviour among others. You can record any behaviour (included or not included in this list) that you experienced as challenging to manage or respond to.

APPENDIX 2G

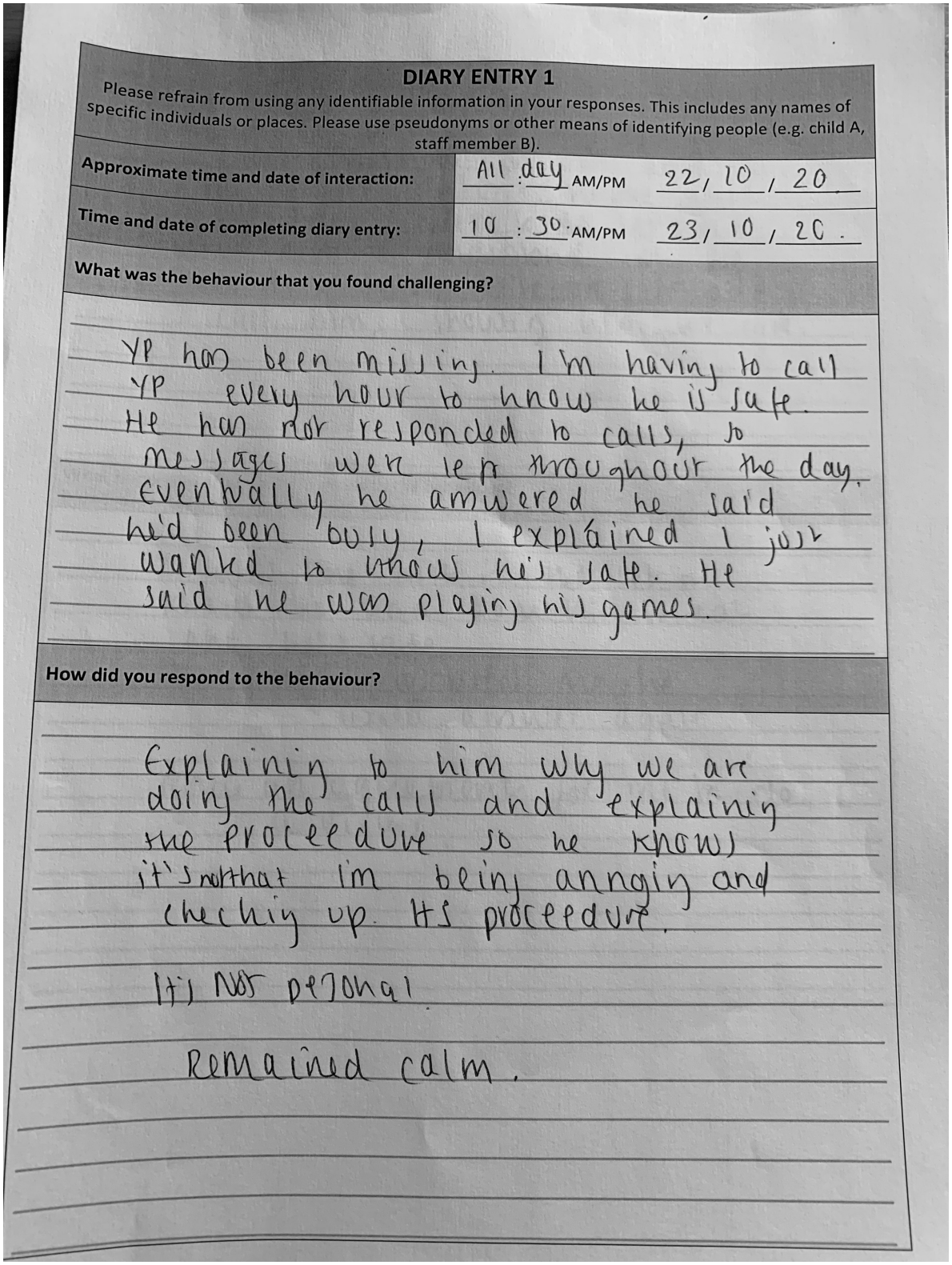
Example participant diary entry form

DIARY ENTRY Please refrain from using any identifiable information in your responses. This includes any names of specific individuals or places. Please use pseudonyms or other means of identifying people (e.g. child A, staff member B).	
Approximate time and date of interaction:	_____ : _____ AM/PM _____ / _____ /_____
Time and date of completing diary entry:	_____ : _____ AM/PM _____ / _____ /_____
What was the behaviour that you found challenging?	
How did you respond to the behaviour?	

What made you respond to the behaviour in the way you did?
What happened after you responded to the behaviour? (What happened for you? For the child? For others? Or for your relationship with the child?)

APPENDIX 2H

Example diary entry completed by participant 5



DIARY ENTRY 1

Please refrain from using any identifiable information in your responses. This includes any names of specific individuals or places. Please use pseudonyms or other means of identifying people (e.g. child A, staff member B).

Approximate time and date of interaction:	All day AM/PM 22/10/20
Time and date of completing diary entry:	10:30 AM/PM 23/10/20.

What was the behaviour that you found challenging?

YP has been missing. I'm having to call YP every hour to know he is safe. He has not responded to calls, to messages were left throughout the day. Eventually he answered he said he'd been busy, I explained I just wanted to know he's safe. He said he was playing his games.

How did you respond to the behaviour?

Explaining to him why we are doing the calls and explaining the proceedure so he knows it's not that im being annoying and checking up. Its proceedure.

Its not personal.

Remained calm.

What made you respond to the behaviour in the way you did?

I was concerned for him and his welfare, don't know what his doing. Need to be sensitive. Want him to understand why we are doing this, we're on it and call him, showing him we care.

What happened after you responded to the behaviour?
(What happened for you? For the child? For others? Or for your relationship with the child?)

He was fine with it. He let my know he had something to eat and he's safe.
He reassured me he would answer again.

Made an agreement for me to do a visual.

APPENDIX 2I

Interview topic guide for the ECIT semi-structured 1:1 interview, adapted from Butterfield et al. (2009)

1) Introduction
   a) Participant Information Sheet

   b) Consent Form

   c) Demographic information questionnaire.

2) Contextual component
   a) Intro: *As you know, I am investigating factors that help and/or hinder care staff working in residential children's homes from developing their relationships with children that display behaviours that can be challenging to manage or respond to. A wide range of behaviours may be experienced as challenging by different people. These might include behaviours directed towards others (e.g., verbal/physical aggression), behaviours directed towards themselves (e.g., self-harm), sexualised behaviours, as well as more subtle relational behaviours such as being ignored by the child or "clingy" behaviour among others. You can record any behaviour (included or not included in this list) that you experienced as challenging to manage or respond to.*

   b) *This is the first of two interviews, and its purpose is to collect information about the factors that help or hinder staff with developing or strengthening their relationship with these children, while also having to manage and respond to behaviours your experience as challenging. Before we review your diary, I have a couple of questions to get started.*
      i) Can you tell me a bit about the home where you work, such as the number of children that live here and how the children came to be living here?
      ii) What is your role in the home?
      iii) What do you like about working in residential children's homes?
      iv) What do find challenging about working in residential children's homes?
      v) In your diary entries, you were asked to choose one child. How would you describe your relationship with this child or young person?

3) Critical incident component
   a) Intro: *Now we are going to review the diary entries you have made about times where you have responded to behaviours displayed by the child that you found challenging to respond to or manage. I will be asking you to go through each event/behaviour/entry. I will be asking you about the impact each of these had on the relationship between you and the child, the factors that were helpful for you in being in able to respond in a way that developed or strengthened your relationship with the child, as well as factors*

that interfered, hindered or prevented you from being able to respond in a way that you think would have developed or strengthened your relationship. These factors may include things about yourself and things internal/personal you, or things about the organisation/home and the external support available to you. There are no right or wrong answers, I am interested in your personal opinion and perspective.

b) Diary entry 1 (repeat for each diary entry)
   i) Can you take me through the behaviour that you documented in your first diary entry?
   ii) How do you think the way you responded to the incident/behaviour impacted upon or affected your relationship with the child?
      (1) You mentioned that this event had a positive/protective/detrimental impact on your relationship, can you think of any factors or things that you think helped you (or prevented, hindered, interfered with your ability) to respond in a way that protected, developed or strengthened your relationship with the child?
   iii) Follow up probes/prompts (repeat as necessary):
      (1) When you say X helped/hindered you to respond in this way, what was helpful/unhelpful about X?
      (2) Please can you give me a specific example of the way that X was helpful/unhelpful? Or,
      (3) What made that factor helpful/unhelpful?
      (4) In what way did this impact on your relationship with the child/young person? In what way did this impact on the child/young person's relationship with you?
      (5) Was there anything else that you feel was helpful/unhelpful in helping you to respond in way that developed/strengthened your relationship with the child?
      (6) You have mentioned factors that were helpful. Were there any factors that hindered, interfered or prevented you from developing/strengthening your relationship with the child?
      (7) You have mentioned factors that were helpful, was there anything that would have even more helpful?
      (8) You have mentioned factors that hindered/interfered/prevented you from responding in a way that developed/strengthened your relationship with the child. Where there any factors that were helpful?
      (9) Can you think of anything that would have been helpful you to respond in a way that would have (further) strengthened and developed your relationship with the child that was not available to you or that you did not have access to?

c) Repeat step 3b for diary entries 2, 3, 4, & 5.

4) Debrief, establish whether participant is experiencing any emotional distress, and provide list of available resources/sources of support.

Interview Topic Guide: Follow-up telephone call (30 minutes)

From Butterfield et al. (2009).

1) *Part 1: The participant is asked to review the list of critical incidents and to answer the following questions:*
   a) Are the helping/hindering critical incident and wish list items correct?
   b) Is anything missing?
   c) Is there anything that needs revising?
   d) Do you have any other comments?

2) *Part 2: Participant is asked to review the categories into which the critical incidents and wish-list items have been placed into, and to answer the following questions:*
   a) Do the category headings make sense to you?
   b) Do the category headings capture your experience and the meaning that the incident or factor had for you?
   c) Are there any incidents in the categories that do not appear to fit from your perspective? If so, where do you think they belong?

3) *Part 3: Follow-up and clarification questions from first interview.*
   a) Follow up on items that appeared to be a critical incident or wish list item in the first interview, but information was missing.
   b) Where needed, discuss with participant whether an identified critical incident was a helping, hindering or wish list item.

APPENDIX 2J

Researcher reflexive statement

I do not have experience working with people in the care system, with my clinical experience both before and during training predominantly being within forensic mental health services, including secure hospitals and prisons. My particular area of clinical interest has been in understanding and helping people with the long-term mental health consequences of experiencing of complex trauma during childhood, including through relational therapeutic interventions and implementing trauma-informed care within organisations. While I have not worked directly with children in the 'looked after' system, many of those I have worked with in forensic settings as adults are 'care experienced'. While entering the care system removed them from the abusive and neglectful care they received from parents, their experiences of the care system often resulted in further trauma. In my clinical work, clients have spoken with me about their (often negative) experiences of having had multiple placements, feeling rejected an unwanted by carers when staff left or placements broke down, and (occasionally) also of their abusive experiences from carers in residential care. Similarly, however, many of those I have worked with have often been able to speak of one particularly good relationship with an adult, whether that was residential care worker, foster carer, or teacher, and the important protective effect that this relationship had for them. Hearing stories about the care system indirectly, alongside being exposed to those demonstrating particularly negative long-term outcomes, has shaped my pre-conceptions and assumptions of the care system and residential care services. However, this indirect exposure has also generated my wish to understand why systems which to provide and opportunity for reparative care and early intervention for an already vulnerable population often do not provide this care, and instead may unintentionally cause further harm for those that enter the system.

APPENDIX 2K

Full operational descriptive definitions of the 17 retained categories.

Category	Operational Definition
	Behaviour Meaning Making Factors
Considering the impact of developmental trauma	Describes how the awareness a staff member has of the child's previous experiences of maltreatment, and how this has impacted upon the child, their behaviour, and their expectations of relationships. Where the staff member has an awareness, they can use this to make meaning of current behaviour, which allows them to feel more empathetic towards the child, and/or is considered when choosing how to respond to the behaviour.
Personalising the behaviour	The extent that a child's behaviour is perceived by the staff to be an intentional personal attack on them, to be specifically targeted towards them, or the extent to which the staff member perceives the child genuinely meant any personal comments or insults. Where a member of staff perceives a behaviour to be personally directed, they may experience negative feelings towards the child and feel less able or willing to respond sensitively.
Taking the child's perspective	Making a conscious effort to take the child's perspective, and attempt to consider how that child maybe thinking and feeling, or perceiving a situation or staff member in that moment, with the staff member potentially reflecting on their own experiences of childhood to facilitate this. This category also describes how the staff member consciously uses these reflections to adapt how they respond, or change their response if necessary.
Understanding contextual factors behind the behaviour	How a staff member uses their understanding of the different ongoing contextual factors (e.g., school, family, life stressors) to try to understand changes in the child's behaviour, which influences their own emotional response and how they may adapt their response. This category also refers to staff's proactive attempts to find out what contextual factors may be influencing behaviour where these aren't clear, and the difficulties with responding they experience when they are unable to understand what contextual factors might be influencing behaviour.
	Staff Characteristics
Capacity for emotional awareness and regulation	The extent to which staff are able to stay aware of their own emotional response(s) to a situation in the moment, are able to recognise that any negative emotional responses may cause them to respond less sensitively to the child's needs, and engage in emotion regulation strategies to help facilitate a more sensitive response to the behaviour.
Staff temperament and personality	The influence and importance of the staff member's personality and calm temperament as an essential personal characteristic that influences how hard or easy they find it to stay calm in response to challenging behaviour, supporting them to not react to the behaviour emotionally.
	Relational Factors
Feeling care efforts are rejected or ineffective	The emotional response that staff experience in relation to how their care efforts are received and appreciated by the child. In situations where they perceive that their care is accepted and appreciated, or make a positive difference, the staff member experiences positive emotions and job satisfaction. Conversely, a staff member may experience hurt or anger when they think that their efforts have been rejected or are unwanted by the child, or that they are failing to have an effect on the child's behaviour, and may wish to withdraw from the interaction/relationship or 'give up' trying.

Responsiveness and engagement from the child	The extent that the child withdraws or engages in a reciprocal two-way interaction that provides some relational feedback to the staff member. This category also relates to how the level of responsiveness/engagement from the child then impacts upon the staffs ability to engage in the interaction, as well as their broader feelings towards the child.
Quality of the existing relationship	The existence of a good quality and/or trusting relationship between the child and a staff member that facilitates being able to respond to a challenging behaviour in a way that protects the relationship from harm during a response, possibly through allowing for difficult conversations about inappropriate behaviour, the child feeling able to open up to the staff, or increasing the child's acceptance of the implementation of boundaries. Where the relationship is not as strong, or poor, there is more risk that an overly firm or boundary-focused approach to responding to a behaviour could harm the relationship.
Strategies and Techniques	
Taking responsibility for creating an opportunity to re-establish the relationship	When there has been a deterioration in the quality of the relationship, the staff member takes responsibility for creating an opportunity to rebuild the relationship and work through the staff-child relationship difficulties. This can include reflection on the incident, explanation and sharing perspectives for actions from both sides, or apologising for where mistakes were made.
Emotional connection and trust before boundaries	The extent that the staff member prioritises establishing an emotional connection with the child and communicates trust in the relationship through demonstrating that they are emotionally available to the child if needed, alongside communicating to the child their understanding of the child's thoughts and feelings. Additionally, where the staff member prioritises establishing the connection with the child prior to subsequently upholding a boundary, this has the impact of increasing the quality and trust within the relationship, as well as improving the likelihood that boundaries will be received well by the child.
Flexibility in the implementation of boundaries	The degree of flexibility a member of staff has to adapt agreed care plans, rules and boundaries to the needs of a specific situation, and facilitate a positive outcome to an interaction through rewarding positive behaviour or meeting the child's emotional needs in the moment. Opting for a more flexible approach is compared to alternative of having to implement care plans and boundaries rigidly without reference or sensitivity to the situation in hand.
Active learning from observing and reflecting on the child's reactions	The process of actively observing previous or current interactions between the child and themselves/other staff, and observing how the child has responded to different responses to develop their knowledge of what works best with a particular child, and then consciously using their observations and gained knowledge to adapt how they respond in order to be able to protect their relationship during their response.
Upholding boundaries and consequences	The importance of upholding boundaries with proportionate consequences as necessary in residential care in order to support the development of appropriate behaviour for a child's future beyond the home, and in creating structure and predictability for the child and within the home.
Systemic and Organisational Factors	
Consistency within teams and systems	The importance of the level of consistency and communication between different members of the staff team, and between the involved systems, in terms of their working styles, values, goals, and overall cohesiveness. This category describes how more consistency in these areas contributes towards increased consistency in how members of the team approach difficulties, communicate with one another, and respond to the child and any other problems that arise.
Supervision and training	The role of the provision of specific training or clinical supervision, such as with the home manager or linked psychologist, in enabling reflection on one's

	own practice, to gain a new perspective, improve knowledge and skills/techniques in relation to understanding and responding to challenging behaviours, and then using this to adapt practice to allow for more effective responding and improved relationships.
Support from other staff	The level of support available from other staff during a challenging interaction or behaviour, which can provide the staff member with back up in case a behaviour escalates or the child becomes more distressed, as well as taking pressure of the staff member, and disperses any perceived negative impact on the relationship across multiple staff, rather than just one staff member.

APPENDIX 2L

Non-retained categories, including number of critical incidents, participation rate, and operational definition.

Category	Total CIs	PR %	Operational Definition
A 'normal' family environment	4	40%	Attempting to replicate a 'normal' family environment within the home, both in terms of approaching the staff-child relationship in the same manner as a any parent-child relationship, alongside the boundaries/consequences that would be expected, and typical family events (e.g., days out, meals out, celebratory events).
Availability of options	3	40%	The extent that the staff member has the options needed to resolve the problem, or offer a compromise or distraction, available to them at that moment in time, or feels restricted in their options.
Child mood	5	40%	The impact that the child's mood (including mood-altering substances) has on their behaviour, how they feel towards the staff member, and how their mood impacts upon how the staff member's response is received by the child.
Experience working in residential care	3	40%	The quantity of experience working in residential care influences the level of confidence in role, as well as felt confidence and skill in being able to manage and respond to challenging interactions or behaviour.
Feeling controlled or manipulated by child	2	40%	The extent the member of staff thinks that the child is attempting to control or manipulate the actions/behaviour of the staff member, and how the negative emotional response elicited by these thoughts can either influence the staff member to act to regain power within the relationship or to withdraw from the relationship.
Keeping in mind the longer-term goals for the child	3	40%	Describes how remaining focused on the longer-term goals for the child, such as their goals for life after being in care, can facilitate meaningful conversations about the appropriateness of behaviour, and ensuring boundaries are upheld for a clearly specified reason. However, becoming too focused on long term needs can also prevent the staff member from being able to attend to and respond to immediate needs in the moment.
Other interpersonal dynamics	6	40%	The role of the presence of other people and other interpersonal relationships (staff, children, peers, family) on the present interaction. This includes how these other people and competing relationships (e.g. jealousy) affect the interpersonal dynamics during the interactions, and how these may facilitate or create additional challenges to manage during the staff member's attempts to manage or respond to a challenging behaviour.
Use of humour	2	20%	Describes how humour can be used to relax and diffuse a situation that is becoming tense and might escalate; increasing playfulness within the interaction and relationship.
Use of restraint	3	40%	Describes how restraint is an unpleasant experience for both staff and child and its use, even if necessary, often has a perceived detrimental impact on the relationship due to the negativity associated with the experience.

APPENDIX 2M

Additional supporting quotes for retained categories

Category	CI Description	CI Type	Supporting Quote[1]
		Behaviour meaning-making factors	
Personalising the behaviour	Not taking anything personal from a child's personally-directed abusive behaviour, and instead recognising they are going through other things. *Impact:* Helps to respond in helpful way through being able to distance self from the behaviour.	Helping	P5: That's perfect because that's what I mean. We have kick offs, we have blips where they're abusive and all this kind of stuff. They'll do all for that, but then I won't take anything from that, because they're having a bad time.
	Particular comments that pick up on personal characteristics (such as gender) are more difficult to not take personally. *Impact:* Harder to feel empathetic towards child as feel they are trying to get power over you, making it harder to respond sensitively or compassionately.	Hindering	P3: Sometimes he gets quite rude or shuts the door in my face, when he gets angry he just gets quite rude . [...] It's not really one particular comment, it's more if he's getting rude in a certain way that he wouldn't do with guys. [....] Urm, actually you know what, yes. It potentially is discriminatory, towards the female gender thing. Because he is about that power dynamic, and he will do things to try,
Understanding contextual factors behind the behaviour	Understanding the family difficulties that child was experiencing at that time. *Impact:* Helps through being able to empathise with why the child is stressed, and make sense of why their behaviour has deteriorated.	Helping	P1: But I think you have to sort of understand that we already knew about his sister being placed in adoption, you know (inaudible), brothers and sisters were in care and stuff like that. So obviously when he found out his mum was pregnant, obviously he was starting behaviours because he's now stressed that he's not going to be able to see his sister. He's not going to be able to meet her or anything like that.
	Not understanding what is going on in the child's life, or what routine daily events may bring up for the child can lead to behaviour feeling unpredictable. *Impact:* Can make it difficult to understand what is going on for the child, and create uncertainty as to how to respond to rapid shifts in the child's mood and behaviour.	Hindering	P2: Sometimes it's like, it could escalate to a point where it's like physical, like aggression or something like that, and then when you have to try and control that and bring them back down, it's quite hard. Because you don't like expect, like you're having a good day and then something out of the blue happens and then you have to try and deal with that. [...] the unpredictableness. Because they could be just sat there, and then they have a conversation with their family member and it brings up like some sort of

			memory or something, or unresolved feelings and stuff, and they kind of lash out on us because we're the only people that are there.
Considering the impact of developmental trauma	Recognising that the child has experienced a lot of changes in hie relationships/carers in the past. *Impact:* Can use this to make sense of why the child might test you, increase empathy towards them, and be more accepting of the child and their behaviour towards you.	Helping	P2: I guess he's had quite a lot of people leaving in his past do he does try and push and push and push until he either makes that person leave, or that person continues and they stay. So that's the thing, he's had so many people in his life leave, and suddenly, so I understand that he will push and push and until he sees that he gets the reaction that he wants from the person.
	Staff member recognising that they share similar characteristics to (potentially) abusive family members. *Impact:* Can use this to make sense of child's ability to trust you and feelings towards you, and instead took more time to invest in developing relationship.	Hindering	P4: But in the beginning he was quite closed off because he's got like Asian family and I think that kind of might of triggered something, or he just didn't like me because I'm Asian myself. So I had to work on that and build a relationship like that with him, with similar interests.
Taking the child's perspective	Recognising that the child had misunderstood the situation and was catastrophising about the consequences. *Impact:* Able to change approach and explain the situation and consequences to them.	Helping	P1: I think because obviously I recognised that he didn't understand what was actually happening. He just though "oh I've been arrested, I've gone to the police station, I'm going to prison". Urm, so I think it was more just educating him of what's going to happen, and also reassure his mum that we don't want him locked up or anything like that. [...] So then obviously, after I'd explained to him, it was more positive, we did end up just sort of rebuilding on the relationship after that.
	Not being able to read into what the child in thinking and feeling in that moment, and hence understand what they need from you. *Impact:* Not sure how to respond, which may be interpreted negatively by the child and affect their ability to trust you.	Hindering	P4: I think what was making it hard was that I just didn't know how to get him to speak to me myself. Because I'd tried speaking to him, I'd tried joking around, I'd tried asking if he was hungry, and he was still not speaking to me. So I kind of felt that it was like hard because I didn't know what to do. [...] I think it's unhelpful because the child kind of picks up on it as well. Like, they kind of know, oh, they kind of realised "oh she doesn't know what she's doing" like "she doesn't know what she's doing and that's a bit bad". So I think they pick up on it, and then going forward I think they try and test you that way as well. [...] I think it would affect it negatively, just because it would affect their trust in me as a support

			worker. And if they think that I don't know what I'm doing then they would think that I'm not reliable.
Individual staff characteristics			
Capacity for emotional awareness and regulation	Knowledge and use of emotion regulation strategies during the day. *Impact:* Able to calm own reaction to child's behaviour.	Helping	P3: Urm, in terms of, um what do I do. Oh, if I'm honest sometimes breathing techniques and stuff like that just to calm myself a little bit. Yeah. Might make myself a cup of tea, just talk to the other staff.
	Responding in a heightened way to a child. *Impact:* Further heightens the interaction and can lead to child feeling negatively towards you.	Hindering	Sometimes he gets a little bit stressed with me because sometimes he tries to fire stuff at me and I fire it back and give him the facts, and then he gets upset because he's like "arrghh".
	Being able to regulate own negative response to the child's behaviour. *Impact:* Would have prevented you from withdrawing from the relationship, and may have allowed you to consider a more helpful way of responding.	Wish List	P4: [talking about what would have happened if they hadn't had a negative emotional response] I think I would have been able to keep the relationship positive and find a positive way around it, rather than let it turn into, like, oh leave me alone. So, yeah, I think it would have changed the way that I dealt with the situation.
Staff temperament and personality	Being a naturally calm quiet person during heightened situations, which works for that particular child. *Impact:* Easier to remain calm during heightened situations, and not having to invest in regulating self during interactions, which works particularly well for that child.	Helping	P3: And generally this (being calm/quiet) is the way I deal with things anyway, so that works with me anyways. If I was someone who was a very loud character then maybe that would be a struggle to kind of like, to try and turn that down. It kind of works for me because that's how I deal with heightened situations anyway. [...] . It's not just me, there's a few other people actually who are similar. There's one guy in particular who he really likes because he is very mellow and chill. It's not like, it's not that he's quiet because he's scared or anything, it's just he's a very chilled guy. It just seems to be something he likes, urm, yeah. We could get another young person in, and our personalities might not be working for them. It's just, in a way, lucky for us.
Relational factors			
Quality of the existing relationship	Having a good relationship. *Impact:* Less likely to direct behaviour towards you, and	Helping	P5: You know, I don't get any outburst from him, I don't get nothing from him, every time he's fine with me, but then he'll have outbursts with other staff members. But, every time I phone him or I see him when he's here with me, he's fine with me, we have a good relationship. [...] I think it

	means that trust you to be supportive when needed.		helps because obviously they can see that, you know what I mean, that you're here. You're here, you're not just here to do a job. You're here, you're here to be supportive, you're here to help them, you know, you're here if they feel down or anything like that. You're here to back them up kind of thing, you know what I mean?
	Not having a strong or secure relationship at the time of the interaction. *Impact:* Had to be a more careful with response, as the lack of security created more risk of a rupture to the relationship by not responding appropriately.	Hindering	P2: So I did kind of feel a bit anxious, and with my relationship with him I felt that if he was to escalate to that point, then all of the progress that I would have made with him would have gone out the window. So I was trying to prevent that from happening.
Feeling care efforts are rejected or ineffective	Staying in contact with young people that have left care and have done well. *Impact:* Feel more effective in role, experience job satisfaction, and find relationships with children more rewarding.	Helping	P5: Everywhere I've gone I've had good relationships with staff and the young people. I've had young people when they've finished in care and tell me how they're doing. All that stuff to me is job satisfaction. Like I was saying to you at the start, you know, young people remember certain things in their lives when they were in the system.
	Feeling that the child doesn't respect the staff, the work they do, and that the child is not grateful for the good care they receive. *Impact:* Feel less empathetic towards the child, including experiencing feelings of annoyance and frustration towards the child.	Hindering	P3: but we were also a bit annoyed because our manager has put so much into the home and he knows this. So it's like, do you have that respect for her? You're going around destroying the home. I probably would have been more empathetic but I still would have been annoyed if he'd gone around dealing with it the same way. [...] It is something that's sometimes there, because its like, not in a rude way they don't realise quite what they have. I do realise that they are going through things, but you do get kids who are refugees from other places who have gone through a lot worse potentially and they are very appreciative of what they can access. You hear about kids in Africa who literally have nothing and are so happy when you see them, and things like that. So, sometimes working in that environment and be a bit frustrating because it's like, I get that you're going through things, this is a home where it's a good company who are putting in money and resources and work. Yeah, that can sometimes.
Responsiveness and engagement from the child	Trying to engage with the child and them not engaging with you, and only 'grunting' in response. *Impact:* Makes interactions with	Hindering	P2: One day he can wake up and he'll be the happiest chattiest person, and others you can just tell it's going to be one of those days. [...] on that day he was quite, in one of those moods. I tried speaking with him and I'd just get a grunt back. It's just hard, it makes the whole day feel a bit, and then

	the child feel hard work and unsure of how to respond.		like, you'd say one little thing and then he'd be kicking off because I'd said it in the wrong way.
	Passive behaviour from the child, where they don't engage with you. *Impact:* Not sure how to engage with them, which puts strain on the relationship.	Hindering	P4: It's more passive and stuff. And then you don't really know how to deal with it because it's not really outwardly, it's just inwardly. It's quite, it does have strain on the relationship when you don't know how to deal with it because it will just carry on. The child will just do it more and more if they know that they can do it. So it does kind of, urm, affects it.
	Strategies and techniques		
Emotional connection and trust *before* boundaries	Emphasising to the child that you understand their perspective before enforcing the boundaries around being out of the home, and telling the child they have to come home. *Impact:* Child accepted the boundary.	Helping	P1: I just sort of went out and had a bit of a walk around and I ended up seeing him and I was like, where you going? Urm, we sort of had the conversation while we were in the community, and he was like "I just want to go out with my friends". And I was like, I get that, but you have to sort of come back, and you have to speak to us first. You can't just do what you want when you want. That's not how it works.
	Trying to connect with the child when they are heightened and dysregulated to calm them down. *Impact:* Able to avoid extreme boundaries that may harm the relationship, and instead use proportionate consequences.	Helping	P5: For me personally I like to try to sit down with the young person and talk to them rather than roll around doing restraints and all that sort of stuff. [...] I start talking to the young people and they started putting their trust in me. Yeah, then it started to work how I wanted it to work where I could talk to them rather than all that, like restraints and putting them in rooms, and breaking them away from everyone else so they can calm down and all this kind of stuff. Because it's not right, you know what I mean? We don't want them to go through, we don't want them to feel like that's we're about.
Taking responsibility for creating an opportunity to re-establish the relationship	Recognising that an interaction had ended with a negative impact on the relationship, so choosing to return to the child and heck they are okay. *Impact:* Prevented lingering bad feelings towards each other.	Helping	P4: I don't know, I felt like, because I just gave up. Even though it was negative and I was in pain and stuff, a part of me didn't want him to feel negatively towards me. So I did then think of a way, urm, he just needs to be distracted and focus on something else independently. Any feelings he had to me in that situation would just go away. [...] I just wanted it to end positively. I didn't want to leave it feeling like that, because I think if I were to leave it like that it would kind of escalate. [...] I went back to it and urm just made sure that he was okay, and he didn't have any bad feelings or anything like that, so.

	Creating time to return to the child to have a conversation with them after a negative interaction where you had taken the child's comments personally and sharing perspectives. *Impact:* Created an opportunity for an apology, and felt less negative towards the child.	Helping	P3: Yeah, it was fine because that was a day where I did need to just take five minutes because he was just being very rude when he was heightened. [...] We did, we did talk about it and he did say he did feel bad and things like that. Yeah we had a conversation about it and he was making and effort to show he was sorry. [...] because it's something I would have wanted to address with him anyways. I would have taken the time anyways to see if I could address that. It's a conversation that I would have wanted to have.
Active learning from observing and reflecting on the child's reactions to staff	Paying attention in the moment to how your actions are influencing the situation and recognising the need to adapt the particular situation. *Impact:* Able to recognise when to change approach to enable a positive outcome.	Helping	P1: But you just sort of have to take notes in the moment, and think this is working and think isn't working. Obviously, off the kids risk assessments, they all have recognised de-escalation techniques that have proven to work time and time again, but it all depends on the situation and where you are. [...] To be fair, if your heightening a kid, it's probably not working.
	Observing how the child engages with the staff, and how other staff's behaviours impact upon their relationships with the child. *Impact:* Able to adapt how you engage with the child so as not be someone he targets.	Helping	P2: Yeah, because I've seen how he can behave around people. I didn't want, he'll sort of find, urm, there's always a member of staff that's always a target for him. I didn't want to be that target, I didn't want to be that one that he doesn't get on with and doesn't want to be around.
Flexibility in the implementation of boundaries	Being flexible on the rules, within reason, around the child giving in his phone at night. *Impact:* Able to prevent an unnecessary incident.	Helping	P5: He might say, can I have 5 or 10 minutes extra. I'm supposed to be saying, no, no. But as a resolution, and I'm saying to him, okay I'm going to try and work with him, you work with me. Okay, I'll give you the 10 minutes, but then you give me the phone. He gives me the phone after the 10 minutes. [...] Yeah, it can, it can. Like, I'll put my hands up, I shouldn't really be doing it. But sometimes you do it because it eases the situation. Because in his mind, yeah, a little thing can escalate very quickly, yeah. So, in order for that to stop, and if it's five or ten minutes, give him the five or ten minutes. What's the problem?
	Having to follow a care plan that requires 15 minute checks even though can see this is making him feel negatively towards you. *Impact:* Negative impact on relationship due to you acting in a way that he doesn't want	Hindering	P2: I think he just probably saw me as some nagging thing, constantly. I think that did, it does affect it in that moment because he wants to sleep and he doesn't want me bothering him, and I'm constantly bothering him. He probably just sees me as this annoying noise in his ear that's just not, obviously that he doesn't want, which does affect it. Then he'd get up and

	you to, and isn't sensitive to his needs at the time.		he'd just be in a bad mood. It would affect you for that day, how you are together.
Upholding boundaries and consequences	Being repetitive about the boundary, explaining the rationale, and not giving in despite the child's persistence. *Impact:* Creates consistency and security for the child within the staff-child relationship.	Helping	P4: So I was just trying to explain to them that you can't really do that, that it's there for a reason, and that you have other money that you can spend. Like your pocket money or your incentive money, you can spend that on as many trainers as you like. But that activity money is only for activities, and I was trying to explain that to them. Just going back and forth and explaining why, the repeated discussion on that, I think after a while he just kind of gave up and was like "yeah okay, I'll spend it on that, and save it and spend it on an activity". I think just me repeating myself over and over kind of stopped that behaviour.
	Pursuing criminal charges against a child due to them punching you. *Impact:* Due to the level of consequence, the child resented you, which negatively impacted upon the relationship.	Hindering	P1: [child] had assaulted me a couple of days prior, and had been arrested for it. (inaudible) that i'm pressing charges, you don't get to assault me. His mum had asked about what had happened, and she was actually quite negative, urm, and [child] turned around and was like oh she's the one that had me arrested, she wants me to go to prison. He was really really negative about the fact that I'd had him arrested [...] Short term it was quite negative.
	Systemic and organisational factors		
Consistency within teams and systems	Being co-ordinated with the other staff member in how you both responded to a behaviour. *Impact:* Able to resolve an incident without an escalation, which could have harmed the relationship.	Helping	P1: Urm, but obviously, me and the other team member, we sort of work together as a team quite well. One was being good cop and one was being bad cop, and that sort of worked quite well because then he ended up talking to her and not me.
	Lots of new staff at once created relational inconsistency for the child. *Impact:* Unsettled child and tested his relationships through his behaviour.	Hindering	P2: So then all of us new staff came in, and there was a lot of change in the staff team in the space of four months and that really unsettled him. So he's gone round each new member of staff one by one just trying to push as much as he could, just to see who would be there for him and who wouldn't.
	School not working to the same goals, or communicating, with the home regarding home-schooling, which led to the child receiving inconsistent messages. *Impact:*	Wish List	P3: If he was then excluded, then they came in and said this is what you needed to be doing then that would have given him more consistency. Then I think we would have had less issues because then he would have known what was expected of him. [...] That kind of thing really. We're

	Created additional challenges and led to more challenging behaviours in the home that needed to be managed, affecting staff-child relationships.		only doing little bits each day, we're trying to find little things, but we're not teachers. The college weren't sending any work.
Back up from other staff	Manager intervening when a staff-child relationship had deteriorated as consequence of their response to a behaviour. *Impact:* Able to resolve the relationship difficulties.	Helping	P1: Yeah, so if I've spoken to [child] and it's been a negative interaction, like the time where he didn't speak to me for three weeks. That ended up having a managers intervention, because they end up having to speak to [child] on my behalf, because he wouldn't even speak to me unless I was addressing him. So it worked quite well, because they sort of repaired the relationship between me and [child] as well.
	Wanting another staff member to take over or assist with managing a behaviour, rather than being left to it on their own. *Impact:* Would have helped spread the relational burden between them.	Wish List	P4: I think maybe just someone to intervene, urm, so I didn't have to take all of the burden myself. So having someone there that would have intervened and would have just taken over for me I think that would have been helpful, both for the situation and my relationship with him.
Supervision and training	Training on why a child may direct anger towards you. *Impact:* Being aware of these factors helps in making sense of behaviour and choosing how to respond.	Helping	P3: We also did have some training that really helped as well about why they might direct anger on to you. Sometimes it can be wrong time, wrong place, and sometimes you might remind them of someone. That was helpful too, to just be aware of.
	Would have liked training or opportunities to observe other staff to gain knowledge of more techniques for responding to challenging behaviour. *Impact:* Would have been able to respond in a more helpful way.	Wish List	P4: I think maybe different techniques on how to manage behaviour. I think when it's challenging, if I'd known different techniques then I would have been able to respond in a different way. [...] Like more training or more education on it, or just observing other staff members using different techniques.

[1] Supporting quote is not exhaustive, and overall CI/impact descriptions are based upon discussion of CI in the full transcript and/or further discussion with participant at follow-up interview, which may not be fully reflected in quote provided.