VOLUME ONE – RESEARCH COMPONENT:

SUPPORTING CARERS WHO CARE FOR CHILDREN AND YOUNG PEOPLE WHO ARE LOOKED AFTER

By

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

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Thesis Overview

This thesis is submitted to the University of Birmingham in part fulfilment of the requirements for the degree of Doctor of Clinical Psychology (DClinPsy). The thesis is presented in two volumes, which detail the research and the clinical work the Author has conducted whilst completing clinical training.

Volume One contains the research component, comprising of three research papers focused on understanding wellbeing in carers and young people who are looked after. The first paper is a meta-analysis examining the effectiveness of attachment-based interventions with foster and adoptive families on children's relational, emotional and behaviour functioning. The second paper is an empirical research study investigating the role of mentalization in the development of compassion fatigue in residential carer workers who care for young people who are looked after. The third paper is written to disseminate the findings of the meta-analyses and empirical paper to foster and adoptive families, residential care workers and residential care organisations.

Volume Two contains the clinical component, consisting of five clinical practice reports (CPRs). Each CPR presents a piece of clinical work that was completed over the course of training. CPR One presents a cognitive-behavioural and psychodynamic formulation of 21-year old female with childhood trauma and symptoms of post-traumatic stress disorder. CPR Two is an evaluation of non-attendance in a secondary care community mental health team. CPR Three presents a single case experiment evaluating an attachment-based intervention for a 4-year old female presenting with self-stimulating behaviour. CPR Four describes the assessment, formulation and compassion-focused therapy intervention with a 66-year old male who presented with

anger and shame. Finally, the abstract of CPR 5 is included, which details an oral case presentation of psychodynamic psychotherapy with a 27-year old female with a diagnosis of depression.

Acknowledgments

Firstly, I want to say thank you to Dr Gary Law, who supervised the research presented in Volume One of this thesis. Gary, your knowledge, patience and ability to contain my anxieties throughout this process has been invaluable, and I know that this journey would have been a lot more difficult without you. I am also indebted to Dr Chris Jones, who throughout this research process, has provided invaluable guidance with statistical analyses. I would also like to thank Dr Wendy Coetzee for her support throughout the recruitment process, and the residential care workers themselves who gave up their time to be a part of this research.

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Last, but not least, to my friends and family, thank you. Vicki, Harriet and Shane especially, you have been my secure base and safe haven whenever I needed you. Thank you.

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CHAPTER ONE

LITERATURE REVIEW

A META-ANALYSIS INVESTIGATING THE EFFECTIVENESS OF ATTACHMENT-BASED INTERVENTIONS WITH FOSTER AND ADOPTIVE FAMILIES

Supervised by:
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Abstract

Background. Children who have been fostered or adopted often present with attachment difficulties and challenging behaviour as a result of early relational trauma. If not addressed, these difficulties can lead to placement breakdown. This review aimed to investigate the effectiveness of attachment-based interventions (ABIs) with foster and adoptive families on children's relational, behavioural and emotional functioning. This is the first meta-analysis of ABIs for foster and adoptive families.

Method. A systematic search of five electronic databases was carried out in September 2018. Key journals and reference lists of included articles were also searched. Twenty-nine studies reporting results for ABIs with foster and/or adoptive carers were included in the meta-analysis. Included studies reported outcomes relating to children's relational, behavioural or emotional functioning. Methodological quality of the primary studies was appraised using a quality criteria framework.

Results. Overall, results indicated that ABIs had a small-medium treatment effect on children's relational (SMD=0.38, 95% CI [0.19; 0.57]), behavioural (SMD=0.36, 95% CI [0.16; 0.56]) and emotional (SMD=0.31, 95% CI [0.09; 0.52]) functioning. A subgroup analysis identified that, overall, individually delivered interventions were superior to group delivered interventions on all outcomes. Evidence also suggested that ABIs had a greater impact on younger children.

Discussion. This meta-analysis supports the use of ABIs with foster and adoptive families. However, the studies were generally of poor methodological quality,

which limits the confidence in these conclusions. Further high-quality research is required to draw clearer conclusions about the effectiveness of ABIs, and how their impact is moderated by factors such as the length of placement.

1. Introduction

1.1. The Needs of Foster and Adopted Children

Child maltreatment is a widespread, global phenomenon. It is estimated that nearly 1 in 4 children across the world have experienced abuse, and nearly 1 in 5 have experienced neglect (Stoltenborgh, Bakermans-Kranenburg, Alink & van Ijzendoorn, 2015). Given the devastating impact that abuse and neglect can have on child development, it is common practice for children to be removed from their birth parents and placed into the care of the child welfare system (NICE, 2017). From here, children who are in the care, termed 'looked-after', may be fostered or adopted by a family who can offer a nurturing environment that cultivates normal child development. However, despite attempts to combat the effects of maltreatment, looked-after children remain at an increased risk of experiencing psychological difficulties than typically developing peers (Fisher, 2015; Meltzer et al., 2003; Wiik et al., 2011). Indeed, the impact of trauma on the developing brain means that foster and adopted children are more likely to be insecurely attached and have difficulties regulating their emotions, which often results in referral to mental health services (Baker, Schneiderman & Licandro, 2017; Bederian-Gardner et al., 2018; Glazebrook, Townsend & Sayal, 2015).

Attachment-related difficulties contribute to an increased risk of psychosocial adjustment difficulties once a young person is fostered or adopted (Fisher, 2015; Memarzia et al., 2015; Milan & Pinderhughes, 2000). Indeed, whilst foster and adoptive placements aim to offer a sense of permanence, they inevitably bring about a sense of loss for a child, with regards to their identity, which can lead to challenging behaviour and placement breakdown (Bederian-Gardner et al., 2018; Konijn et al., 2019; Oosterman, 2007; Neil, 2012). Multiple placement breakdowns compound

feelings of loss further, by reducing a child's opportunity to develop secure attachments and exacerbating their existing psychological and behavioural difficulties further (Schofield & Beek, 2005). Certainly, placement instability has been associated with poorer psychosocial outcomes in young people (Rock, Michaelson, Thomson & Day, 2013; Teyhan, Wijedasa & Macleod, 2018).

The presence of childhood adversity does not however determine poor child outcomes. Indeed, many young people demonstrate resilience and, as such, recent research has focused on examining the factors that mediate the relationship between early adversity and good outcomes in looked-after children. The parent-child relationship for example, has been shown to mediate the link between childhood adversity and psychosocial outcomes (Harwood, Feng & Yu, 2013; Sánchez-Sandoval, Melero, & López-Jiménez, 2019; Thomas et al., 2017). Consequently, relational interventions focused on fostering the parent-child relationship may be useful in improving outcomes for foster and adoptive families.

1.2. Intervening Through Caregivers

Numerous studies have demonstrated the effect of positive parenting on children's emotional, behavioural and academic functioning (De Graaf et al., 2008; Hoeve et al., 2009; McLeod, Wood & Weisz, 2007; Pinquart, 2016, 2017, 2017). Specific parenting styles, such as parental warmth, and psychological control have also been identified as being associated with better functioning in children, relative to other parenting dimensions including neglectful, harsh and authoritarian parenting (Pinquart, 2016, 2017, 2017). As such, parenting interventions have been developed for the treatment of child emotional and behavioural difficulties. These interventions

are primarily developed from a behavioural and cognitive-behavioural (CBT) perspective, and so focus on modelling effective parenting. Certainly, reviews support the effectiveness of these interventions when they are delivered to biological parent-child dyads of various age groups (Barlow et al., 2011; Rayce et al., 2017; Shah et al., 2016), so much so that they are now recommended in the treatment of various mental health difficulties (NICE, 2013, 2017, 2018).

The effectiveness of parenting interventions with foster and adoptive families is mixed. Some studies have evidenced the positive impact these interventions can have on parenting (Linares, Montalto, Li & Oza, 2006). However, when training was focused on skill development and behaviour management, there were limited effects on child conduct, carer skill level or carer capacity (Pithouse, 2002; Macdonald, 2005; Turner, MacDonald & Dennis, 2007). Hodges (2005) suggested that interventions based on behaviour management principles were unlikely to be effective for foster and adoptive families, given the additional complexities of looked-after children. Indeed, children who are looked-after differ from other children in terms of their experience of early adversity and mental health problems (Fisher, 2015; Oswald, Heil & Goldbeck, 2010). Therefore, parenting interventions for foster and adoptive families need to take account of the specific challenges carers face when caring for looked-after children if they are to be of value.

1.3. Attachment Theory

Attachment theory is a useful framework for understanding the needs of foster and adopted children. Bowlby (1969) defined ‘attachment’ as a deep and enduring emotional bond with another person, and proposed that babies are born with an innate

drive to develop this bond with their caregiver to ensure their survival (Crittenden, 2006; Fletcher & Gallichan, 2016). If the baby's caregiver is consistently responsive, offering them a 'secure base' from which they feel able to safely explore, and a 'safe haven' to return to when they are distressed, the baby will develop a secure attachment (Bowlby, 1988; Crittenden, 2006; Powell et al., 2013). The first relationship with the attachment figure is crucial in child development, because it acts as a template for subsequent relationships, known as an 'internal working model' (Bowlby, 1969, 1982; Crittenden, 2006; Powell et al., 2013). If a baby experiences attuned and responsive caregiving from its caregiver, it will develop beliefs that it is worthy of care and that others can be relied upon (Bowlby, 1969, 1982; Crittenden, 2006). Indeed, children who are securely attached have generally higher self-esteem and empathy and can deal with stress more effectively than others (Brumariu, 2015; Gorrese & Ruggieri, 2013; Ranson & Urichuk, 2008).

Children who have experienced maltreatment on the other hand, are likely to have experienced their attachment figures as unavailable, and a source of distress rather than comfort (Crittenden, 2006; Powell et al., 2013). Indeed, a lack of a secure base leads children to develop an internal working model where the caregiver is seen as neglecting, and the self is seen as unworthy of care (Bowlby, 1969, 1982; Crittenden, 2006). These children go on to develop insecure attachment styles, where they have difficulties trusting others, fearing they cannot be relied on for care and support (Crittenden, 2006; Shemmings & Shemmings, 2011). It is highly likely then, that foster and adoptive children will have difficulties forming new relationships, particularly with substitute caregivers given their experience of neglectful or abusive parenting. The impact of trauma on neurodevelopment means that these children are also likely to be behaviourally and emotionally dysregulated, which may further

compound the development of trusting relationships (Fisher, 2015). These challenges can lead to 'blocked care', where prolonged stress can suppress a caregiver's ability to love and empathise with their child, leading them to withdraw from them (Hughes, 2017). As such, placement breakdown is more likely, reinforcing children's relational difficulties, as children are unlikely to achieve a sense of permanence, and ultimately a safe base (Kerr & Cossar, 2014). Positively though, research has indicated that children who are insecurely attached may shift to a more secure attachment pattern when placed with securely attached adults (Bernard et al., 2012).

1.4. Attachment-Based Interventions

Developing secure attachments is key to improving outcomes in foster and adoptive children. These children bring to their new families expectations of rejection and a set of psychological strategies that have kept them safe in prior neglectful environments but are unlikely to be conducive to healthy relational functioning in new families. However, research indicates that warm, attuned and consistent caregiving can change children's attachment style (Braungart-Rieker, Garwood, Powers & Wang, 2001). As such, attachment-based interventions focused on promoting the carer-child relationship may provide a child with an experience of care, security and containment that they did not receive with their primary caregivers and, as such, may foster a more secure attachment style.

Kemmis-Riggs, Dickes, and McAloon (2018) conducted a systematic review of fourteen studies, examining the effectiveness of different programme components of psychosocial interventions for foster families. The authors identified that interventions which offered trauma-based psychoeducation and focused on developing the parent-

child relationship were associated with the most benefit on children's relational and behavioural functioning. Further, Kerr and Cossar (2014) conducted a recent systematic review investigating the effectiveness of attachment interventions with foster and adoptive families. The authors reviewed the literature up until January 2013, including ten studies that found evidence to suggest that attachment-based interventions had a positive impact on children's behavioural functioning, and to a lesser extent, on relational and emotional functioning. Due to the poor methodological quality of the studies though, the authors concluded that it was difficult to draw clear conclusions about the impact of attachment-based interventions on children's psychosocial functioning.

1.5. Rationale and Aims

The current review aims to further investigate the impact of attachment-based interventions with foster and adoptive families. Specifically, the authors aim to build upon the review conducted by Kerr and Cossar (2014) by extending it to include papers published after January 2013 with the hope that recently published papers may be of a better methodological quality. Moreover, the review aims to include a quantitative synthesis of data to provide an objective estimate of the effectiveness of interventions, thereby reducing the potential for bias.

The present review included studies that used attachment-based interventions with foster and adoptive carers. Three outcome factors were included in the review to assess the effectiveness of interventions: children's relational, behavioural and emotional functioning. Children's relational functioning (i.e., a measure of their attachment style or how a child relates to others as perceived by their caregiver) was

included due to the nature of the interventions. Children's behavioural (i.e., a measure of how a child behaves as perceived by their caregiver) and emotional functioning (i.e., a measure of how the child regulates emotional distress as perceived by their caregiver) was included due to the impact these difficulties can have on children's developing relationships with their families.

2. Method

2.1. Identifying Primary Studies

2.1.1. Inclusion criteria. Inclusion and exclusion criteria are detailed in Table 1.1. To gain an overview of the effectiveness of attachment-based interventions within foster and adoptive families the criteria were kept fairly broad as there is considerable variability in methodology within the research. The main criteria for inclusion was any intervention study, where an attachment-based intervention was used with foster and adoptive carers or foster and adoptive carers and their foster and adoptive children. Interventions were defined as 'attachment theory based' if they:

- described the use of attachment theory as underpinning their development;
- aimed to improve the understanding of attachment theory in carers;
- aimed to improve the attachment relationship between the carer and their child.

Studies had to utilise quantitative methodology to ensure that there were sufficient data to calculate effect sizes.

Table 1.1.

Inclusion and exclusion criteria.

Dimension	Inclusion Criteria	Exclusion Criteria
Population	Foster carers of children under the age of 18, of both genders	Samples of residential care workers
	Adoptive parents (mothers and fathers) of children under the age of 18, both genders	Biological parents of children recovering from trauma and abuse
	Other family-based carers e.g. kinship carers of looked-after children under the age of 18, both genders	
	Mixed samples of foster, adoptive and kinship carers	
Interventions	Attachment Theory-Based Interventions	Dyadic training interventions with no input from carers or parents
	Psychoeducational, experiential, therapeutic, online, group based or individual format	
Comparators	Intervention control	Contrasting populations (e.g. biological parents)
	Care or treatment as usual	
	Retrospective control	
	No control	
Outcomes	Data relating to children's relational, behavioural and emotional functioning	Anecdotal reports of outcomes
	Self-report questionnaire, observation, interview, experimental task methods	
Study Design	Quantitative evaluative design, including pre and post intervention studies, controlled studies, randomised controlled studies, longitudinal follow-up studies	Evaluations of interventions without quantitative analysis
		Descriptive or theoretical papers that do not aim to evaluate interventions
		Review or meta-analysis papers
		Single case descriptions
Publication	All years of publication covered by literature search databases	Non-English language
	Published and unpublished literature	

2.1.2. Search strategy. A systematic search of the following databases was carried out in September 2018 to identify relevant papers: PsychINFO, EMBASE, MEDLINE, ERIC, ProQuest (including Applied Social Sciences Index and Abstracts, Social Services Abstracts, Sociological Abstracts, ProQuest Dissertations and Theses: UK and Ireland, Dissertations and Theses: Global). A series of three searches were carried out and then systematically combined. The following search terms were used: (1) population: "adoptive child*" OR "foster child*" OR "looked after child*" OR "foster care*" OR "adoptive parent*" OR "foster parent*" OR "kinship care*" (2) intervention: therap* or treatment* or training or intervention or education* (3) intervention focus: attachment OR "attachment theory" OR "carer child relation*" OR "attachment security".

The results of the systematic search are presented in Figure 1.1. The search yielded 1102 articles, leaving 656 once duplicates were removed. Abstracts were initially screened for suitability, then the remaining articles were subject to full text screening according to the inclusion and exclusion criteria.

Twenty-nine articles met the full inclusion criteria from the initial search, and three were identified from the reference lists of these studies. Thus, 32 articles satisfied criteria for the meta-analysis. Two papers (Dozier et al., 2006, 2009) reported outcomes on the same sample and so were considered as one study. Similarly, three other papers (Juffer et al., 1997, 2005; Stams et al., 2001) reported follow-up data on the same sample and so were considered as one study. Therefore, twenty-nine primary studies are reported in the meta-analysis.

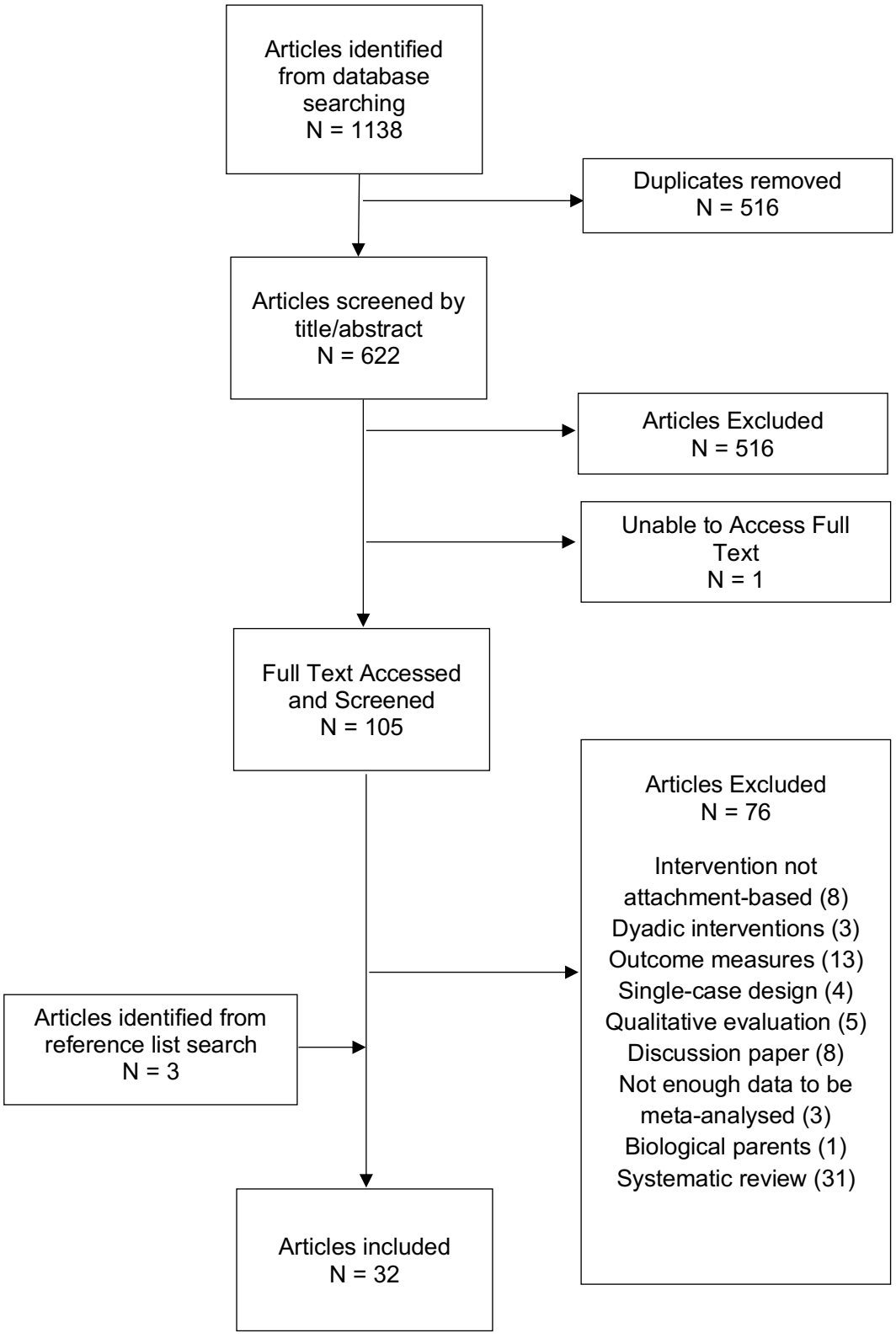

Figure 1.1. Results of the systematic search and the application of the inclusion criteria.

2.2. Summary of Included Studies

The final studies included are summarised in Table 1.2. All studies evaluated the effectiveness of attachment-based interventions (ABIs), that were delivered either individually (13 studies), in a group-format (15 studies), or online (1 study). The average (mean) length of intervention was 17 weeks. Participants were all foster, adoptive or kinship carers, and their foster or adoptive children, who varied in age from 3 months to 18 years. Few studies stratified their sample by type of carer or age of child. Studies included a range of relational (21 studies), behavioural (19 studies) and emotional (17 studies) outcome measures. Typically, behavioural and emotional functioning was measured using the Child Behaviour Checklist or Strengths and Difficulties Questionnaire.

2.3. Quality Ratings and Data Extraction

All data were extracted from papers by the corresponding author. The reliability of the selection processes and data extraction was checked using a 10% random sample. Full reports of studies of agreed relevance were obtained, quality rated, and data relating to methods, participants, interventions and outcomes, extracted. Quality ratings and data extraction from 10% of the studies of agreed relevance were cross-validated by a second rater. The author and the second rater agreed on the quality rating and data extracted from all studies within the sample.

It was anticipated that treatment outcome would be reported as a mean or mean difference, a standard deviation and *n*-size for a treatment and control group. If

standard deviations for each group were not reported individually then the pooled standard deviation was substituted. If these descriptive statistics were not reported

Table 1.2.

Summary of twenty-nine included studies.

Author (Year) Country	Population Participants	Child Characteristics	Design	Attachment-based Intervention	Child Outcome Measure
Allen, Timmer, & Urquiza (2014) U.S.A	Pre-adoptive and adoptive parents (*N*=85)	Age range: 2-8 years (*M*=4.45 years) Gender: 51% Male	Pre- and post-evaluation No control group	Parent-Child Interaction Therapy (PCIT) Duration: 14 to 20 weeks	**Relational Outcome Measure:** None reported **Behavioural Outcome Measure :** Child Behaviour Checklist (CBCL) Externalising Scale Eyberg Child Behaviour Inventory (ECBI) **Emotional Outcome Measure:** Child Behaviour Checklist (CBCL) Internalising Scale
Baker, Biringen, Meyer-Parsons & Schneider (2015) U.S.A	Adoptive parent (*N*=15)	Age range: 23-62 months (*M*=42 months) Gender: 60% Male	Randomised Controlled Trial: Pre- and post-intervention Experimental Intervention v. Delayed-intervention comparison group	Emotional Attachment and Emotional Availability (EA2) Tele-Intervention Programme Duration: 6 weeks	**Relational Outcome Measure:** The Attachment Q-Sort (AQS) Emotional Attachment & Emotional Availability Clinical Screener (EA2-CS) **Behavioural Outcome Measure :** Child Behaviour Checklist (CBCL) Externalising Scale **Emotional Outcome Measure:** Child Behaviour Checklist (CBCL) Internalising Scale
Becker-Weidman (2006) U.S.A	Foster and adoptive parents (*N*=64)	Age range: 5-16 years Gender: 59.9% Male	Non-randomised Controlled Trial: Pre- and post-intervention Experimental Intervention v. Treatment as usual	Dyadic Developmental Psychotherapy (DDP) Duration: Average of 23 sessions over 11 months	**Relational Outcome Measure:** Randolph Attachment Disorder Questionnaire (RADQ) **Behavioural Outcome Measure :** Child Behaviour Checklist (CBCL) Externalising Scale

					Emotional Outcome Measure: Child Behaviour Checklist (CBCL) Internalising Scale
Carnes-Holt & Bratton (2014) U.S.A	Pre-adoptive and adoptive parents (*N*=61)	Age range: 2-10 years (*M*=5.7 years) Gender: Not reported	Randomised Controlled Trial: Pre- and post-intervention Experimental Intervention v. Waitlist control group	Child-Parent Relationship Therapy (CPRT) Duration: 10 weeks (2.5 hour sessions)	**Relational Outcome Measure:** None reported **Behavioural Outcome Measure :** Child Behaviour Checklist (CBCL) Externalising Scale **Emotional Outcome Measure:** Child Behaviour Checklist (CBCL) Internalising Scale
Colonnesi et al. (2013) Holland	Adoptive parents (*N*=20)	Age range: 2-5 years (*M*=45.6 months) Gender: 35% Male	Pre- and post-evaluation No control group	Basic Trust: Attachment-Oriented Intervention Based on Mind-Mindedness in Adoptive Families Duration: Approximately 3 months (8 sessions)	**Relational Outcome Measure:** The Attachment Q-sort (AQS) Attachment Insecurity Screening Inventory **Behavioural Outcome Measure :** The Strengths and Difficulties Questionnaire (SDQ) Externalising Scale **Emotional Outcome Measure:** The Strengths and Difficulties Questionnaire (SDQ) Internalising Scale
Conn et al., (2018) U.S.A	Foster parents (*N*=33)	Age range: 2-7 years Gender: Not reported	Randomised Controlled Trial: Pre- and post-intervention Experimental Intervention v. Waitlist control group	Trauma-informed Incredible Years Parent Programme Duration: 13 weeks	**Relational Outcome Measure:** None reported **Behavioural Outcome Measure :** Child Behaviour Checklist (CBCL) Externalising Scale **Emotional Outcome Measure:** Child Behaviour Checklist (CBCL) Internalising Scale
Danko (2014)	Foster parents (*N*=21)	Age range: 2.08-5.67 years (*M*=3.56 years)	Randomised Controlled Trial: Pre- and post-intervention	Parent-Child Interaction Therapy	**Relational Outcome Measure:** The Attachment Q-Sort (AQS)

U.S.A		Gender: 74.1% Male	Experimental Intervention v. Waitlist control with bibliotherapy	Duration: Approximately 5-7 weeks (10-14 sessions)	**Behavioural Outcome Measure :** Eyberg Child Behaviour Inventory (ECBI) **Emotional Outcome Measure:** None Reported
Dozier et al., (2006; 2009) U.S.A	Foster parents (*N*=60)	Age range: 3.6 to 39.4 months Gender: 50% Male	Randomised Controlled Trial: Pre- and post-intervention Experimental Intervention v. Control Intervention	Attachment and Biobehavioural Catch Up Duration: 10 weeks	**Relational Outcome Measure:** Parent Attachment Diary (PAD) **Behavioural Outcome Measure :** None Reported **Emotional Outcome Measure:** None Reported
Golding & Picken (2004) U.K	Foster parents (*N*=7)	Age range: 5-15 years Gender: 84% Male	Pre- and post-evaluation No control group	Fostering Attachments Group Duration: Approximately 18 months (18 sessions)	**Relational Outcome Measure:** Pen Portrait/Symptom Checklist **Behavioural Outcome Measure :** The Strengths and Difficulties Questionnaire (SDQ) Externalising Scale **Emotional Outcome Measure:** The Strengths and Difficulties Questionnaire (SDQ) Internalising Scale
Gurney-Smith, Granger, Randle & Fletcher, (2010) U.K	Foster and adoptive parents (*N*=13)	Age range: 4-14 years Gender: 46% Male	Pre- and post-evaluation No control group	Fostering Attachments Group Duration: Approximately 18 months (18 sessions)	**Relational Outcome Measure:** Expression of Feelings in Relationships Questionnaire (EFR) **Behavioural Outcome Measure :** The Strengths and Difficulties Questionnaire (SDQ) Externalising Scale **Emotional Outcome Measure:** The Strengths and Difficulties Questionnaire (SDQ) Internalising Scale
Hacker (2009) U.S.A	Foster parents (*N*=30)	Age range: 2-9 years	Non-randomised Controlled Trial: Pre- and post-intervention	Child-Parent Relationship Therapy Duration: 5 weeks	**Relational Outcome Measure:** Randolph Attachment Disorder Questionnaire (RADQ)

		Gender: 50% Male	Experimental Intervention v. Control Support Group		**Behavioural Outcome Measure :** None Reported **Emotional Outcome Measure:** None Reported
Harris-Waller, Bangerh & Douglas (2018) U.K	Foster and kindship parents (*N*=56)	Age range: Not Reported Gender: No Reported	Pre- and post-evaluation No control group	The Solihull Approach Foster Carer Course Duration: 12 sessions	**Relational Outcome Measure:** Expression of Feelings in Relationships Questionnaire (EFR) **Behavioural Outcome Measure :** The Strengths and Difficulties Questionnaire (SDQ) Externalising Scale **Emotional Outcome Measure:** The Strengths and Difficulties Questionnaire (SDQ) Internalising Scale
Holmes & Silver (2010) U.K	Foster and adoptive parents (*N*=42)	Age range: Not Reported Gender: No Reported	Pre- and post-evaluation No control group	Managing behaviour with attachment in mind group Duration: 6 sessions	**Relational Outcome Measure:** Carer Questionnaire **Behavioural Outcome Measure :** None Reported **Emotional Outcome Measure:** None Reported
Juffer et al., (1997; 2005) Stams et al., (2001) Holland	Adoptive parents (*N*=147)	Age Range: 5-12 months Gender: 49% Male	Non-randomised controlled trial: Pre- and post-intervention Experimental Intervention v. Control group	Book on parental sensitivity and 3 sessions of video feedback on sensitive parenting Duration: 3 sessions	**Relational Outcome Measure:** Strange Situation Procedure **Behavioural Outcome Measure :** None Reported **Emotional Outcome Measure:** None Reported
Laybourne, Anderson & Sands (2008)	Foster parents (*N*=7)	Age range: Not Reported	Pre- and post-evaluation No control group	Fostering Attachments Group Duration: Approximately 6 months (18 sessions)	**Relational Outcome Measure:** Relationship Problems Questionnaire **Behavioural Outcome Measure :**

U.K		Gender: No Reported			None Reported **Emotional Outcome Measure:** None Reported
Mersky et al., (2016) U.S.A	Foster parents (*N*=100)	Age range: 2-7 years (*M*=4.6 years) Gender: 56% Male	Randomised controlled trial: Pre- and post-intervention Experimental Intervention v. Waitlist Control	Extended Parent-Child Interaction Therapy Duration: 14 weeks	**Relational Outcome Measure:** None reported **Behavioural Outcome Measure :** Child Behaviour Checklist (CBCL) Externalising Scale Eyberg Child Behaviour Inventory (ECBI) **Emotional Outcome Measure:** Child Behaviour Checklist (CBCL) Internalising Scale
Minnis, Pelosi, Knapp & Dunn, (2001) U.K	Foster parents (*N*=160)	Age range: 5-16 years Gender: Not Reported	Randomised controlled trial: Pre- and post-intervention Experimental Intervention v. Treatment as usual	Based on Communicating with children: helping children Duration: 3 days	**Relational Outcome Measure:** Randolph Attachment Disorder Questionnaire (RADQ) **Behavioural Outcome Measure :** None Reported **Emotional Outcome Measure:** None Reported
N'Zi, Stevens & Eyberg (2017) U.S.A	Kinship parents (*N*=14)	Age range: 2-7.5 years (*M*=5.2 years) Gender: 50% Male	Randomised controlled trial: Pre- and post-intervention Experimental Intervention v. Waitlist Control	Child-Directed Interaction Training Duration: 4 weeks	**Relational Outcome Measure:** Child Parent Relationship Scale (CPRS) **Behavioural Outcome Measure :** Child Behaviour Checklist (CBCL) Externalising Scale **Emotional Outcome Measure:** Child Behaviour Checklist (CBCL) Internalising Scale
Purvis et al., (2015)	Adoptive parents (*N*=96)	Age range: 5-12 years (*M*=7.88 years)	Randomised controlled trial: Pre- and post-intervention	Trust-Based Relational Intervention Duration: 4 days	**Relational Outcome Measure:** None Reported

U.S.A		Gender: 62.5% Male	Experimental Intervention v. Control Group		**Behavioural Outcome Measure :** The Strengths and Difficulties Questionnaire (SDQ) Externalising Scale **Emotional Outcome Measure:** The Strengths and Difficulties Questionnaire (SDQ) Internalising Scale
Razuri et al., (2016) U.S.A	Adoptive parents (*N*=304)	Age range: 5-12 years (*M*=8.15 years) Gender: 50% Male	Randomised controlled trial: Pre- and post-intervention Experimental Intervention v. Control Group	Web-based Trust-Based Relational Intervention Duration: Online access to 18 learning modules for 30 days	**Relational Outcome Measure:** None Reported **Behavioural Outcome Measure :** The Strengths and Difficulties Questionnaire (SDQ) Externalising Scale **Emotional Outcome Measure:** The Strengths and Difficulties Questionnaire (SDQ) Internalising Scale
Selwyn, del Tugo, & Frazer (2009) U.K	Adoptive parents (*N*=35)	Age range: Not reported (*M*=7.9 years) Gender: Not Reported	Non-randomised controlled trial: Pre- and post-intervention Experimental Intervention v. Control group	"It's a Piece of Cake?" Programme Duration: 6 modules (lasting approximately 5 hours each)	**Relational Outcome Measure:** Expression of Feelings in Relationships Questionnaire (EFR) **Behavioural Outcome Measure :** The Strengths and Difficulties Questionnaire (SDQ) Externalising Scale **Emotional Outcome Measure:** The Strengths and Difficulties Questionnaire (SDQ) Internalising Scale
Selwyn et al., (2016) U.K	Adoptive Parents (*N*=29)	Age range: 18months-17 years (*M* =3.57 years) Gender: 51% Male	Pre- and post-evaluation No control group	Nurturing Attachments Group Work Programme Duration: 18 sessions weekly during term-time	**Relational Outcome Measure:** Child Parent Relationship Scale (CPRS) **Behavioural Outcome Measure :** The Strengths and Difficulties Questionnaire (SDQ) Externalising Scale **Emotional Outcome Measure:**

					The Strengths and Difficulties Questionnaire (SDQ) Internalising Scale
Sergeant (2011) U.S.A	Foster, adoptive and kinship parents (*N*=12)	Age range: 6-10 years Gender: Not Reported	Randomised controlled trial: Pre- and post-intervention Experimental Intervention v. Waitlist Control	Child-Parent Relationship Therapy Duration: 10 weeks	**Relational Outcome Measure:** Randolph Attachment Disorder Questionnaire (RADQ) **Behavioural Outcome Measure :** None Reported **Emotional Outcome Measure:** None Reported
Sprang (2009) U.S.A	Foster parents (*N=53)*	Age range: Not Reported (*M*=3.5 years) Gender: 51% Male	Randomised controlled trial: Pre- and post-intervention Experimental Intervention v. Control support Group	Attachment and Biobehavioural Catch-up Duration: 10 weeks	**Relational Outcome Measure:** None reported **Behavioural Outcome Measure :** Child Behaviour Checklist (CBCL) Externalising Scale **Emotional Outcome Measure:** Child Behaviour Checklist (CBCL) Internalising Scale
Stevens (2011) U.S.A	Kinship parents (*N*=11)	Age range: 2-7 years (*M*=62.9 months) Gender: 35% Male	Randomised controlled trial: Pre- and post-intervention Experimental Intervention v. Waitlist control	Child-Directed Interaction Training Duration: 4 weeks	**Relational Outcome Measure:** Child Parent Relationship Scale (CPRS) Parent Attachment Diary (PAD) **Behavioural Outcome Measure :** Child Behaviour Checklist (CBCL) Externalisng Scale Eyberg Child Behaviour Inventory (ECBI) **Emotional Outcome Measure:** Child Behaviour Checklist (CBCL) Internalising Scale
Van Andel et al., (2016) Holland	Foster parents (*N*=96)	Age range: Not Reported	Randomised controlled trial: Pre- and post-intervention	Foster Carer- Foster Child Intervention	**Relational Outcome Measure:** Emotional Availability Scales (EAS) **Behavioural Outcome Measure :** None Reported

		Gender: Not Reported	Experimental Intervention v. Treatment as usual	Duration: Up to 3 months (6 fortnightly sessions)	**Emotional Outcome Measure:** None Reported
Warman, Pallet & Scott (2006) U.K	Foster parents (*N*=87)	Age range: 2-17 years (*M*=9.3 years) Gender: 61% Male	Pre- and post-evaluation No control group	Fostering Changes Programme Duration: 10 weeks	**Relational Outcome Measure:** None Reported **Behavioural Outcome Measure :** The Strengths and Difficulties Questionnaire (SDQ) Externalising Scale **Emotional Outcome Measure:** The Strengths and Difficulties Questionnaire (SDQ) Internalising Scale
Wassall (2011) U.K	Foster and adoptive parents (*N*=25)	Age range: 9-14 years Gender: 50% Male	Non-randomised controlled trial: Pre- and post-intervention Experimental Intervention v. Waitlist Control	Fostering Attachments Group Duration: Approximately 6 months (18 sessions)	**Relational Outcome Measure:** Child Sense of Security Questionnaire (SSQ) **Behavioural Outcome Measure :** The Strengths and Difficulties Questionnaire (SDQ) Externalising Scale **Emotional Outcome Measure:** The Strengths and Difficulties Questionnaire (SDQ) Internalising Scale
Wydra (2013) U.S.A	Adoptive parents (*N*=51)	Age range: 8-18 years (*M*=12.86 years) Gender: 30% Male	Pre- and post-evaluation No control group	Adoption-competent family therapy Duration: Up to 6 months (16 weekly session)	**Relational Outcome Measure:** Inventory of Parent Peer Attachment Revised for Children (IPPA-R) **Behavioural Outcome Measure :** Child Behaviour Checklist (CBCL) Externalising Scale **Emotional Outcome Measure:** Child Behaviour Checklist (CBCL) Internalising Scale

then Student *t* or *F* statistics were transformed into estimates of Cohen's *d*. Multiple reporting of outcomes can result from primary studies reporting multiple measures of the same outcome Where possible, multiple outcomes will be combined in a single quantitative outcome using the procedures described by Borenstein et al. (2009).

2.4. Risk of Bias Assessment

A set of quality criteria were developed to assess risk of bias. The quality criteria were adapted from existing frameworks including: Downs & Black (1998), The Cochrane Collaboration Risk of Bias Tool (Higgins & Green, 2011), and the Risk of Bias Assessment Tool for Nonrandomised Studies (Kim et al., 2013). The framework assessed risk of bias in seven domains: Selection Bias, Performance Bias, Treatment Fidelity, Detection Bias, Statistical Bias, Reporting Bias, and Generalisability (see Table 1.3). Each risk domain was rated as Low, Unclear or High risk. Quality ratings as assessed by the author are shown in Figure 1.2.

2.4.1. Selection bias. Overall, selection bias was mixed within the primary studies, with thirteen studies being rated as low risk. These studies were all randomised controlled studies, where the randomisation procedure was clearly described. Conn et al., (2018) used random sampling, however, there were clear differences on some demographic variables, including that children in the intervention group were older and more in need of mental health treatment. The extent to which these variables may have influenced the impact of the intervention is unclear, and therefore the study was rated as an unclear risk of bias.

2.4.2. Performance bias. Twelve studies indicated that participants were not blind to treatment allocation and therefore were rated as being a high risk of bias as this may have biased the estimate of the treatment effect. Moreover, several of these studies reported that there were differences in the care provided to the intervention and control group that were not controlled for, such as the intervention receiving more hours of contact with the researchers (Hacker, 2009; Sprang, 2009) and that some participants were receiving additional support (Becker-Weidman, 2006; Sergeant, 2011).

Therefore, it was difficult to draw conclusions that any effect was due to intervention, rather than confounding variables. Eight studies were also rated high risk due to their within-subject design, as participants had put themselves forward for the intervention. Seven studies gave no information about blinding and so were rated as unclear risk of bias. Only two studies reported blinding participants and that the format, frequency and duration of therapy was kept consistent across the intervention and control (Dozier et al., 2006, 2009; Juffer et al., 1997, 2005; Stams et al., 2001).

2.4.3. Treatment fidelity. Nine studies described how they measured treatment fidelity and reported the results of this within the study, which demonstrated good adherence to the protocol. Therefore, these studies were deemed low risk. The majority of studies (52%) were rated as unclear, as although they reported checks for treatment fidelity, including that therapists had more than two years training in specific approaches (Becker-Weidman, 2006; Hacker, 2009; Mersky, 2016; Baker et al., 2015; Dozier et al., 2006, 2009), a treatment protocol was followed (Van Andel, 2016; Sergeant, 2011, Purvis et al., 2015) and video-taping of sessions was used (Adkins et al., 2018), no evaluation of fidelity was included in the paper. If studies did not report any procedures to ensure treatment fidelity, they were regarded as a high risk of bias.

2.4.4. Detection bias. The majority of studies (72%) did not report if those administering the outcome assessment were blinded or not. Only six studies reported using blind outcome assessors who were not involved in the treatment programme (Dozier et al., 2006, 2009; Harris-Waller, 2018; Juffer et al., 1997, 2005/Stams et al., 2001; Minnis et al., 2001; Stevens, 2011; Wassall, 2011). Two studies stated that outcome assessors were not blind (Hacker, 2009; Wydra, 2013). However, these studies used self-report measures that required scoring only by assessors and so were judged to be low risk as it was felt that the scoring of these was unlikely to be influenced by lack of blinding. All studies reported using valid and reliable measures that either measured children's relational, behavioural or emotional functioning.

2.4.5. Statistical bias. Overall, attrition rates were variable, however, studies were fairly consistent in providing reasons for drop-outs, which appeared unrelated to the intervention, including foster/adoptive placement breakdown and placement move. Sixteen studies reported attrition rates less than 20%, suggesting the intervention was tolerable and so were rated low risk. A number of these studies also reported using intent-to-treat analyses (Danko, 2014; Mersky et al., 2016; Minnis et al., 2001; Sergeant, 2011; Sprang, 2009; Wydra, 2013). Twelve studies were rated as unclear as they either had attrition rates between 20 and 30% (Allen et al., 2014; Conn et al., 2018; Purvis et al., 2015; Selwyn et al., 2006, 2009) or their reporting was unclear. One study was rated high risk as more than 30% of the data was lost during data collection and only a completer analysis was conducted (Harris-Waller et al., 2018).

2.4.6. Reporting bias. Overall, the full reporting within the studies was considered to be generally good. Six studies were rated as unclear because they did not report all the subscales of measures (Baker et al., 2015; Carnes-Holt & Bratton, 2014; Golding & Picken, 2004; Juffer et al., 1997, 2005/Stams et al., 2001; Minnis et

al., 2001; Selwyn et al., 2016). Four further studies were rated as high risk, either because they did not report all the measures listed in their methodology (Danko, 2014), did not report outcomes that were non-significant (Dozier et al., 2006, 2009; Harris-Waller et al., 2018) or it was difficult to interpret the outcomes listed (Van Andel et al., 2016).

2.4.7. Generalisability. Overall, the sample size and whether findings could be generalised outside of the study sample was the largest risk of bias amongst studies. 17 studies had a sample size of at least 20 participants in each group, which is the minimum number considered for reliably estimating an effect (Higgins & Green, 2011). However, studies typically failed to differentiate between foster, adoptive and kinship carers, which have been described as being qualitatively different, and thus result in quantitatively different treatment effects (Biehal et al., 2009; Selwyn & Quinton, 2004). Studies also failed to stratify the treatment effect according to the age of the child. Both of these factors make it difficult to generalise the findings to specific populations.

Table 1.3.

Quality framework used to assess risk of bias.

Domain	Details	Low risk of bias	Unclear risk of bias	High risk of bias
Selection Bias	What is the study design and the type of control used within the study? If using randomisation, have they described the method of allocation clearly?	RCT, where randomisation is clearly described, allocation concealed from investigators, no differences on demographic variables	Between groups/pseudo-randomised, methods of allocation have not been clearly described, differences exist between groups	Within-group designs
Performance Bias	Are participants blind to allocation? Is there exposure to other factors other than the interventions of interest?	Participants are blind to allocation; no confounding variables present across groups	Not clear if allocation was concealed from participants	Participants are not blind to allocation, confounding variables evident
Treatment Fidelity	Has treatment fidelity been assessed by recording of sessions or by supervision or screened for protocol adherence?	Treatment fidelity described and adequate adherence to the model demonstrated	Treatment fidelity undertook but not described/evaluated	No mention of treatment fidelity tests or processes used to ensure fidelity
Detection Bias	Are the outcome assessors blind to participant allocation?	Blinding of outcome assessors for measures that require subjective interpretation and scoring from the assessor Valid/reliable measures used	No reporting about blinding Unclear validity/reliability of measures used in the study (i.e. bespoke or non-reviewed)	No blinding of outcome assessment Measures used with poor validity and reliability
Statistical Bias	Is there incomplete data due to attrition? Has this been handled appropriately?	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	Is there evidence of selective outcome reporting? Are there measures that have not been reported in the results that have been mentioned in the method section?	Reported all results of measures as outlined in the method	Not all descriptive statistics are presented	Not reported full outcome measures that are stated in the method section or reported only a subsample of results
Generalisability	Is there sufficient power to calculate an intervention effect?	Sufficient sample for generalisation and representative of target population (>20 per group)	Sufficient sample for generalisation but with some idiosyncratic feature (> 20 per group)	Small sample with or without idiosyncratic features (<20 per group)

	Selection Bias	Performance Bias	Treatment Fidelity	Detection Bias	Statistical Bias	Reporting Bias	Generalisability	Quality Index
Allen et al., (2014)								36%
Baker et al., (2015)								57%
Becker-Weidman (2006)								50%
Carnes-Holt & Bratton, (2014)								57%
Colonnesi et al., (2013)								50%
Conn et al., (2018)								57%
Danko (2014)								50%
Dozier et al., (2006; 2009)								64%
Golding & Picken (2004)								29%
Gurney-Smith et al., (2010)								43%
Hacker (2009)								50%
Harris-Waller et al., (2018)								29%
Holmes & Silver (2010)								36%
Juffer et al., (1997; 2005)/ Stams et al., (2001)								57%
Laybourne et al., (2008)								36%
Mersky et al., (2016)								71%
Minnis et al., (2001)								57%
N'Zi et al., (2017)								71%
Purvis et al., (2015)								57%
Razuri et al., (2016)								71%
Selwyn et al., (2009)								43%
Selwyn et al., (2016)								29%
Sergeant (2011)								57%
Sprang (2009)								71%
Stevens (2011)								71%
Van Andel et al., (2016)								57%
Warman et al., (2006)								43%
Wassall (2011)								64%
Wydra (2013)								64%

Notes: Quality index was calculated by allocating each risk domain of each study 0, 1 or 2 points based upon their rating of high, unclear or low risk of bias respectively. The total sum of the points obtained was calculated and then divided by the total number available. A percentage was calculated by multiplying by 100. Red indicates high risk of bias, amber marks an unclear risk of bias and green is a low risk of bias

Figure 1.2. Summary of applied quality criteria.

2.5. Data Analysis Strategy

A separate meta-analysis was conducted for children's relational, behavioural and emotional functioning, using the data analysis strategy detailed below.

2.5.1. The omnibus test. Summary effects and 95% confidence intervals (CI) were calculated using the random effect (RE) model. This model assumes that observed study effect sizes vary from the true effect due to underlying between-study differences, such as differences in participants and/or interventions, and sampling error. Therefore, the summary effect is estimated as the mean of the weighted study effect sizes, where study weighting is a combination of within-study variance and a between-study random effects variance component. Between-study variance was calculated using the DerSimonian and Laird (1986) method. Summary effects were interpreted according to Cohens *d*, where 0.2 is considered a small effect, 0.5 is medium and 0.8 is a large effect size (Cohen, 1988).

2.5.2. Handling problematic variance. Heterogeneity in the study effects relates to the proportion of variability in the primary studies that cannot be attributed to the effect. Accordingly, heterogeneity can be considered as "problematic variation" resulting from bias. Heterogeneity was assessed using Higgins $I^{2,}$, where the values of 25%, 50% and 75% indicate low, moderate and high levels of heterogeneity respectively (Higgins et al., 2003). Problematic variance is defined as a Higgins I^2 value greater than 75%.

Where problematic variance was indicated, the presence of influential studies was assessed using a leave-one-out analysis (Bax et al., 2006). This procedure identifies any studies that have a disproportionate influence on the summary effect, by observing the impact of removing each study in turn. If omitting a study resulted in a

recalculated summary estimate that lay outside of the original 95% CI, then that study was permanently removed. If the leave-one-out analysis indicated that no studies had disproportionate influence on the summary effect, a visual inspection of the forest plot was conducted. Studies whose findings were deemed inconsistent from the remaining literature and were judged to be a high risk of bias were removed from the omnibus test, the synthesis was recalculated, and the impact of their removal was reported.

2.5.3. Attenuation of omnibus estimate due to methodological quality. Another meta-analytic model, the quality effects (QE) model, extends the assumptions of the RE model by including a rating of methodological quality in addition to sample size, when calculating the summary effect (Doi & Thalib, 2008). In this review, the QE model was calculated using the total score from the risk of bias ratings in Figure 2. Therefore, the QE model was interpreted as the meta-analytic synthesis that would be obtained had all of the studies been of the same methodological quality as the best study in this review. Accordingly, the model provides a measure of attenuation in the omnibus effect that may be attributed to methodological variation.

2.5.4. Attenuation of omnibus estimate due to publication bias. Publication bias and small study effects were identified initially through visual inspection of a funnel plot. A funnel plot is a scatterplot of the effects from studies plotted against a measure of precision. In the absence of publication bias, it is assumed that studies with high precision will be plotted near the meta-analytic synthesis. Those with low precision will be spread evenly on both sides of the average, creating a roughly funnel-shaped distribution where the distance from the average is inversely proportionate to the precision of the study. Deviation from a symmetric inverted funnel shape indicated publication bias.

Where publication bias was identified, a 'trim and fill' procedure (Duval & Tweedle, 2000a; Duval & Tweedle, 2000b) was undertaken. The trim and fill procedure builds upon the assumption that publication bias would lead to an asymmetrical funnel plot. The procedure uses an iterative algorithm to remove extreme small studies from the side of the funnel plot associated with positive effects, re-computing the effect size at each iteration until the funnel plot is symmetric about the (corrected) effect size. The algorithm then adds the original studies back into the analysis. The trimming procedure yields an adjusted effect size which can be compared to the omnibus estimate, to examine attenuation in the effect due to publication bias.

In addition, the fail-safe number (N) was also calculated (Rosenthal, 1979). The fail-safe N is an estimation of the number of missing studies that would need to be retrieved for the effect to be no longer significant. If the number of studies is large in comparison to those in the review, the omnibus estimate can be considered to be robust to the effects of publication bias.

2.5.5. Attenuation of omnibus estimate due to other factors. Specific a priori hypotheses were posited that the method of intervention delivery, country of publication, population and study design may influence the omnibus estimate. Sub-group analyses were conducted, evaluating the difference between the sub-group summary effects in order to test these hypotheses.

3. Results

A summary of the uncorrected effects and heterogeneity for each of the main outcomes in the meta-analysis is presented in Table 1.4. Results indicate that attachment-based interventions had a significant small to moderate treatment effect on children's relational, emotional and behavioural functioning.

Table 1.4.

Results of meta-analysis for each outcome when all primary studies were included in the analysis.

Outcome type	Number of studies	Summary Effect Size, [95% CI]	Heterogeneity Higgins I^2
Children's relational functioning	21	0.58, [0.29, 0.88]	78.9
Children's behavioural functioning	19	0.36, [0.19, 0.60]	66.8
Children's emotional functioning	17	0.31 [0.09, 0.52]	67.6

Notes:

Effect size Cohens d: Small = 0.2; Moderate= 0.5; Large = 0.8 (Cohen, 1988).

Interpretation of I^2: Small = 0-50; Moderate = 50-75; Large = 75-100 (Higgins et al., 2003).

3.1. Children's Relational Functioning

3.1.1. The omnibus test. Treatment effects in the primary studies are reported in Figure 3. Across the 21 primary studies, a moderate, significant treatment effect was observed for outcomes related to children's relational functioning (SMD = 0.58, 95% CI [0.29; 0.88]), indicating that relational functioning improved following intervention (see Table 1.4; Figure 1.3). There was a high degree of consistency amongst studies in the direction of the reported effect, with the exception of Minnis et al. (2001). However, substantial levels of heterogeneity were observed (Higgins I^2 =

78.9%), suggesting that the primary studies were biased by the presence of confounding factors.

The impact of disproportionately influential studies was initially assessed using a “leave-one-out” analysis (see Figure 1.4). The CI for Becker-Weidman (2006) did not include the value of the synthesis, and further when it was removed from the analysis, the omnibus effect altered significantly. Exclusion of this study also reduced the heterogeneity significantly (Higgins I^2 = 49.3%).

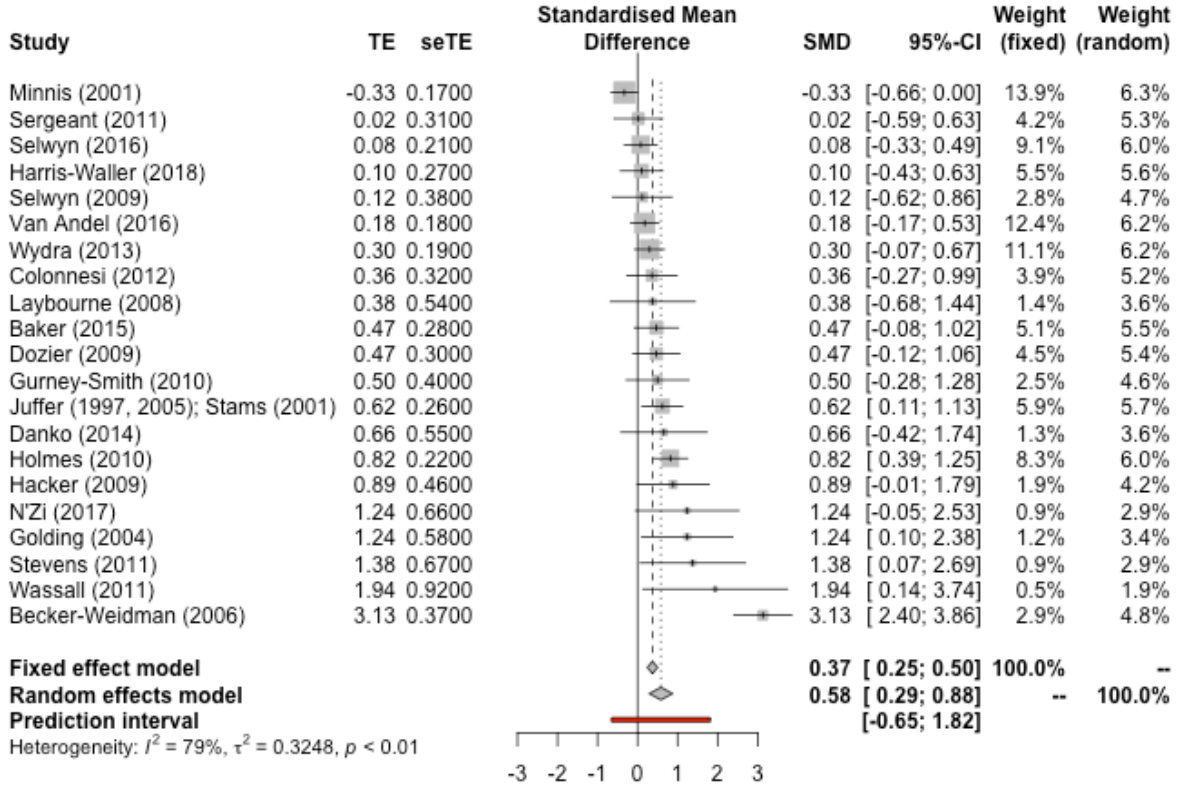

Figure 1.3. Treatment effects and forest plot for outcomes related to children’s relational functioning for the primary studies (K=21).

The omnibus effect estimate was recalculated with the exclusion of Becker-Weidman (2006). Consequently, a small, significant treatment effect was found (SMD = 0.38, 95% CI [0.19; 0.57]). The corrected RE model evidences approximately 34.5%

decrease relative to the uncorrected estimate, indicating that Becker-Weidman (2006) was exerting excessive influence on the synthesis value. According to the risk of bias table in Figure 1.2, Becker-Weidman (2006) was rated as being of lower methodological quality than other studies, therefore, henceforth, this study will be excluded from the analysis of relational functioning outcomes due to its contribution to between-study heterogeneity.

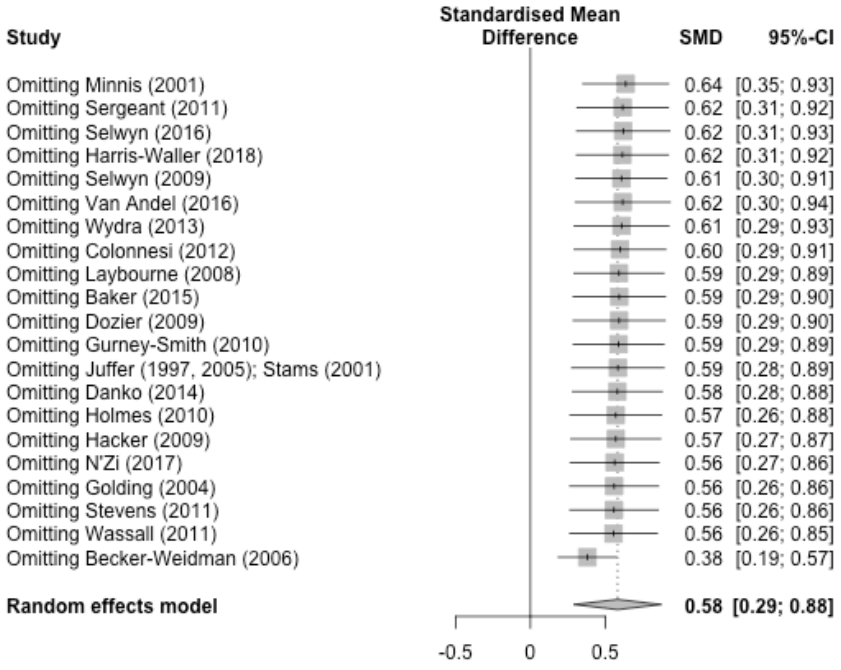

Figure 1.4. Leave-one-out analysis for relational functioning outcomes. Forest plot shows summary effects and 95% CIs excluding each study in turn, sorted in ascending order of effect size (K=21).

3.1.2. Attenuation of omnibus estimate due to methodological quality. The quality effects model was calculated from the 20 observed studies. The QE model reported a medium, significant treatment effect on children's relational functioning (SMD = 0.59, 95% CI [0.31; 0.87]). Accordingly, if future studies were conducted using

the same methodological quality as the best rated study in this review, a 55% increase in the effect size would be expected.

3.1.3. Attenuation of omnibus estimate due to publication bias. A funnel plot was used as a visual aid to estimate publication bias on the basis of the 20 included studies. As can be seen from Figure 1.5, the outcomes reported for children's relational functioning conformed to normal expectations, given the funnel plot symmetry. Indeed, there appeared to be an absence of small sample studies reporting null effects, indicating evidence of publication bias.

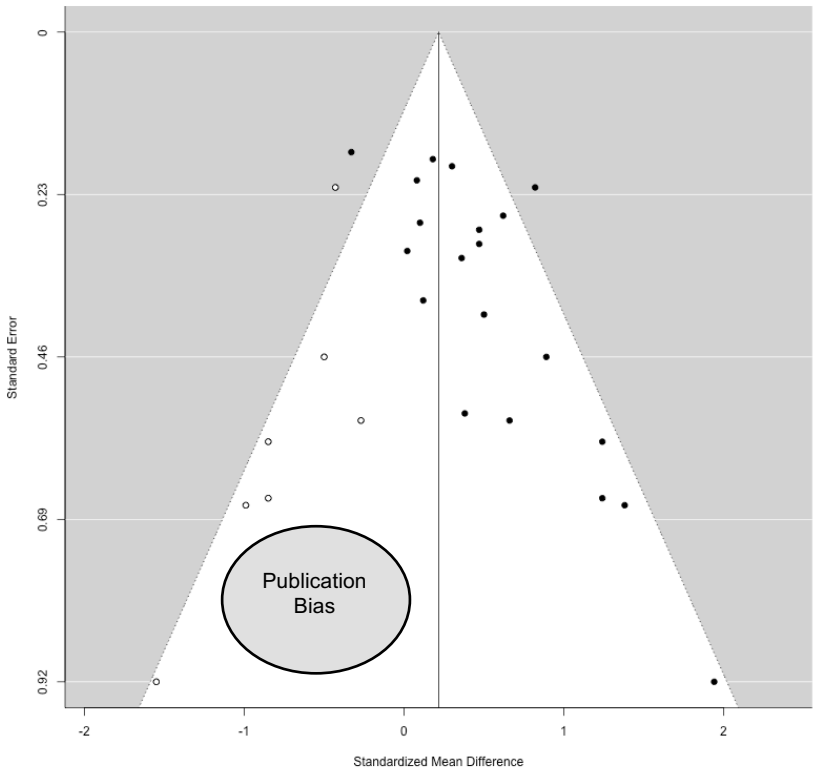

Figure 1.5. A funnel plot of the effect estimates in observed studies, plotted against the standard error (scale reversed), for outcomes related to children's relational functioning. Observed studies (K=20) are shown in dark circles. Studies added to correct for publication bias are shown in white circles (K=7).

Using a nonparametric "Trim and Fill" method, seven studies were estimated to be added to the funnel plot (see Figure 1.5). The corrected estimate of the summary effect was 0.21, 95% CI [0.01; 0.42], indicating a 44% reduction in the effect relative to the original analysis. Moreover, using Rosenthal's (1979) algorithm, 221 unpublished studies reporting null findings would be required to reduce the meta-analytic effect to non-significance, on the basis of the 20 included studies. This indicates that the corrected meta-analytic effect is fairly robust to publication bias.

3.1.4. Attenuation of omnibus estimate due to other factors. A sub-group analysis was conducted to examine the impact of the type of intervention on children's relational functioning (see Figure 1.6). Using the RE model, a small, significant treatment effect was found for both group (SMD=0.35, 95% CI [0.08, 0.63]) and individually delivered interventions (SMD=0.39, 95% CI [0.17, 0.61]). Therefore, the effect appeared robust to intervention type.

Further sub-group analyses were conducted to examine the impact of study design, country of publication and sample population on treatment effect (see Table 1.5). Study design had little impact on the obtained effect. Further, studies conducted in Holland and the USA obtained a small, significant summary effect. Similarly, those studies conducted in the UK obtained a small summary effect, however this was not significant. Treatment effect also varied greatly according to sample population. However, given the small amount of studies, it was difficult to conclude whether type of carer did influence the effectiveness of attachment-based interventions.

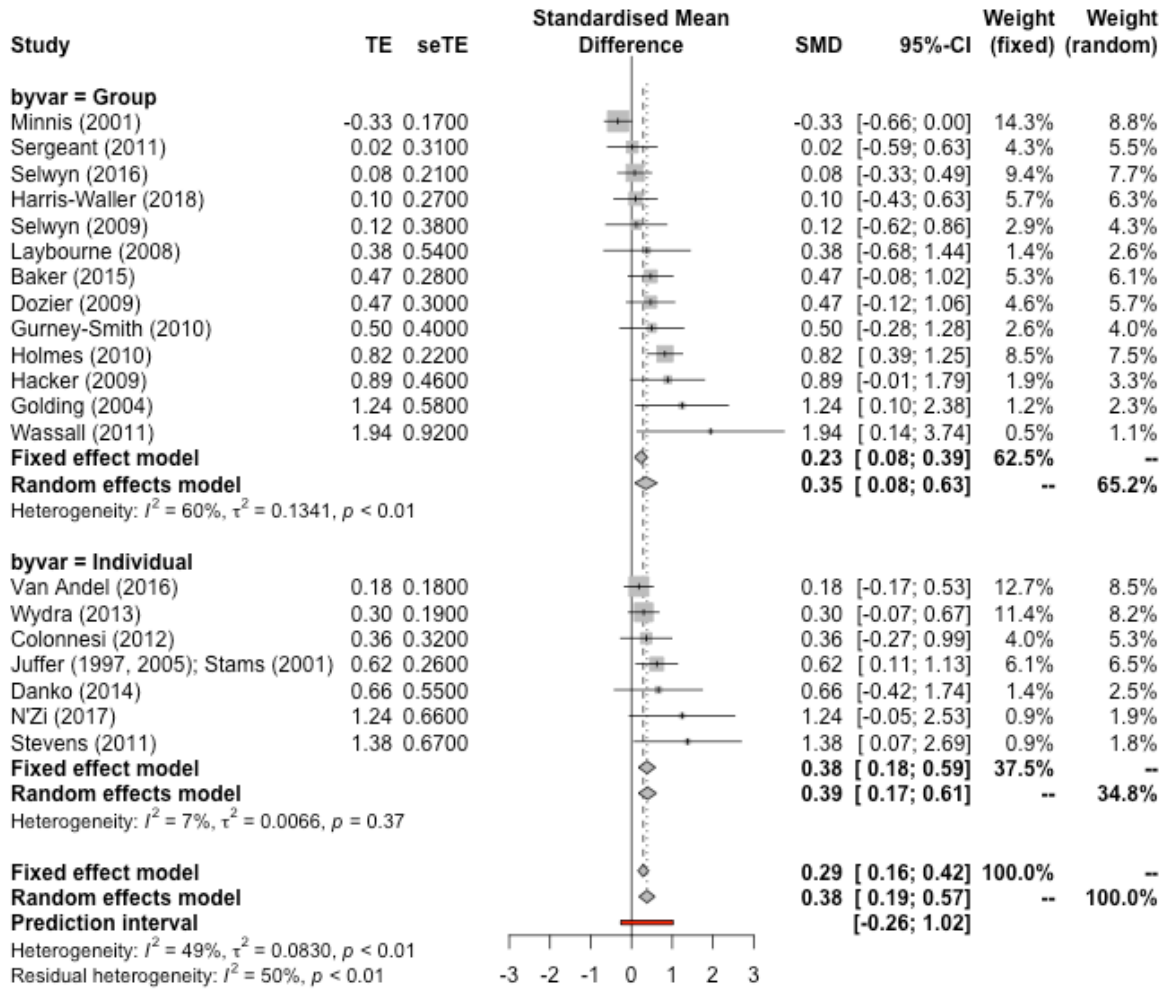

Figure 1.6. Treatment outcomes and forest plot for children's relational functioning outcomes for observed studies (K=20), organised by how the intervention was delivered (group or individually).

Table 1.5.

Treatment effects and 95% CI's for children's relational functioning outcomes for observed studies (K=20), organised according to study design, country and population.

Subgroup	Number of studies	RE model summary effect, [95% CI]	Higgins I^2
Study design			
Between subjects	12	0.40 [0.10; 0.70]	59
Within subjects	8	0.39 [0.153; 0.62]	27
Country			
Holland	3	0.33 [0.07; 0.59]	0
UK	9	0.34 [-0.03; 0.72]	69
USA	8	0.43 [0.20; 0.66]	0
Population			
Foster Carers	7	0.35 [-0.05; 0.75]	63
Kinship Carers	2	1.31 [0.39; 2.23]	0
Adoptive Parents	6	0.31 [0.11; 0.51]	0
Foster and Kinship Carers	1	0.10 [-0.43; 0.63]	-
Foster and Adoptive Carers	3	0.80 [0.40; 1.19]	5
Foster, Adoptive and Kinship Carers	1	0.02 [-0.59; 0.63]	-

Notes:

Effect size Cohens d: Small = 0.2; Moderate = 0.5; Large = 0.8 (Cohen, 1988).

Interpretation of I^2: Small = 0-50; Moderate = 50-75; Large = 75-100 (Higgins et al., 2003).

3.1.5. Summary. With the exclusion of Becker-Weidman (2006), a small significant treatment effect was found for the efficacy of attachment-based interventions on children's relational functioning (SMD=0.38, 95% CI [0.19; 0.57]). The effect was robust to methodological quality and is expected to increase if future studies are conducted with improved methodology. However, the effect reduced when accounting for publication bias.

3.2. Children's Behavioural Functioning

3.2.1. The omnibus test. The effect of the interventions on children's behavioural functioning is reported in Figure 1.7. Across the primary studies, a small, significant treatment effect was found (SMD = 0.36, 95% CI [0.16; 0.56]; see Table 4; Figure 7). Therefore, with the exception of Wassall (2011), Carnes-Holt & Bratton (2014) and Dozier et al., (2006), interventions improved children's behavioural functioning. However, moderate levels of heterogeneity (Higgins I^2 = 66.8%) were established.

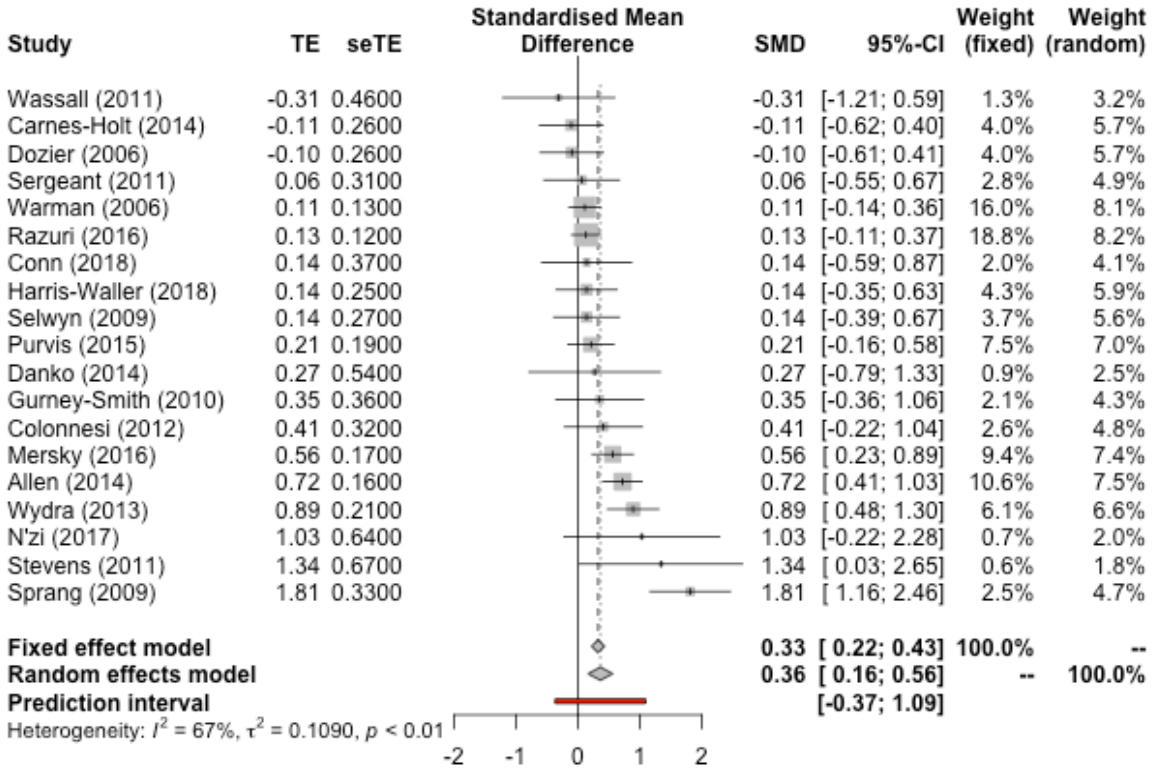

Figure 1.7. Treatment effects and forest plot for outcomes related to children's behavioural functioning for the primary studies (K=19).

A "leave-one-out" analysis indicated no study, when removed in turn, altered the value of the synthesis significantly (see Figure 1.8). The forest plot in Figure 7 was therefore inspected. Exclusion of this study reduced heterogeneity (Higgins I^2 =

49.2%) indicating that it contributed significantly to between-study variance. The omnibus effect estimate was recalculated with the exclusion of Sprang (2009) and a small, significant treatment effect was found, SMD = 0.29, 95% CI [0.13; 0.45], approximately a 19% decrease relative to the uncorrected estimate.

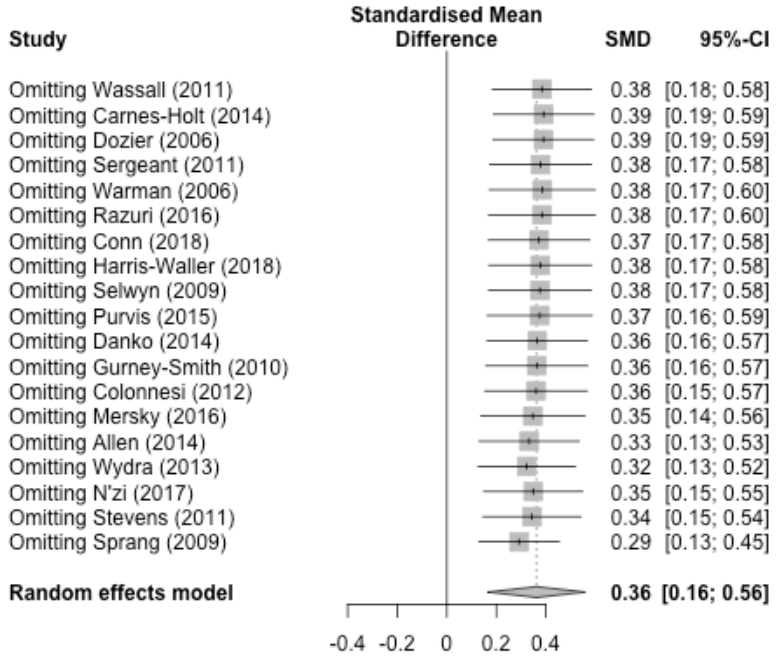

Figure 1.8. Leave-one-out analysis for behavioural functioning outcomes. Forest plot shows summary effects and 95% CIs excluding each study in turn, sorted in ascending order of effect size (K=19).

Whilst Sprang (2009) appeared to exert excessive influence on the summary effect, it may do so because it used an RCT design and was deemed to be of good methodological quality in comparison to other studies in the review (see Figure 1.2). Therefore, the Sprang (2009) study may provide a truer estimate of the treatment effect. Accordingly, it will not be excluded from the analysis of behavioural functioning.

3.2.2. Attenuation of omnibus estimate due to methodological quality. The quality effects model was calculated from the 19 observed studies. The QE model

reported a moderate, significant treatment effect on children's behavioural functioning (SMD = 0.48, 95% CI [0.22; 0.73]). The QE model evidences an approximately 33% increase in the summary effect relative to the RE estimate. Accordingly, when the synthesis included information about methodological quality there was an increase in the synthesis value.

3.2.3. Attenuation of omnibus estimate due to publication bias.

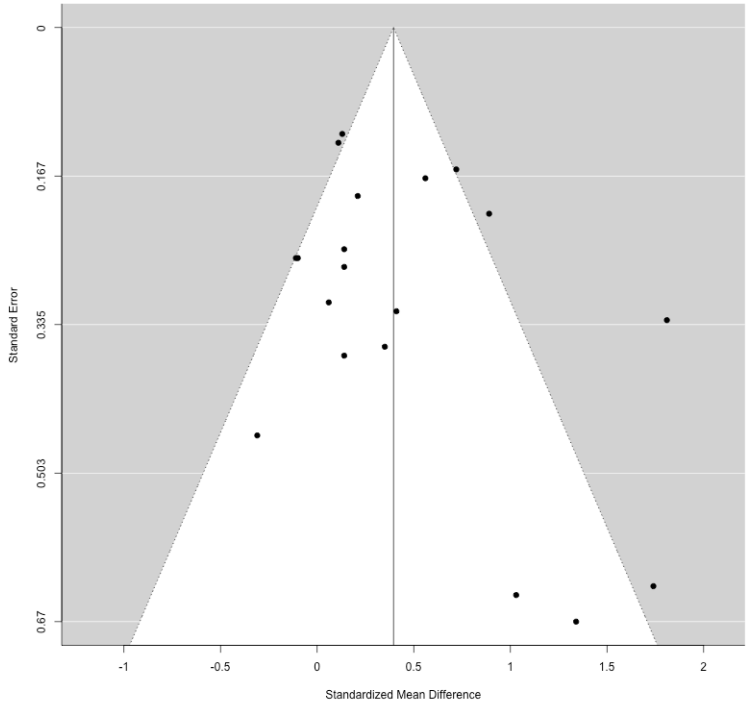

Figure 1.9. A funnel plot of the effect estimates in observed studies, plotted against the standard error (scale reversed), for outcomes related to children's behavioural functioning. Observed studies (K=19) are shown in dark circles.

A visual inspection of the funnel plot in Figure 1.9 demonstrated that studies reporting outcomes on children's behavioural functioning conformed to normal expectations. A nonparametric "Trim and Fill" procedure added no studies to the funnel plot. Indeed, 253 unpublished studies reporting null findings would be required to reduce the meta-

analytic effect to non-significance (Rosenthal, 1979). Therefore, the meta-analytic effect appears fairly robust to publication bias.

***3.2.4. Attenuation of omnibus estimate due* to other factors.** The impact of intervention type on children's behavioural functioning was examined using a sub-group analysis (see Figure 1.10). Using the RE model, a large, significant treatment effect was found for individually delivered interventions (SMD = 0.71, 95% CI [0.38; 1.05]), an increase in effect size relative to the overall summary effect. A trivial, non-significant effect was found for group interventions, SMD = 0.11, 95% CI [-0.04, 0.26], a decrease in effect relative to the omnibus estimate. Accordingly, the omnibus effect was sensitive to type of intervention offered; a larger effect would be expected for individually-delivered interventions, than for group-based interventions.

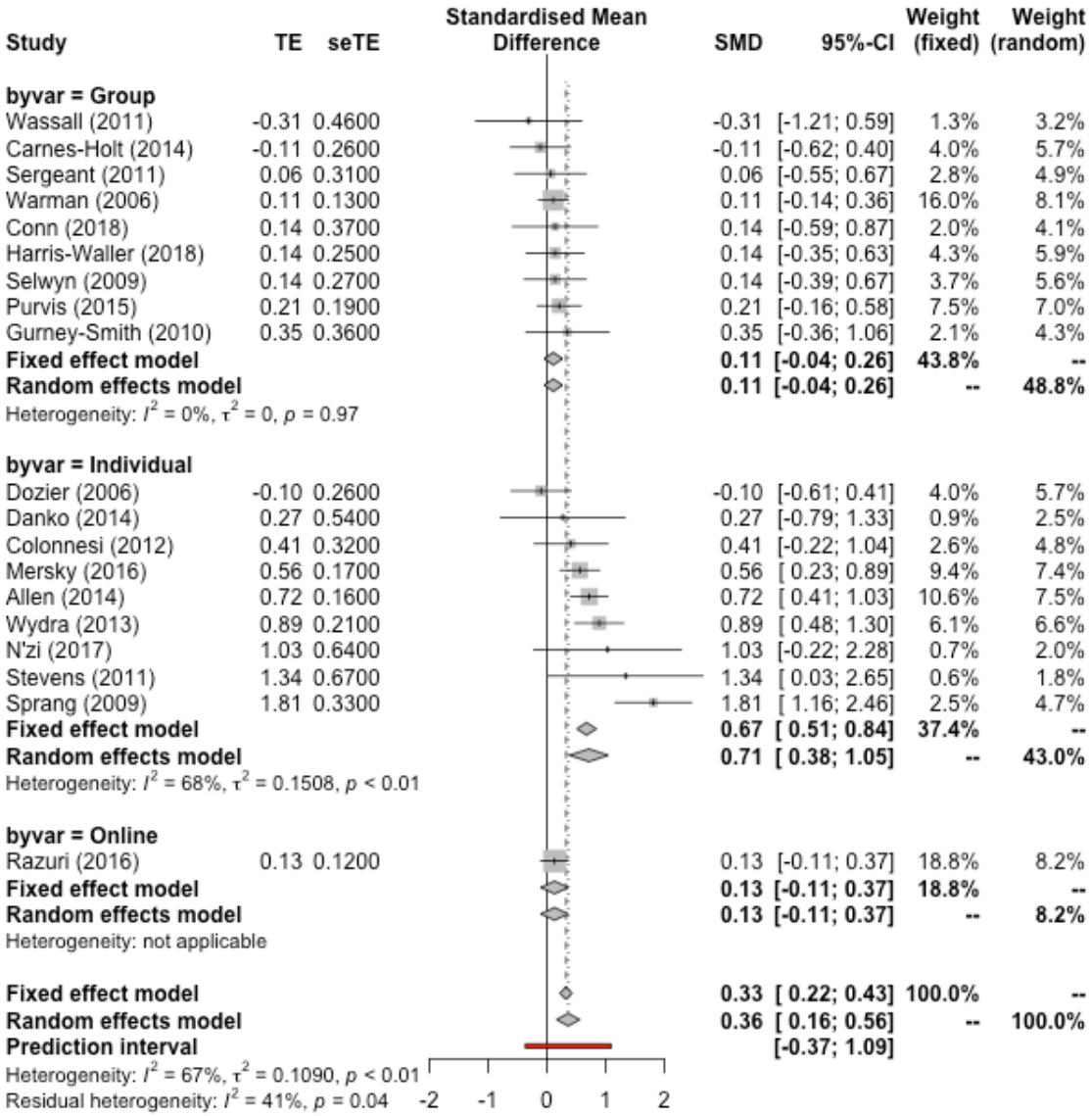

Figure 1.10. Treatment outcomes and forest plot for children's behavioural functioning outcomes for observed studies (K=19), organised by how the intervention was delivered (group, individually, online).

Further sub-group analyses were conducted to examine the impact of study design, country of publication and sample population on treatment effect (see Table 1.6). Studies conducted with within-subjects methodology obtained a larger effect size than between subjects studies; indicating that studies with more rigorous methodology were associated with a more conservative treatment effect, relative to the omnibus estimate. Studies conducted in the USA obtained a larger effect than the synthesis

value, indicating the omnibus effect may be sensitive to country of publication. There was variability in the effect obtained according to sample population. Studies with adoptive parents and kinship carers obtained larger effect sizes, but there were few studies which limited confidence in this conclusion.

Table 1.6.

Treatment effects and 95% CI's for children's behavioural functioning outcomes for observed studies (K=19), organised according to study design, country and population.

Subgroup	Number of studies	RE model summary effect, [95% CI]	Higgins I^2
Study design			
Between subjects	13	0.32 [0.05; 0.59]	67.3
Within subjects	6	0.44 [0.14; 0.75]	67.7
Country			
Holland	1	0.41 [-0.22; 1.04]	-
UK	5	0.12 [-0.08; 0.31]	0
USA	13	0.47 [0.19; 0.74]	74.4
Population			
Foster Carers	6	0.45 [-0.02; 0.92]	82
Kinship Carers	2	1.18 [0.27; 2.09]	0
Adoptive Parents	7	0.35 [0.08; 0.62]	69.4
Foster and Kinship Carers	1	0.14 [-0.35; 0.63]	-
Foster and Adoptive Carers	2	0.08 [-0.55; 0.72]	21.7
Foster, Adoptive and Kinship Carers	1	0.06 [-0.55; 0.67]	-

Notes:

Effect size Cohens d: Small = 0.2; Moderate = 0.5; Large = 0.8 (Cohen, 1988).

Interpretation of I^2: Small = 0-50; Moderate = 50-75; Large = 75-100 (Higgins et al., 2003).

3.2.5. Summary. A small significant treatment effect was found for the efficacy of attachment-based interventions on children's behavioural functioning (SMD=0.36,

95% CI [0.16; 0.56]). The effect was robust to methodological quality, increasing when study quality rating was part of the weighting in calculating the effect, and there was little evidence of publication bias. Interventions delivered individually obtained a larger effect than those delivered in a group.

3.3. Children's Emotional Functioning

3.3.1. The omnibus test. In total, 17 studies were included in the analysis. A small, significant treatment effect was observed for outcomes related to children's emotional functioning (see Table 1.3; Figure 1.11). Most studies favoured the intervention, with the exception of Wassall (2011), Harris-Waller et al., (2018), Conn et al., (2018) and Sergeant (2011), which did not. However, moderate levels of heterogeneity were established between studies (Higgins I^2 = 68%), indicating that the summary effect may have been biased by disproportionally influential studies.

A "leave-one-out" analysis indicated that, when removed, the value of the synthesis was not altered significantly by any study (see Figure 1.12). Therefore, the forest plot in Figure 1.11 was inspected. The findings of Sprang (2009) appeared inconsistent with the literature, as a significantly higher treatment effect was reported. The impact of exclusion of Sprang (2009) on heterogeneity was assessed. Removal of the study reduced heterogeneity significantly (Higgins I^2 = 51.9%).

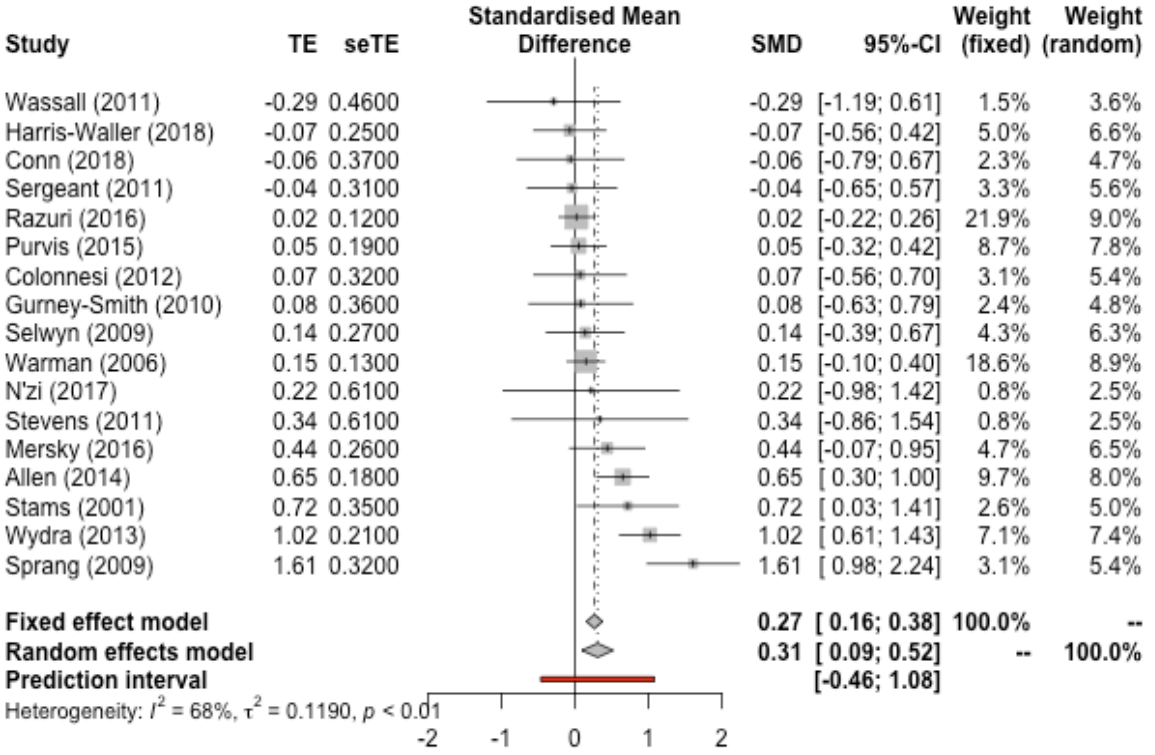

Figure 1.11. Treatment effects and forest plot for outcomes related to children's emotional functioning for the primary studies (K=17).

The omnibus effect estimate was recalculated with the exclusion of Sprang (2009) and a small, significant treatment effect was found using the RE model (SMD = 0.24, 95% CI [0.06; 0.42]). This evidences approximately a 22.5% decrease relative to the uncorrected estimate, indicating that Sprang (2009) disproportionately influenced the synthesis. However, Sprang (2009) was rated as having strong methodology in comparison to other studies (see Figure 1.2). Therefore, the Sprang study may provide a truer estimate of the treatment effect when there is a lower risk of methodological bias. Accordingly, it was not excluded from the analysis.

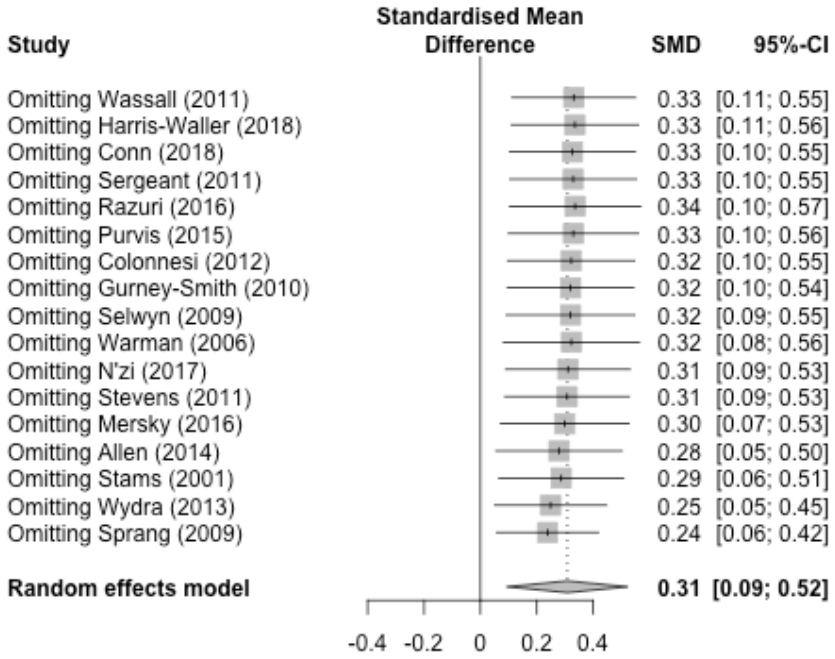

Figure 1.12. Leave-one-out analysis for emotional functioning outcomes. Forest plot shows summary effects and 95% CIs excluding each study in turn, sorted in ascending order of effect size (K=17).

3.3.2. Attenuation in omnibus estimate due to methodological quality. The QE model reported a small, significant treatment effect on children's emotional functioning, SMD = 0.36, 95% CI [0.09; 0.63]. The QE model evidences approximately 16% increase in the summary effect relative to the random effects estimate. Accordingly, when the synthesis included information about the methodological quality there was a slight increase in the meta-analytic synthesis.

3.3.3. Attenuation in omnibus estimate due to publication bias. A visual inspection of the funnel plot in Figure 1.13 indicated funnel plot asymmetry as there was an absence of small sample studies favouring the treatment effect. Accordingly, there was some evidence of publication bias.

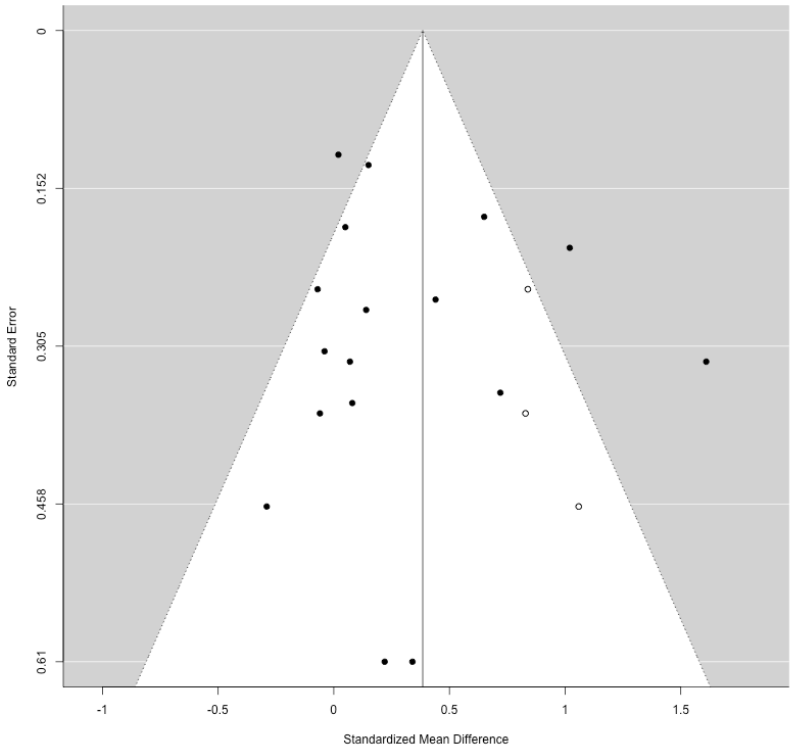

Figure 1.13. A funnel plot of the effect estimates in observed studies, plotted against the standard error (scale reversed), for outcomes related to children's emotional functioning. Observed studies (K=17) are shown in dark circles. Studies added to correct for publication bias according to the 'Trim and Fill" method are shown in white circles (K=3).

A nonparametric "Trim and Fill" procedure added three studies were added to the funnel plot (see Figure 1.13). The corrected estimate was 0.38, 95% CI [0.09; 0.52]. The adjusted estimate suggests a higher treatment effect than that in the original analysis, approximately a 26.6% increase in the effect relative to the omnibus estimate. Moreover, using Rosenthal's (1979) algorithm, 124 unpublished studies reporting null findings would be required to reduce the meta-analytic effect to non-significance. This indicates that the obtained meta-analytic effect is fairly robust to publication bias.

3.3.4. Attenuation in omnibus estimate due to other factors.

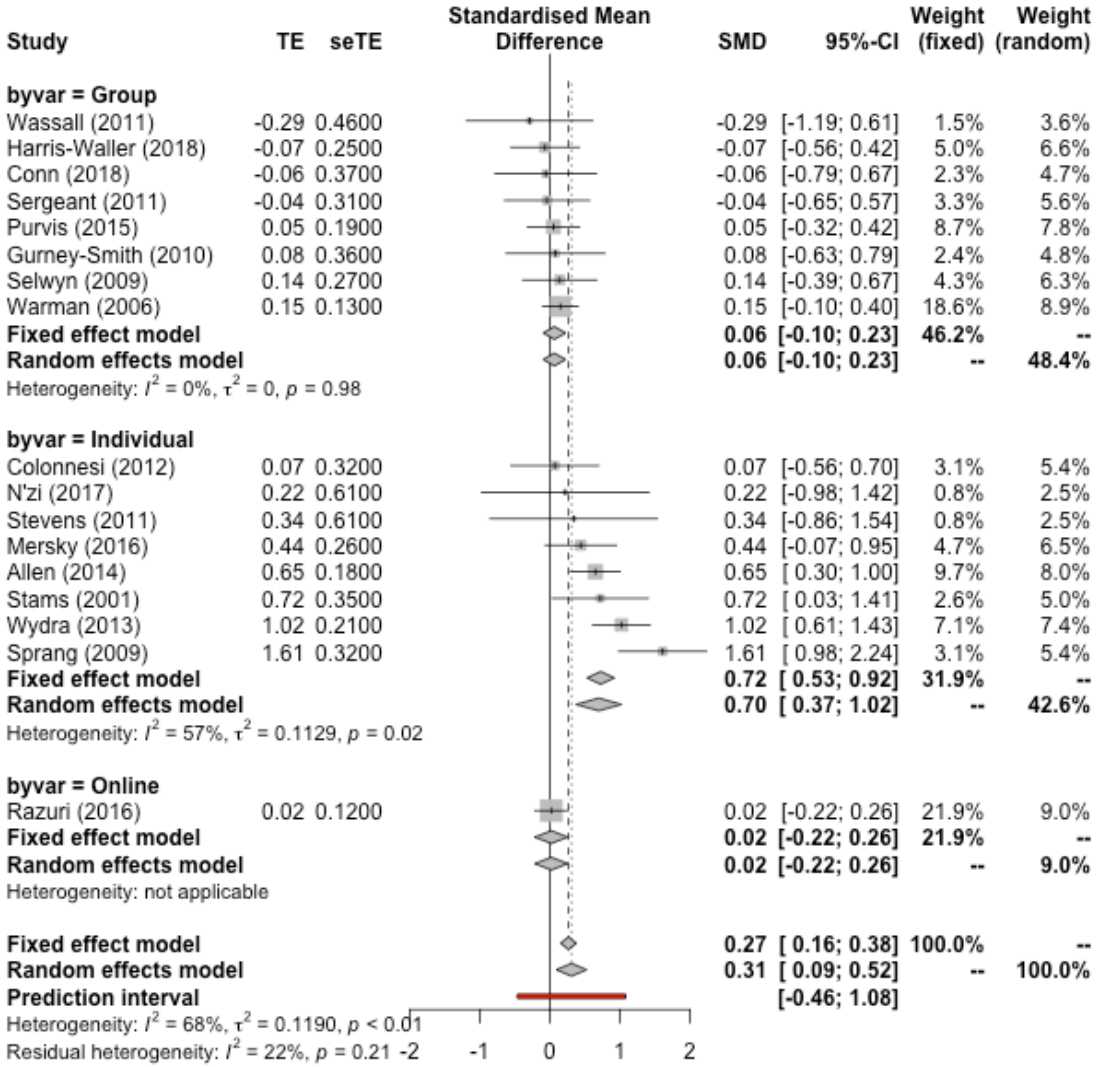

Figure 1.14. Treatment outcomes and forest plot for children's emotional functioning outcomes for observed studies (K=17), organised by how the intervention was delivered (group, individually, online).

The impact of intervention type on children's emotional functioning was examined using a sub-group analysis (see Figure 1.14). Individually delivered interventions yielded a large, significant treatment effect (SMD = 0.70, 95% CI [0.37; 1.02]). Indeed, there was a 118% increase in the effect relative to the overall meta-analytic effect. Overall, a trivial, non-significant effect was found for group

interventions (SMD = 0.06, 95% CI [-0.10; 0.23]), a decrease in the effect relative to the omnibus estimate.

Table 1.7.

Treatment effects and 95% CI's for children's emotional functioning outcomes for observed studies (K=17), organised according to study design, country and population.

Subgroup	Number of studies	RE model summary effect, [95% CI]	Higgins I^2
Study design			
Between subjects	11	0.28 [-0.01; 0.57]	63.8
Within subjects	6	0.35 [-0.001; 0.70]	74.3
Country			
Holland	2	0.38 [-0.26; 1.01]	46.8
UK	5	0.09 [-0.11; 0.28]	0
USA	10	0.44 [0.10; 0.77]	78.3
Population			
Foster Carers	4	0.52 [-0.11; 1.15]	84
Kinship Carers	2	0.28 [-0.57; 1.13]	0
Adoptive Parents	7	0.37 [0.05; 0.69]	76
Foster and Kinship Carers	1	-0.07 [-0.56; 0.42]	-
Foster and Adoptive Carers	2	-0.06 [-0.62; 0.50]	0
Foster, Adoptive and Kinship Carers	1	-0.04 [-0.65; 0.57]	-

Notes:

Effect size Cohens d: Small = 0.2; Moderate = 0.5; Large = 0.8 (Cohen, 1988).

Interpretation of I^2: Small = 0-50; Moderate = 50-75; Large = 75-100 (Higgins et al., 2003).

Further sub-group analyses were conducted to examine the impact of study design, country of publication and sample population on treatment effect (see Table 1.7). Studies conducted with a within-subjects methodology obtained a larger effect size than between-subjects studies; indicating that studies with more rigorous

methodology were associated with a more conservative treatment effect. Studies conducted in the USA obtained a larger summary effect than those conducted in the UK. Therefore, the omnibus effect appears sensitive to country of publication. Population appeared to impact the effectiveness of the intervention, however there were a small number of studies and therefore difficult to make this conclusion.

3.3.5. Summary. Overall, a small significant treatment effect was found for the efficacy of attachment-based interventions on children's emotional functioning (SMD=0.31, 95% CI [0.09; 0.52]). The synthesis value increased when accounting for methodological quality. There was some evidence of publication bias, as the total effect increased when accounting for this, suggesting the absence of studies that favoured the treatment effect. Interventions delivered individually obtained a larger effect than those delivered in a group.

4. Discussion

4.1. Main Findings

This literature review used meta-analytic methods to investigate the efficacy of attachment-based interventions (ABIs) for improving children's functioning in foster and adoptive families. Twenty-nine studies were identified. Overall, the evidence in this review suggests that ABIs have a small-moderate treatment effect on children's relational, behavioural and emotional functioning.

According to the quality criteria in the review, the strongest studies with positive outcomes on relational functioning (Stevens, 2011; N'Zi et al., 2017; Juffer et al., 1997, 2005/Stams et al., 2001; Dozier et al., 2009) were those that aimed to increase parental attunement to the child by promoting positive interactions between them. Indeed, Child-directed Interaction Training (CDI; Stevens, 2011; N'Zi et al., 2017), the Parent Sensitivity Intervention (Juffer et al., 1997, 2005/Stams et al., 2001), and the Attachment and Biobehavioural Catch-up Intervention (ABC; Dozier et al., 2009), share several key components that may underpin their efficacy. These interventions are based upon direct sessions between therapists, carers and children, with the use of role play, "in-ear" coaching or video recording of carer-child interactions to facilitate the development of secure attachments. There is also a focus on short-term goals, such as increased child-led play meaning that the interventions are shorter in duration than other ABIs (3-10 sessions). Moreover, these interventions were all conducted with foster and adoptive carers of young children (4 months-7 years), suggesting that early intervention may be beneficial.

Other interventions focused on ameliorating relational difficulties in older children (8 - 17 years). Using the quality criteria, the strongest of these studies was the RCT conducted by Minnis et al., (2001), who delivered a group intervention based upon 'Communicating with children: helping children' to a large sample of foster carers. Using a robust design, Minnis et al., (2001) reported no statistically significant effect on relational functioning. The authors discussed though that prior to intervention foster children in both studies displayed clinical levels of relational, behavioural and emotional difficulties according to self-report measures. Therefore, this intervention may not have been intensive enough to demonstrate changes in older children who present with mental health difficulties.

The Dyadic Developmental Psychotherapy (DDP; Becker-Weidman, 2006) intervention produced large treatment effects on older children's relational functioning. However, given that the study contributed to significant levels of heterogeneity, it was excluded from the analysis. The large treatment effect obtained could be attributed to poorer methodological quality, but also, it may be that a longer-term intervention (average length was 11 months) which focuses on the reintegration of trauma experiences is particularly effective on older children's relational difficulties (Hughes, Golding & Hudson, 2015). Therefore, DDP may be a promising intervention with older children and its efficacy should be investigated.

There were similar findings for the effectiveness of ABIs on reducing behavioural and emotional difficulties. The strongest studies with positive outcomes indicated that the ABC intervention (Sprang, 2009) and CDI intervention (Stevens, 2011; N'Zi et al., 2017) had a positive impact on younger children's behavioural and emotional functioning. With older children, the evidence was mixed. The Fostering Attachments Group (Wassall et al., 2011) had little effect on children's behavioural

and emotional difficulties. However, Wydra (2013) conducted a robust evaluation of Adoption-Competent Family Therapy with a large sample of adoptive parents, finding a large effect on older children's functioning.

4.2. Intervention Type

The evidence indicated that individually-delivered interventions were more effective than group-based interventions in reducing children's relational, behavioural and emotional difficulties. The use of coaching and video recording was common in the procedures described in direct interventions, highlighting the potential benefit of tailoring the intervention to the idiosyncrasies of any one parent-child relationship. Whilst not as effective as individually-delivered interventions, group-based interventions, such as the Fostering Attachments Group were still beneficial, producing small treatment effects on older children's relational functioning. All group programmes included components highlighted by Kemmis-Riggs et al. (2018) as being beneficial to foster and adoptive families, such as trauma-focused psychoeducation. There was limited benefit of groups on older children's behavioural and emotional functioning, however, it may be that there are additional benefits to groups not captured in this analysis. For example, peer support and normalising of thoughts and feelings, may have a cumulative effect, indirectly impacting on children's functioning over time, by decreasing carer stress (Leahters et al., 2019; Teyhan et al., 2018).

4.3. Limitations of the Primary Studies

There are a number of limitations which limit the author's ability to draw firm conclusions about the effectiveness of ABIs. Firstly, it cannot be concluded that the

treatment effects are attributable to improved functioning in children because a number of studies that used RCT designs, compared ABIs to wait-list control interventions rather than alternative interventions. Therefore, whilst the evidence indicates that ABIs are more effective than no intervention, it is unclear if ABIs are better than alternative interventions. As such, further research is required.

Secondly, the quality of the studies was mixed. Only five of the twenty-nine studies were rated as being of good quality overall where the overall quality rating was calculated as being above 70%. The remainder were identified as having weaker methodology, reflecting the findings of previous reviews (Drozd et al., 2017; Kerr & Cossar, 2014; Ní Chobhthaigh & Duffy, 2019). Further, a lack of blinding of participants and issues with generalisability were consistently found across studies. Other biases, such as length of time in placement and number of previous placements were also not controlled for, despite evidence that these impact on children's' outcomes (van Ijzendoorn & Juffer, 2006). It was noted that studies conducted in the UK had particularly poor methodological quality, generally evaluating within-subjects group programmes, limiting confidence in the conclusions these studies made.

Thirdly, children's functioning was typically measured using carer self-report measures, and thus owing to social desirability bias, may not have accurately captured the true nature of children's difficulties. Further, in the majority of studies, the Strengths and Difficulties Questionnaire was used to outcome children's behavioural and emotional functioning, despite being described as a 'brief screening tool' (Goodman, 2001). Therefore, the SDQ may not have captured the complexity of difficulties that looked-after children present with (Tarren-Sweeney & Vetere, 2013). The Assessment Checklist for Children and Adolescents (ACC/ACA; Tarren-Sweeney, 2007, 2013) are psychometric measures specifically developed to measure the behavioural and

emotional difficulties of children in care. Future studies may benefit from using the ACC/ACA to better understand the impact of ABIs on children's functioning.

The measurement of relational functioning also varied greatly between studies. The Strange Situation Procedure (SSP; Ainsworth et al., 1978), Attachment Q-Sort (AQS; Waters & Deane, 1985) and Parent Attachment Diary (PAD; Stovall & Dozier, 2000) are considered to be clinically valid and reliable ways of measuring infant attachment (Cassidy & Shaver, 2016). However, despite their validity and reliability, the SSP, AQS and PAD were only used in six of the twenty studies. The remaining studies favoured self-report measures, typically measuring the perceived quality of the carer-child relationship. This highlights a difficulty in measuring relational functioning, as attachment style and carer-child relationship may be conceptually different (Lai & Carr, 2018). Therefore, future research should consider how best to measure relational functioning and, once established, measures should be used consistently to allow for comparisons between studies.

Fourthly, several studies failed to stratify the effect by the type of carer, and so the impact of the this on the intervention effect could not be evaluated using meta-analytic methods. Research suggests that foster and adoptive carers are qualitatively different (Everson-Hock et al., 2012; Kinsey & Schlosser, 2013) and certainly, the evidence in this review indicates relational functioning, behavioural and emotional functioning improved most when children were placed foster carers. Owing to small sample size though, this conclusion is tentative. Studies did also not stratify sample by age of child, and so it was difficult to systematically evaluate using meta-analytic methods if younger children had more benefit from the ABIs. Future studies should stratify their sample by type of carer and age of child so that meta-analytic methods can be used to evaluate this effectively.

Finally, heterogeneity in study design limited the ability to draw firm conclusions. Indeed, interventions differed in their duration, intensity, method, aims, outcomes and in the experience of the person delivering it. The sample also differed by carer's age, gender, qualifications and years of experience as a carer. Interestingly though, the effectiveness of ABIs in the context of high levels of heterogeneity does highlight the flexibility of these interventions with this population.

4.4. Strengths of the Review

This review has built upon the evidence provided by the previous review of ABIs (Kerr & Cossar, 2014). Certainly, this is the first review to systematically synthesise findings from studies using meta-analytic methods, regarding the efficacy of ABIs with foster and adoptive families. The use of a meta-analytic approach is advantageous, as it reduces the impact of subjective bias in determining the effectiveness of interventions. Moreover, other potential sources of bias, such as methodological bias were reduced by incorporating an estimate of study quality in the quality effects model to examine the robustness of the estimate from the random effects model. Attempts were also made to include grey literature. Indeed, the review was noted to be fairly robust to publication bias. Therefore, all of the above serves to increase confidence in the conclusion that ABIs benefit children's functioning.

4.5. Limitations of the Review

This review only included studies that used ABIs. However, there are of course other interventions, based on cognitive-behavioural therapy and behavioural principles that were not reviewed here. The KEEP programme for example, which equips foster

parents with strategies to manage behaviour has been shown to be effective in reducing behavioural problems (Price et al., 2008). On the other hand, little evidence has been found to support the efficacy of cognitive-behavioural therapy-based interventions (Turner et al., 2007). An analysis of the effectiveness of different interventions based upon different principles may be useful in providing further evidence for the use of ABIs. It may also be useful to explore if treatment effects are maintained, by evaluating follow-up data.

Further, this review investigated the impact of ABIs on children's functioning only. Of course, though, it is likely that these interventions will have had an impact on parental / carer functioning. Indeed, some studies included measures of parental stress and so future reviews should seek to evaluate the impact of ABIs on parental functioning as this may mediate the effectiveness on children's relational, behavioural and emotional functioning.

4.6. Clinical Implications

Despite the limitations of the studies in this review, some clinical implications can be, tentatively, made. Indeed, the evidence synthesised in this review supports the use of ABIs with foster and adoptive families in improving children's relational, behavioural and emotional functioning. The interventions that were most effective were those that used video guidance and included the carer and child in the intervention, in line with National Institute for Health and Care Excellence guidance (NICE; 2015, 2017) for working with children in care. Therefore, interventions aiming to promote children's psychosocial functioning should incorporate these components into their protocols.

A further implication for clinical practice relates to the timing of ABIs with foster and adoptive families. NICE (2017, 2015) guidance recommends the use of ABIs such as the ABC intervention with children under the age of five. The strongest studies in this review support this guidance, highlighting the benefit of early intervention on children's relational, behavioural and emotional functioning, relative to interventions later in children's life. This is perhaps unsurprising given neurodevelopmental evidence which stresses the importance of the first three years of life on psychosocial development (Glaser, 2018). Therefore, interventions aimed at promoting secure attachments in foster and adoptive children should be delivered early in placement to maximise outcomes. Further, it supports the proposal to place children with long-term carers earlier to help foster secure attachments.

For older children, ABIs focused on intervening through the carer-child relationship had less effect on children's relational functioning. The limited effectiveness of such ABIs is likely because patterns of relating to others are more engrained in older children (Heard, Lake & McCluskey, 2012). Rather, group-based interventions such as the Fostering Attachments Group were more effective in promoting secure attachments in older children. This is in line with NICE (2017, 2015) guidance which advises professionals to offer parenting interventions to caregivers. Therefore, for older children, interventions aimed at supporting parents to manage the complex needs of looked-after children are recommended. These interventions may be beneficial by decreasing parental stress and so indirectly fostering a more empathic carer-child relationship, which has been shown to positively impact children's functioning (Rayburn, Withers & McWey, 2018).

This review also gives rise to another clinical implication, concerning the type of intervention offered to foster and adoptive families. The evidence synthesised here

supports the use of direct, individual, interventions over group programmes as largest treatment effects were found for the former. However, offering individually-based interventions to all families may be an inefficient use of time and resources. Given that groups were beneficial, obtaining small treatment effects, it might be more cost-effective to offer group programmes initially, and then offer tailored direct interventions to families if the group had no effect on children's functioning. In doing so, more families are helped for lower cost and resource.

4.7. Future Research

This review has highlighted that in general, the current literature regarding interventions for foster and adoptive families is of poor methodological quality. Therefore, future studies should aim to reduce potential methodological bias by using an RCT design, blinding participants, using intent-to-treat analysis and limiting participant attrition where possible. In using an RCT design, studies should also look to use an active control group rather than a wait-list control, as this would increase confidence in conclusion that any effects were due to treatment. Where possible, researchers should control for confounding variables such as length of time in placement, number of previous placements, and associated mental health difficulties. If future studies were conducted in this way, the findings would likely be promising, given that this review expected effect sizes of relational, behavioural and emotional functioning to increase when stronger methodology was used.

4.8. Conclusion

This review aimed to explore the impact of ABIs with foster and adoptive families, on children's relational, behavioural and emotional functioning. The evidence indicates that ABIs are beneficial, particularly when delivered in an individual format, with younger children. However, the literature is limited by poor methodology thereby making it difficult to draw firm conclusions. Further research should aim to build upon the evidence-base, reduce risk of bias and address methodological weakness that have been highlighted in this review.

List of References

Papers included in the current review are indicated by an asterisk (*).

Ainsworth, M. D. S., Blehar, M. C., Waters, E., & Wall, S. N. (2015). *Patterns of attachment: A psychological study of the strange situation.* Psychology Press.

* Allen, B., Timmer, S. G., & Urquiza, A. J. (2014). Parent–Child Interaction Therapy as an attachment-based intervention: Theoretical rationale and pilot data with adopted children. *Children and Youth Services Review*, *47*, 334-341.

* Baker, M., Biringen, Z., Meyer-Parsons, B., & Schneider, A. (2015). Emotional attachment and emotional availability tele-intervention for adoptive families. *Infant mental health journal*, *36*(2), 179-192.

Baker, A. J., Schneiderman, M., & Licandro, V. (2017). Mental health referrals and treatment in a sample of youth in foster care. *Children and Youth Services Review*, *78*l, 18-22.

Barber, J. G., & Delfabbro, P. H. (2003). Placement stability and the psychosocial well-being of children in foster care. *Research on Social Work Practice*, *13*(4), 415-431.

Barlow, J., Smailagic, N., Bennett, C., Huband, N., Jones, H., & Coren, E. (2011). Individual and group based parenting programmes for improving psychosocial outcomes for teenage parents and their children. *Cochrane Database of Systematic Reviews*, (3).

Bax, L., Yu, L. M., Ikeda, N., Tsuruta, H., & Moons, K. G. (2006). Development and validation of MIX: comprehensive free software for meta-analysis of causal research data. *BMC medical research methodology*, *6*(1), 50.

* Becker-Weidman, A. (2006). Treatment for children with trauma-attachment disorders: Dyadic developmental psychotherapy. *Child and Adolescent Social Work Journal*, *23*(2), 147-171.

Bederian-Gardner, D., Hobbs, S. D., Ogle, C. M., Goodman, G. S., Cordón, I. M., Bakanosky, S., ... & NYTD/CYTD Research Group. (2018). Instability in the lives of foster and nonfoster youth: Mental health impediments and attachment insecurities. *Children and Youth Services Review, 84*, 159-167.

Bernard, K., Dozier, M., Bick, J., Lewis-Morrarty, E., Lindhiem, O., & Carlson, E. (2012). Enhancing attachment organization among maltreated children: Results of a randomized clinical trial. *Child development*, *83*(2), 623-636.

Borenstein, M., Hedges, L. V., Higgins, J. P., & Rothstein, H. R. (2009). Introduction to meta-analysis. *West Sussex, England: JohnWiley & Sons Ltd. Chicago*

Bowlby, J. (1969). *Attachment (Vol. 1).* Basic Books, New York.

Bowlby, J. (1982). Attachment and loss: retrospect and prospect. *American journal of Orthopsychiatry*, *52*(4), 664.

Bowlby, J. (1988). *A Secure Base*. Basic Books, New York.

Braungart-Rieker, J. M., Garwood, M. M., Powers, B. P., & Wang, X. (2001). Parental sensitivity, infant affect, and affect regulation: Predictors of later attachment. *Child development*, *72*(1), 252-270.

Brumariu, L. E. (2015). Parent–child attachment and emotion regulation. *New directions for child and adolescent development*, *2015*(148), 31-45.

* Carnes-Holt, K., & Bratton, S. C. (2014). The efficacy of child parent relationship therapy for adopted children with attachment disruptions. *Journal of Counseling & Development*, *92*(3), 328-337.

Cassidy, J., & Shaver, P. R. (Eds.). (2016). *Handbook of Attachment: Theory, Research, and Clinical Applications.* Guilford Publications.

Cohen, J. (1988). *Statistical Power Analysis for the Behavioral Sciences* (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum.

* Colonnesi, C., Wissink, I. B., Noom, M. J., Asscher, J. J., Hoeve, M., Stams, G. J. J., ... & Kellaert-Knol, M. G. (2013). Basic trust: an attachment-oriented intervention based on mind-mindedness in adoptive families. *Research on Social Work Practice*, *23*(2), 179-188.

* Conn, A. M., Szilagyi, M. A., Alpert-Gillis, L., Webster-Stratton, C., Manly, J. T., Goldstein, N., & Jee, S. H. (2018). Pilot randomized controlled trial of foster parent training: A mixed-methods evaluation of parent and child outcomes. *Children and Youth Services Review, 89*, 188-197.

Crittenden, P. M. (2006). A dynamic-maturational model of attachment. *Australian and New Zealand Journal of Family Therapy*, *27*(2), 105-115.

* Danko, C. M. (2014). *The Effect of Parent-Child Interaction Therapy on Strengthening the Attachment Relationship with Foster Parents and Children in Foster Care* (Doctoral dissertation, DePaul University Chicago, Illinois). Retrieved from https://via.library.depaul.edu/csh_etd/74/.

Darling, N. (1999). Parenting Style and Its Correlates. ERIC Digest.

De Graaf, I., Speetjens, P., Smit, F., de Wolff, M., & Tavecchio, L. (2008). Effectiveness of the Triple P Positive Parenting Program on 67ehaviour67l problems in children: A meta-analysis. *Behavior Modification*, *32*(5), 714-735.

DerSimonian, R., & Laird, N. (1986). Meta-analysis in clinical trials. *Controlled clinical trials*, *7*(3), 177-188.

Dickes, A., Kemmis-Riggs, J., & McAloon, J. (2018). Methodological challenges to the evaluation of interventions for foster/kinship carers and children: A systematic review. *Clinical child and family psychology review*, *21*(2), 109-145.

Doi, S. A., & Thalib, L. (2008). A quality-effects model for meta-analysis. *Epidemiology*, 94-100.

Doi, S. A., Barendregt, J. J., & Mozurkewich, E. L. (2011). Meta-analysis of heterogeneous clinical trials: an empirical example. *Contemporary Clinical Trials*, *32*(2), 288-298.

Downs, S. H., & Black, N. (1998). The feasibility of creating a checklist for the assessment of the methodological quality both of randomised and non-

randomised studies of health care interventions. *Journal of Epidemiology & Community Health*, *52*(6), 377-384.

Dozier, M., Stoval, K. C., Albus, K. E., & Bates, B. (2001). Attachment for infants in foster care: The role of caregiver state of mind. *Child development*, *72*(5), 1467-1477.

* Dozier, M., Peloso, E., Lindhiem, O., Gordon, M. K., Manni, M., Sepulveda, S., & Levine, S. (2006). Developing evidence-based interventions for foster children: An example of a randomized clinical trial with infants and toddlers. *Journal of Social Issues*, *62*(4), 767-785.

* Dozier, M., Lindhiem, O., Lewis, E., Bick, J., Bernard, K., & Peloso, E. (2009). Effects of a foster parent training program on young children's attachment behaviors: Preliminary evidence from a randomized clinical trial. *Child and Adolescent Social Work Journal*, *26*(4), 321-332.

Drozd, F., Bergsund, H. B., Hammerstrøm, K. T., Hansen, M. B., & Jacobsen, H. (2018). A systematic review of courses, training, and interventions for adoptive parents. *Journal of Child and Family Studies*, *27*(2), 339-354

Duval, S., & Tweedie, R. (2000). A nonparametric "trim and fill" method of accounting for publication bias in meta-analysis. *Journal of the American Statistical Association*, *95*(449), 89-98.

Duval, S., & Tweedie, R. (2000). Trim and fill: a simple funnel-plot–based method of testing and adjusting for publication bias in meta-analysis. *Biometrics*, *56*(2), 455-463.

Egger M, Smith GD, Schneider M & Minder C (1997), Bias in meta-analysis detected by a simple, graphical test. *British Medical Journal,* 315, 629-634.

Everson-Hock, E. S., Jones, R., Guillaume, L., Clapton, J., Goyder, E., Chilcott, J., & Swann, C. (2012). The effectiveness of training and support for carers and other professionals on the physical and emotional health and well-being of looked-after children and young people: a systematic review. *Child Care Health Dev, 38*(2), 162-174.

Fisher, P. A. (2015). Adoption, fostering, and the needs of looked-after and adopted children. *Child and adolescent mental health*, *20*(1), 5-12.

Fletcher, H. K., & Gallichan, D. J. (2016). An overview of attachment theory: Bowlby and beyond. *Attachment in Intellectual and Developmental Disability: A Clinician's Guide to Practice and Research*, 8.

Glazebrook, K., Townsend, E., & Sayal, K. (2015). The role of attachment style in predicting repetition of adolescent self-harm: A longitudinal study. *Suicide and Life-Threatening Behavior*, *45*(6), 664-678.

Glaser, D. (2018). *Early experience, attachment and the brain. In Revolutionary Connections* (pp. 117-133). Routledge.

* Golding, K., & Picken, W. (2004). Group work for foster carers caring for children with complex problems. *Adoption & Fostering*, *28*(1), 25-37.

Goldstein, N., & Jee, S. H. (2018). Pilot randomized controlled trial of foster parent training: A mixed-methods evaluation of parent and child outcomes. *Children and Youth Services Review*, *89*, 188-197.

Goodman, R. (2001). Psychometric properties of the strengths and difficulties questionnaire. *Journal of the American Academy of Child & Adolescent Psychiatry*, *40*(11), 1337-1345.

Gorrese, A., & Ruggieri, R. (2013). Peer attachment and self-esteem: A meta-analytic review. *Personality and Individual Differences*, *55*(5), 559-568.

Greenland, S., & O'rourke, K. (2001). On the bias produced by quality scores in meta-analysis, and a hierarchical view of proposed solutions. *Biostatistics*, *2*(4), 463-471.

* Gurney-Smith, B., Granger, C., Randle, A., & Fletcher, J. (2010). 'In Time and in Tune'—The Fostering Attachments Group: Capturing Sustained Change in Both Caregiver and Child. *Adoption & Fostering*, *34*(4), 50-60.

Fraley, R. C. (2002). Attachment stability from infancy to adulthood: Meta-analysis and dynamic modelling of developmental mechanisms. *Personality and social psychology review*, *6*(2), 123-151.

* Hacker, C. C. (2009). Child Parent Relationship Therapy: Hope for Disrupted Attachment. (Doctoral dissertation, University of Tennessee) Retrieved from https://trace.tennessee.edu/cgi/viewcontent.cgi?referer=&httpsredir=1&article=1672&context=utk_graddiss

* Harris-Waller, J., Bangerh, P., & Douglas, H. (2018). An Evaluation of the Solihull Approach Foster Carer Course. *Practice, 31*(3), 219-229.

Harwood, R., Feng, X., & Yu, S. (2013). Preadoption adversities and postadoption mediators of mental health and school outcomes among international, foster,

and private adoptees in the United States. *Journal of Family Psychology, 27*(3), 409-420.

Heard, D., Lake, B., & McCluskey, U. (2012). *Attachment Therapy with Adolescents and Adults: Theory and Practice Post-Bowlby.* Karnac Books.

Higgins, J. P., Thompson, S. G., Deeks, J. J., & Altman, D. G. (2003). Measuring inconsistency in meta-analyses. *Bmj*, *327*(7414), 557-560.

Higgins. J. P. T., & Green, S. (2011). Cochrane handbook for systematic reviews of interventions version 5.1. 0 [updated March 2011]. *The 71ehaviou collaboration*. Available from www.cochrane-handbook.org.

Hoeve, M., Dubas, J. S., Eichelsheim, V. I., Van der Laan, P. H., Smeenk, W., & Gerris, J. R. (2009). The relationship between parenting and delinquency: A meta-analysis. *Journal of abnormal child psychology*, *37*(6), 749-775.

Hodges J. 2005. Adoption and fostering: Influences on Psychopathology. *Psychiatry* 4(7): 49–53.

* Holmes, B., & Silver, M. (2010). Managing behaviour with attachment in mind. *Adoption & Fostering*, *34*(1), 65-76.

Hughes, D., Golding, K. S., & Hudson, J. (2015). Dyadic Developmental Psychotherapy (DDP): the development of the theory, practice and research base. *Adoption & Fostering, 39(*4), 356-365

Hughes, D. (2017). Dyadic Developmental Psychotherapy (DDP): An Attachment-focused Family Treatment for Developmental Trauma. *Australian and New Zealand Journal of Family Therapy, 38*(4), 595-605.

Ioannidis, J. P., Haidich, A. B., Pappa, M., Pantazis, N., Kokori, S. I., Tektonidou, M. G., ... & Lau, J. (2001). Comparison of evidence of treatment effects in randomized and nonrandomized studies. *Jama*, *286*(7), 821-830.

* Juffer, F., Hoksbergen, R. A., Riksen-Walraven, J. M., & Kohnstamm, G. A. (1997). Early intervention in adoptive families: Supporting maternal sensitive responsiveness, infant–mother attachment, and infant competence. *Journal of Child Psychology and Psychiatry*, *38*(8), 1039-1050.

* Juffer, F., Bakermans-Kranenburg, M. J., & Van Ijzendoorn, M. H. (2005). The importance of parenting in the development of disorganized attachment: Evidence from a preventive intervention study in adoptive families. *Journal of Child Psychology and Psychiatry*, *46*(3), 263-274.

Juffer, F., & Van Ijzendoorn, M. H. (2005). Behavior problems and mental health referrals of international adoptees: A meta-analysis. *Jama*, *293*(20), 2501-2515.

Kemmis-Riggs, J., Dickes, A., & McAloon, J. (2018). Program Components of Psychosocial Interventions in Foster and Kinship Care: A Systematic Review. *Clinical child and family psychology review*, *21*(1), 13-40.

Kerr, L., & Cossar, J. (2014). Attachment Interventions with Foster and Adoptive Parents: A Systematic Review. *Child Abuse Review, 23*(6), 426-439.

Kim, S. Y., Park, J. E., Lee, Y. J., Seo, H. J., Sheen, S. S., Hahn, S., ... & Son, H. J. (2013). Testing a tool for assessing the risk of bias for nonrandomized studies showed moderate reliability and promising validity. *Journal of clinical epidemiology*, *66*(4), 408-414.

Kinsey, D., & Schlosser, A. (2013). Interventions in foster and kinship care: A systematic review. *Clinical Child Psychology and Psychiatry, 18*(3), 429-463.

Konijn, C., Admiraal, S., Baart, J., van Rooij, F., Stams, G. J., Colonnesi, C., ... & Assink, M. (2019). Foster care placement instability: A meta-analytic review. *Children and Youth Services Review*, *96*, 483-499.

Lai, Y. H., & Carr, S. (2018). A critical exploration of child-parent attachment as a contextual construct. *Behavioral Sciences, 8*(12), 112.

* Laybourne, G., Andersen, J., & Sands, J. (2008). Fostering attachments in looked after children: Further insight into the group-based programme for foster carers. *Adoption & Fostering*, *32*(4), 64-76.

Leathers, S. J., Spielfogel, J. E., Geiger, J., Barnett, J., & Voort, B. L. V. (2019). Placement disruption in foster care: Children's 73ehaviour, foster parent support, and parenting experiences. *Child abuse & neglect, 91*, 147-159.

Linares, L. O., Montalto, D., Li, M., & Oza, V. S. (2006). A promising parenting intervention in foster care. *Journal of consulting and clinical psychology*, *74*(1), 32.

Macdonald, G., & Turner, W. (2005). An experiment in helping foster-carers manage challenging behaviour. *British Journal of Social Work*, *35*(8), 1265-1282.

Marvin, R., Cooper, G., Hoffman, K., & Powell, B. (2002). The circle of security project: Attachment-based intervention with caregiver-pre-school child dyads. *Attachment & human development, 4*(1), 107-124.

McLeod, B. D., Wood, J. J., & Weisz, J. R. (2007). Examining the association between parenting and childhood anxiety: A meta-analysis. *Clinical psychology review*, *27*(2), 155-172.

Meltzer, H., Corbin, T., Gatward, R., Goodman, R., & Ford, T. (2003). *The Mental Health of Young People Looked After by Local Authorities in England: A survey carried out by the social survey division of ONS on behalf of the Department of Health.* The Stationery Office: London.

Memarzia, J., St Clair, M. C., Owens, M., Goodyer, I. M., & Dunn, V. J. (2015). Adolescents leaving mental health or social care services: predictors of mental health and psychosocial outcomes one year later. *BMC health services research*, *15*(1), 185.

* Mersky, J. P., Topitzes, J., Grant-Savela, S. D., Brondino, M. J., & McNeil, C. B. (2016). Adapting Parent–Child Interaction Therapy to foster care: Outcomes from a randomized trial. *Research on Social Work Practice*, *26*(2), 157-167.

Milan, S. E., & Pinderhughes, E. E. (2000). Factors influencing maltreated children's early adjustment in foster care. *Development and psychopathology*, *12*(1), 63-81.

* Minnis, H., Pelosi, A. J., Knapp, M., & Dunn, J. (2001). Mental health and foster carer training. *Archives of disease in childhood*, *84*(4), 302-306.

National Institute for Health and Care Excellence. (2017). *Child abuse and neglect* (NICE Guideline 76). Retrieved from https://www.nice.org.uk/guidance/ng76.

National Institute for Health and Care Excellence. (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 26). Retrieved from https://www.nice.org.uk/guidance/ng26.

National Institute for Health and Care Excellence. (2013). *Antisocial behaviour and conduct disorders in children and young people: recognition and management* (NICE Guideline 158). Retrieved from https://www.nice.org.uk/guidance/cg158.

National Institute for Health and Care Excellence. (2018). *Attention deficit hyperactivity disorder: diagnosis and management* (NICE Guideline 87). Retrieved from https://www.nice.org.uk/guidance/ng87.

Neil, B., Beek, M., & Ward, E. (2013). Contact after adoption: a follow-up in late adolescence [PDF file]. Retrieved from https://ueaeprints.uea.ac.uk/50763/1/Neil_et_al_2013_contact_after_adoption_full_report.pdf

Neil, E. (2012). Making sense of adoption: Integration and differentiation from the perspective of adopted children in middle childhood. *Children and Youth Services Review, 34*(2), 409-416.

Ní Chobhthaigh, S., & Duffy, F. (2019). The effectiveness of psychological interventions with adoptive parents on adopted children and adolescents'

outcomes: A systematic review. *Clinical child psychology and psychiatry*, *24*(1), 69-94.

* N'zi, A. M., Stevens, M. L., & Eyberg, S. M. (2016). Child directed interaction training for young children in kinship care: A pilot study. *Child abuse & neglect*, *55*, 81-91.

Oosterman, M., Schuengel, C., Slot, N. W., Bullens, R. A., & Doreleijers, T. A. (2007). Disruptions in foster care: A review and meta-analysis. *Children and youth services review*, *29*(1), 53-76.

Oswald, S. H., Heil, K., Goldbeck, L. (2010). History of maltreatment and mental health problems in foster children: a review of the literature. *Journal of Paediatric Psychology, 35*(5), 462–472.

Pinquart, M. (2016). Associations of parenting styles and dimensions with academic achievement in children and adolescents: A meta-analysis. *Educational Psychology Review*, *28*(3), 475-493.

Pinquart, M. (2017). Associations of parenting dimensions and styles with externalizing problems of children and adolescents: an updated meta-analysis. *Developmental psychology*, *53*(5), 873.

Pinquart, M. (2017). Associations of parenting dimensions and styles with internalizing symptoms in children and adolescents: A meta-analysis. *Marriage & Family Review*, *53*(7), 613-640.

Pithouse, A., Hill-Tout, J., & Lowe, K. (2002). Training foster carers in challenging behaviour: a case study in disappointment?.*Child & Family Social Work*, *7*(3), 203-214.

Powell, B., Cooper, G., Hoffman, K., & Marvin, B. (2013). *The circle of security intervention: Enhancing attachment in early parent-child relationships*. Guilford Publications.

Price, J. M., Chamberlain, P., Landsverk, J., Reid, J. B., Leve, L. D., & Laurent, H. (2008). Effects of a foster parent training intervention on placement changes of children in foster care. *Child maltreatment*, *13*(1), 64-75.

* Purvis, K. B., Razuri, E. B., Howard, A. R. H., Call, C. D., DeLuna, J. H., Hall, J. S., & Cross, D. R. (2015). Decrease in 77ehaviour77l problems and trauma symptoms among at-risk adopted children following trauma-informed parent training intervention. *Journal of child & adolescent trauma*, *8*(3), 201-210.

Ranson, K. E., & Urichuk, L. J. (2008). The effect of parent–child attachment relationships on child biopsychosocial outcomes: a review. *Early Child Development and Care*, *178*(2), 129-152.

Rayburn, A. D., Withers, M. C., & McWey, L. M. (2018). The importance of the caregiver and adolescent relationship for mental health outcomes among youth in foster care*. Journal of Family Violence, 33*(1), 43-52.

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.

* Razuri, E. B., Hiles Howard, A. R., Parris, S. R., Call, C. D., DeLuna, J. H., Hall, J. S., Purvis, K. B., & Cross, D. R. (2016). Decrease in 78ehaviour78l problems and trauma symptoms among at-risk adopted children following web-based trauma-informed parent training intervention. *Journal of evidence-informed social work*, *13*(2), 165-178.

Rock, S., Michelson, D., Thomson, S., & Day, C. (2013). Understanding foster placement instability for looked after children: A systematic review and narrative synthesis of quantitative and qualitative evidence. *British Journal of Social Work*, *45*(1), 177-203.

Rosenthal, R. (1979). The file drawer problem and tolerance for null results. *Psychological bulletin*, *86*(3), 638.

Sánchez-Sandoval, Y., Melero, S., & López-Jiménez, A. M. (2019). Mediating Effects of Social Support in the Association Between Problems in Childhood and Adolescence and Well-Being in Adult Domestic Adoptees. *Journal of Happiness Studies*, 1-16.

Schofield, G., & Beek, M. (2005). Providing a secure base: Parenting children in long-term foster family care. *Attachment & human development*, *7*(1), 3-26.

Schofield, G., & Beek, M. (2005). Risk and resilience in long-term foster-care. *British Journal of Social Work*, *35*(8), 1283-1301.

* Selwyn, J., del Tufo, S., & Frazer, L. (2009). It's a Piece of Cake?: An evaluation of an Adopter Training Programme. *Adoption & Fostering*, *33*(1), 30-43.

* Selwyn, J., Golding, K., Alper, J., Gurney-Smith, B., & Hewitt, O. (2016). *A Quantitative and Qualitative Evaluation of the Nurturing Attachments Group Programme.* Retrieved from http://www.adoptionplus.co.uk/userassets/12763_AdoptionPlus_Summary_Report_Digital917144.pdf

* Sergeant, M. (2011). *Efficacy of Child Parent Relationship Therapy for caregivers of children with attachment problems* (Doctoral dissertation, University of Louisville). Retrieved from https://ir.library.louisville.edu/cgi/viewcontent.cgi?referer=https://scholar.google.co.uk/scholar?cluster=5672199453581747541&hl=en&as_sdt=0,5&httpsredir=1&article=2298&context=etd

Shah, R., Kennedy, S., Clark, M. D., Bauer, S. C., & Schwartz, A. (2016). Primary care–based interventions to promote positive parenting behaviors: a meta-analysis. *Pediatrics*, *137*(5), e20153393.

Shemmings, D., & Shemmings, Y. (2011). *Understanding disorganized attachment: Theory and practice for working with children and adults*. Jessica Kingsley Publishers.

* Sprang, G. (2009). The efficacy of a relational treatment for maltreated children and their families. *Child and Adolescent Mental Health*, *14*(2), 81-88.

* Stams, G. J. J., Juffer, F., Van Ijzendoorn, M. H., & Hoksbergen, R. C. (2001). Attachment-based intervention in adoptive families in infancy and children's development at age 7: Two follow-up studies. *British Journal of Developmental Psychology*, *19*(2), 159-180.

* Stevens, M. L. (2011). *Child directed interaction training: The impact on the kinship caregiver-child relationship and child externalizing and internalizing symptoms* (Doctoral dissertation, University of Florida). Retrieved from http://ufdc.ufl.edu/UFE0043560/00001.

Stoltenborgh, M., Bakermans-Kranenburg, M. J., Alink, L. R., & van Ijzendoorn, M. H. (2015). The prevalence of child maltreatment across the globe: Review of a series of meta-analyses. *Child Abuse Review*, *24*(1), 37-50.

Stovall, K. C., & Dozier, M. (2000). The development of attachment in new relationships: Single subject analyses for 10 foster infants. *Development and psychopathology, 12*(2), 133-156.

Tarren-Sweeney, M. (2007). The Assessment Checklist for Children—ACC: A behavior rating scale for children in foster, kinship and residential care. *Children and Youth Services Review*, *29*(5), 672-691.

Tarren-Sweeney, M. (2013). The Assessment Checklist for Adolescents—ACA: A scale for measuring the mental health of young people in foster, kinship, residential and adoptive care. *Children and Youth Services Review*, *35*(3), 384-393.

Tarren-Sweeney, M., & Vetere, A. (Eds.). (2013). *Mental health services for vulnerable children and young people: Supporting children who are, or have been in foster care.* Routledge.

Teyhan, A., 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.

Thomas, R., Abell, B., Webb, H. J., Avdagic, E., & Zimmer-Gembeck, M. J. (2017). Parent-child interaction therapy: A meta-analysis. *Pediatrics*, *140*(3), e20170352.

Turner, W., Macdonald, G., & Dennis, J. A. (2007). Behavioural and cognitive behavioural training interventions for assisting foster carers in the management of difficult behaviour. *Cochrane Database of Systematic Reviews*, (1).

* Van Andel, H., Post, W., Jansen, L., Van der Gaag, R. J., Knorth, E., & Grietens, H. (2016). Optimizing foster family placement for infants and toddlers: A randomized controlled trial on the effect of the foster family intervention. *American Journal of Orthopsychiatry*, *86*(3), 332.2

Van Den Dries, L., Juffer, F., Van Ijzendoorn, M. H., & Bakermans-Kranenburg, M. J. (2009). Fostering security? A meta-analysis of attachment in adopted children. *Children and youth services review*, *31*(3), 410-421.

* Warman, A., Pallett, C., & Scott, S. (2006). Learning from each other: process and outcomes in the Fostering Changes training programme. *Adoption & Fostering*, *30*(3), 17-28.

* Wassall, S. (2011). *Evaluation of an attachment theory based parenting programme for adoptive parents and foster carers* (Doctoral dissertation,

University of Birmingham). Retrieved from https://etheses.bham.ac.uk/id/eprint/3178/.

Waters, E., & Cummings, E. M. (2000). A secure base from which to explore close relationships. *Child development*, *71*(1), 164-172.

Waters, E., & Deane, K. E. (1985). Defining and assessing individual differences in attachment relationships: Q-methodology and the organization of 82ehaviour in infancy and early childhood. *Monographs of the society for research in child development, 50*(1-2), 41-65.

Wiik, K. L., Loman, M. M., Van Ryzin, M. J., Armstrong, J. M., Essex, M. J., Pollak, S. D., & Gunnar, M. R. (2011). Behavioral and emotional symptoms of post-institutionalized children in middle childhood. *Journal of Child Psychology and Psychiatry*, *52*(1), 56-63.

* Wydra, M. A. (2013). *Does adoption therapy work?: Evaluating a therapy program for adopted children and their families* (Doctoral dissertation, University of Maryland, College Park). Retrieved from https://drum.lib.umd.edu/handle/1903/14495.

Zeanah, C. H., Berlin, L. J., Bois, N. W. (2011). Practitioner Review: Clinical applications of attachment theory and research for infants and young children. *Journal of Child Psychology and Psychiatry, 52*(8), 819–833.

CHAPTER TWO

EMPIRICAL RESEARCH PAPER

THE ROLE OF MENTALIZATION IN THE DEVELOPMENT OF COMPASSION FATIGUE IN RESIDENTIAL CARE WORKERS WHO CARE FOR LOOKED-AFTER CHILDREN

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Abstract

Background. Residential care work is a demanding profession, often leading carers to experience compassion fatigue, a negative psychological state characterised by decreased compassion for another. This study examines the relationship between residential care workers' negative emotional responses to young people and the experience of compassion fatigue and compassion satisfaction. Moreover, the mediating effect of carers' capacity for mentalization (reflective functioning) on these associations was examined.

Method. 40 residential care workers who care for looked-after children participated in this cross-sectional online survey study. Participants completed questionnaires measuring levels of compassion fatigue, compassion satisfaction, mentalization and attachment style. Further, measures of perceived psychological and relational difficulties, and negative emotional responses to a specific young person were obtained. Regression and mediation analyses were used to test study hypotheses.

Results. Results indicated that carers' negative emotional responses were positively related to experience of burnout and secondary traumatic stress. The associations between negative emotions, and burnout and traumatic stress, were mediated by 'too uncertain' reflective functioning, where a lack of certainty about others' mental states increased experience of burnout and traumatic stress. The association between negative emotions and burnout was also mediated by 'too certain'

reflective functioning, where increased certainty about others' mental states was protective of burnout. There was no association between negative emotional responses and compassion satisfaction.

Discussion. The findings are consistent with accounts that reflective functioning has a crucial role in protecting caring professionals from compassion fatigue. Therefore, this study argues for the introduction of mentalization-based support for carers. Limitations include the small sample size and cross-sectional design.

1. Introduction

1.1. The Cost of Caring

Residential care work is an emotionally demanding profession. Indeed, children and young people who are placed into residential care are some of the most vulnerable people in society, having often experienced neglect and abuse from their caregivers (Barton, Gonzalez & Tomlinson, 2012). The impact of early trauma means that children in the care of the local authority, termed 'looked-after', often present with complex emotional and behavioural difficulties, including aggression, self-harm, substance misuse and sexualised behaviour (Cook et al., 2017; Greeson, Briggs & Kisiel, 2011; Whittaker, del Valle & Holmes, 2015). Certainly, it is well established that looked after children are at an increased risk of developing psychiatric disorders (Bronsard et al., 2016; Ibrahim, Cosgrave & Woolgar, 2018) relative to children residing with biological parents (Lou, Taylor & Folco, 2018). With this in mind, exposure to high levels of distress in children understandably places a great deal of stress on residential care workers (Colton & Roberts, 2007; Leathers et al., 2019).

Working with vulnerable young people requires residential care workers to be compassionate, in order for young people to feel validated (Bullock, Clough & Ward, 2006). There is a broad consensus in the literature that 'compassion' involves feeling for a person who is suffering and being motivated to act to help them, therefore requiring care workers to be highly empathic and caring (Gilbert, 2005; Strauss et al., 2016). Carers are also expected to manage high levels of negative emotions and challenging behaviours effectively, despite having little training or supervision (Seti, 2008; Wilson, Sinclair & Gibbs, 2000). The combination of exposure to traumatic

material and a stressful working environment increases the likelihood of carers developing a negative psychological state termed ‘compassion fatigue’ (Eastwood & Ecklund, 2008). Compassion fatigue refers to disengagement of carers from those they care for, characterised by decreased empathy, which culminates into a decreased ability to provide appropriate care (Ledoux, 2015). It is conceptualised as being made of two factors: burnout and secondary traumatic stress (Stamm, 2010). Burnout is defined as feelings of emotional exhaustion and detachment from those in need (Maslach & Jackson, 1981). Secondary traumatic stress involves the specific experience of symptoms that reflect the symptoms of trauma experienced by those who were directly traumatised (Figley, 2002). Both factors impact on the ability to maintain compassion and are pertinent in the work of residential carers.

Research indicates that compassion fatigue has consequences for employers as it negatively impacts staff well-being (Audin, Burke & Ivtzan, 2018; Figley, 2013; Showalter, 2010) and is associated with high staff turnover and reduced job performance (Bride, Radley & Figley, 2007; Salloum, Kondrat, Johnco & Olson, 2015; Seti, 2008). Most importantly though, compassion fatigue negatively impacts the carer-young person relationship (Seti, 2008). Indeed, compassion fatigue reduces a carer’s ability to provide attuned, sensitive and responsive care, which is crucial in repairing the impact of early trauma (Cameron & Maginn, 2008; Zerach, 2013). As such, young people may begin to feel uncared for, which strengthens insecure ways of relating (Winstanley & Hales, 2014). Ultimately, this cycle can lead to ‘blocked care’, where prolonged exposure to stress can overwhelm a caregiver, such that they have a decreased ability to empathise with their child, leading them to withdraw from them (Hughes, 2017), leading to placement breakdown and poor psychosocial outcomes for

looked after children (Rock, Michelson, Thomson & Day, 2015; Teyhan, Wijedasa & Macleod, 2018). It is therefore vital to understand the development of compassion fatigue in carers to prevent its occurrence.

Although residential care work can be stressful, it is important to acknowledge that many carers enjoy their occupation and find their work incredibly satisfying. Indeed, 'compassion satisfaction', the collary of compassion fatigue, refers to the feelings of pleasure derived from helping others (Stamm, 2010) and is associated with a number of positive consequences, including increased emotional resilience, wellbeing and empathy (McCain et al., 2018; Wagaman, Geiger, Shockley & Segal, 2015). Whilst Stamm (2010) argues that it remains unclear how the concepts of compassion satisfaction and compassion fatigue relate to one another, compassion satisfaction has been shown to buffer against the symptoms of burnout and traumatic stress (Hunsaker, Chen, Maughan & Heaston, 2015; Ray, Wong, White & Heaslip, 2013). As such, it is important to also understand the development of compassion satisfaction in carers as by gaining insight into this, interventions can be developed for carers that enhance their resilience, which ultimately increases the quality of care provided to young people.

1.2. The Development of Compassion Fatigue

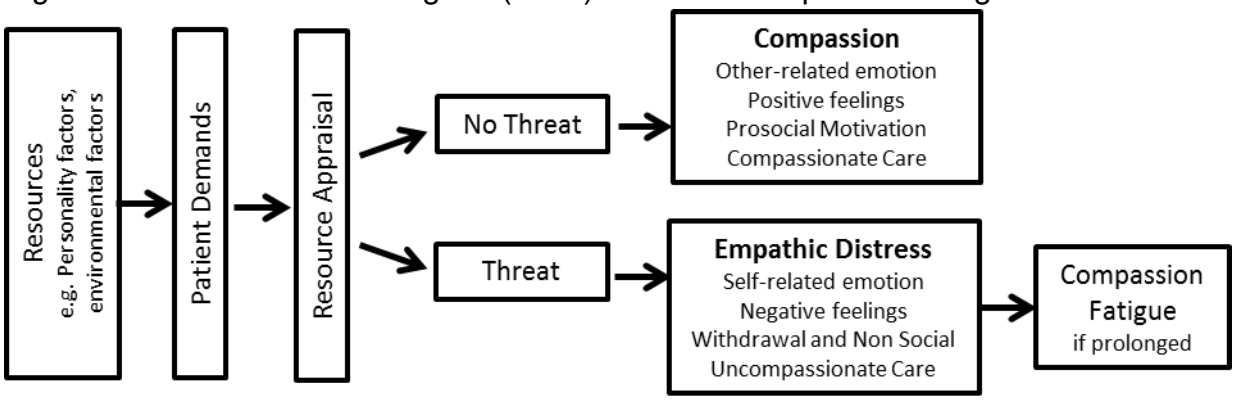
A number of models conceptualising the development of compassion fatigue have been proposed (for a review see Coetzee & Laschinger, 2018). Many of the models share similarities, however, the concept of empathy in the aetiology of compassion fatigue has caused much conflict (Coetzee & Laschinger, 2018). It is generally agreed in the literature that empathy involves the process of thinking about

and understanding another's experience (cognitive empathy), as well as the ability to vicariously experience their emotional state (affective empathy), by attending to visual, auditory and situational cues (Decety & Jackson, 2006, Lawrence et al., 2004). Indeed, the research is mixed as to whether affective empathy in particular, facilitates or protects against the development of compassion fatigue (Turgoose & Maddox, 2017).

Figley (1995, 2002) argued that empathy forms the basis of the therapeutic relationship, enabling professionals to respond appropriately to clients' distress. Indeed, in his model, Figley (1995, 2002) assumed that interactions with a client in distress lead professionals to experience empathic concern (i.e. motivation to understand others' suffering) leading to empathic responses (i.e. effort to reduce suffering). Empathising with others then results in positive feelings of care for another, leading to compassion satisfaction. However, empathising can also leave caregivers vulnerable to feeling negative emotions by them vicariously experiencing the distress of others (Figley, 2002). Experimental research supports this notion, demonstrating that identifying with others' negative feelings vicariously increase personal experience of negative emotions and activation of associated brain areas (Andreychik & Migliaccio, 2015; Morelli, Rameson & Lieberman, 2014).

Klimecki and Singer (2012) maintained that empathy was central to their model also, however, they posited that the consequence of empathy takes either an 'other-oriented focused' or 'self-oriented focused' path (see Figure 1.15). The empathic response of the first involves a pro-social motivation to alleviate the distress of the client, resulting in compassion. The latter involves a motivation of the caregiver to reduce their own distress, leading to withdrawal and negative feelings towards clients. Klimecki and Singer (2012) underscore the importance of the carer's ability to tolerate the distress they feel in response to caring. Indeed, if a caregiver feels they do not have the resources to manage their distress, they may become 'self-focused', leading to negative emotions towards clients, which if prolonged, may develop into compassion fatigue (Coetzee & Laschinger, 2018).

Figure 1.15. Klimecki and Singer's (2012) Model of Compassion Fatigue



Certainly, studies support the notion that negative feelings towards patients are associated with high rates of burnout and secondary traumatic stress (Baer et al., 2017; Barnet & Ruiz, 2018; Holmqvist & Jeanneau, 2006). In a series of regression analyses, Beauvais, Andreychik & Henkel (2018) demonstrated that negative empathy was predictive of greater burnout and secondary traumatic stress in a sample of nurses. Andreychik (2019) extended these findings, reporting that negative empathy

was predictive of greater levels of burnout in secondary traumatic stress in front line mental health providers and teachers. Indeed, positive interactions between caregivers and clients appear to suffer under staff stress, as staff show less empathy, negative attitudes which leads them to interact less with the client (Kokkonen, Cheston, Dallos & Smart, 2014). Ultimately, this compromises the client's recovery, as staff become less emotionally available and caring (Kokkonen et al., 2014).

It is possible that the model proposed by Klimecki and Singer (2012) is applicable to care workers, where identification with a young person's suffering may lead to compassion fatigue. It would follow that greater levels of suffering in young people would lead to greater negative emotionality in carers. In the case of looked after children, suffering may be conceptualised as problematic behaviour, dysregulated emotional states and relational difficulties (Fisher, 2015), which have been associated with increased stress in carers (Farmer, Lipscombe & Moyers, 2005; Morgan & Baron, 2011). It would seem important therefore to understand how carers feel towards those they care for, particularly if carers feel negatively, in order to prevent the development of compassion fatigue. By noticing how carers feel, there may be opportunities to increase their resources such that they feel more able to manage their distress, buffering against the symptoms of compassion fatigue.

1.3. The Benefits of Reflective Thinking

In the context of healthcare, reflective thinking can be defined as the ability to understand and evaluate one's own thoughts, emotions and actions in relation to caring for others (Schön, 1983). In doing so, healthcare professionals are able to

monitor and adapt their own practice to best meet the needs of the patient (Price, 2004; Walker, 1996). Certainly, research demonstrates that enhanced reflective ability is associated with improved practice in helping professionals (Mann, Gordon & MacLeod, 2009) and has been linked to increased emotional resilience in helping professionals (Chen, 2010; Edward & Hercelinskyj, 2007; McDonald, Jackson, Wilkes & Vickers, 2012). Developing reflective thinking, therefore, appears key in fostering emotional resilience and wellbeing in caring professionals.

The importance of reflective thinking in preventing compassion fatigue when working with clients who have experienced trauma has also been highlighted (Glennon, Pruitt & Rouland Polmanteer, 2019). As such, interventions to support the development of reflective thinking in caregivers have been developed, including reflective supervision and staff reflective practice groups (Miller & Sprang, 2017; Truter & Fouché, 2015). Both of these have been found to be effective in enhancing wellbeing, empathy and reducing the effects of compassion fatigue in those working with trauma (Frosch et al., 2018; Pfaff et al., 2017; Pross, 2006; Muskett, 2013; Smethers, 2012). Indeed, reflective practice interventions have been shown to enhance caring professionals' capabilities, including empathy and person-centeredness, and have also been shown to improve the care they provided to clients (Lutz et al., 2013).

The concept of mentalization, an aspect of reflective thinking, has also been suggested as being important in protecting caregivers from negative feelings (Cologon, Schweitzer, King & Nolte, 2017). Mentalizing, or reflective functioning, is the process of having insight into one's own and other's thoughts, feelings and desires, and understanding that these may be different (Bateman & Fonagy, 2010). Capacity for

mentalization means that one can hold another's state of mind in mind, which is thought to be key in maintaining healthy relationships with others (Katznelson, 2014). The ability to mentalize is particularly important for those who care for looked after children, as it helps enable them to make sense of why a child is behaving in a particular way, allowing the carer to maintain empathy (Ironside, 2012; Siegel, 2012). Indeed, high levels of reflective functioning in foster carers have been shown to increase resilience to challenging behaviour, and further, decrease the risk of blocked care (Bateman & Fonagy 2010; Redfern et al., 2018). Conversely, breakdowns in mentalizing have been linked to difficulties in carers regulating their own negative emotions (Fonagy, 2018) and further, have been shown to mediate the relationship between negative feelings towards clients and caregivers experience of depression (Yong Hee Kim, 2018). As such, interventions promoting reflective functioning in carers have been developed, including the Nurturing Attachments Group (Selwyn, Staines & Golding & 2019).

Research has also indicated that there are personality factors that put individuals at risk of poor mentalizing. The factor which has garnered most research has been an individual's attachment style. Bowlby (1969) thought of attachment as a special emotional bond between two people, where attachment styles describe different patterns of interacting and behaving in relationships, which develop from an individual's first experience of relating with their caregiver (Ainsworth, 1973). Attachment style can be represented along a continuum of attachment anxiety i.e., the extent to which individuals believe that others are available and responsive to their needs, and attachment avoidance i.e., the extent to which individuals are uncomfortable depending on others (Fraley, Waller & Brennan, 2000). Research

indicates that more insecure ways of relating, i.e., greater attachment anxiety or attachment avoidance, predict poorer mentalizing, particularly in those with features of borderline personality disorder (Fonagy, 2018; Lorenzini & Fonagy, 2013; Fonagy & Bateman, 2008; Fossati et al., 2014). The association between attachment style and mentalizing is underpinned by the concept that the ability to understand others' mental states is acquired in childhood through relating with one's caregiver; if there is a mis-attunement, the child is unlikely to fully acquire the skills to mentalize (Fonagy & Target, 2006). Therefore, given this association, it may be beneficial to offer mentalization-based interventions to caregivers who have developed greater attachment anxiety or avoidance.

Although the concept of mentalization has gathered a lot of interest from researchers, there has been little research investigating the role of mentalizing in residential care workers. Further, its role in buffering against the effects of compassion fatigue have not been explored, despite the fact that there is a high prevalence of insecure attachment amongst caring professionals (West, 2015). Certainly, Klimecki and Singers (2012) postulate that it is the ability of carers to distinguish between other's distress, and their own distress in response to this according to their own resources (i.e. mentalizing), that determines compassion fatigue (Decety & Lamm, 2009). The implication of this is that mentalisation-based interventions may be beneficial for residential care workers in promoting their own wellbeing and ultimately the wellbeing of those they care for.

1.4. The Present Study

The primary focus of this study was to address a gap in the literature by investigating the extent to which reflective functioning mediates the relationship between negative emotional responses to young people (resulting from negative empathy), and compassion fatigue and compassion satisfaction in a sample of residential childcare workers. In line with this, the following hypotheses were made:

Hypothesis 1: There is a positive association between carers' negative emotional responses to a young person and levels of burnout, and this association is mediated by carer's reflective functioning (mediation hypothesis).

Hypothesis 2: There is a positive association between carers' negative emotional responses to a young person and levels of secondary traumatic stress, and this association is mediated by carer's reflective functioning (mediation hypothesis).

Hypothesis 3: There is a negative association between carers' negative emotional responses to a young person and levels of compassion satisfaction, and this association is mediated by carer's reflective functioning (mediation hypothesis).

Given that the literature suggests that greater attachment anxiety and attachment avoidance are risk factors for poorer reflective functioning (Fonagy & Bateman, 2008; Lorenzini & Fonagy, 2013), the following hypotheses were made:

Hypothesis 4a: Increased attachment anxiety and poorer reflective functioning in carers are associated.

Hypothesis 4b: Increased attachment avoidance and poorer reflective functioning in carers are associated.

The study also sought to explore whether increased levels of behavioural, emotional and relational difficulties in young people were associated with increased

negative feelings towards young people in caregivers, in line with previous findings (Farmer, Lipscombe & Moyers, 2005; Morgan & Baron, 2011). Therefore, the effect of a young person's behavioural, emotional and relational difficulties on carer's emotions was investigated through the following hypotheses:

Hypothesis 5a: Perceived problematic behaviour of young people and carer's negative emotional responses to a young person are positively associated.

Hypothesis 5b: Perceived relational difficulties with young people and carer's negative emotional responses to a young person are positively associated.

2. Method

2.1. Participants

Participants were an opportunity sample of 40 residential care workers who cared for looked after children aged 8 to 17 years placed within residential care homes across the United Kingdom. Initially, over 500 residential care workers, employed within two large private residential care providers, were invited to take part in the research. 67 residential care workers agreed to take part in the study, and 40 complete data sets were obtained. Therefore, the response rate was low (approximately 13%). It was difficult to establish the exact response rate as it was unclear how many of the targeted residential care workers met the inclusion criteria.

To be eligible to participate in the study, participants had to be fluent in English, have access to the Internet and have been employed within a residential care setting for looked after children for three months. Moreover, to ensure that carers had adequate opportunity to develop relationships with young people, only those carers who had at least three months experience caring for a particular young person whom they found challenging were included.

2.2. Measures

The variables in this study were measured using questionnaires that have established reliability and validity. All questionnaires are presented in Appendix A. Where possible, to reduce burden on participants, short-form versions of questionnaires were used. Self-reported demographic details were collected for each participant on gender, age, ethnicity, education, job role and total length of

employment as a residential care worker. Table 1.8. reports the demographic characteristics of participating residential care workers.

Table 1.8.

Demographic characteristics of the sample (N=40).

Variables	***n* or Mean**	***% or SD***	***Range***
Age (Years)	34.2	12.91	21 – 62
Gender (Female)	29	72.5%	n/a
Ethnicity			
White British	29	72.5%	n/a
Ethnic Minorities:			
Asian/ Asian British	3	7.5%	n/a
Black/ Black British	7	17.5%	n/a
Other	1	2.5%	n/a
Qualification			
No Qualifications	2	5%	n/a
GCSE or Equivalent	9	22.5%	n/a
A-Level or Equivalent	6	15%	n/a
High National Certificate/Diploma	8	20%	n/a
Bachelor's Degree	11	27.5%	n/a
Master's Degree	4	10%	n/a
Job Role			
Residential care worker	22	55%	n/a
Senior residential care worker	18	45%	n/a
Total Length of Experience (Years)	5.84	5.63	0.5 - 20

2.2.1. Dyadic relationship measures. Variables that were operationalised within a carer-young person dyad included: carers' perceptions of a young person's behavioural, emotional functioning and relational functioning, and carers' affective responses to a young person. For dyadic measures, participants were asked to identify a particular young person who they have been caring for and whom they experienced

as challenging. Participants were asked to respond to questionnaires with this young person in mind. Of note, 70% of the selected young people were female, and nearly all (87.5%) were aged between 12 and 17 years.

Young person's behavioural and emotional functioning. Perceived behaviour of the identified young person was measured using either the Assessment Checklist for Children - Short Form (ACC; Tarren-Sweeney, 2007) and the Assessment Checklist for Adolescents - Short Form (ACA; Tarren-Sweeney, 2013). The ACC and ACA were specifically designed to measure problematic behaviours, emotional states, and ways of relating to others in young people who are in care or have been adopted. Therefore, the ACC and ACA measure a broad range of difficulties specific to the looked after population. The ACC is a 44-item checklist used with young people aged 4 to 11 years and the ACA is a 37-item checklist for use with young people aged 12 to 17 years. Items are rated as "Not true", "Partly true", "Mostly true". A total clinical score was then calculated, where higher scores indicated greater perceived problematic behaviour and distress. Both the ACC and ACA are reported as having good psychometric properties (Tarren-Sweeney, 2007; 2013) and in the current study, excellent internal consistency was found for the ACC ($\alpha = .94$) and ACA ($\alpha = .91$).

Young person's relational functioning. Relational difficulties were measured using the Child-Parent Relationship Scale - Short Form (CPRS; Driscoll & Pianta, 2011). The CPRS is a 15-item self-report questionnaire used to assess parent's/carer's representations of their relationship with their child. The CPRS is traditionally used with children between three and twelve years of age. However, pilot data collected by Dyer, Kaufman and Fagan (2016) indicated that it can be used with adolescents. The CPRS has two subscales: conflict (eight items e.g. "My child easily becomes angry at me") and closeness (seven items e.g. "My child openly shares

his/her feelings and experiences with me"), measured on a five-point Likert Scale (anchored with "Definitely does not apply" and "Definitely applies"). The conflict scale was used to measure the extent to which a carer experienced conflict in their relationship with a young person. Higher scores indicated greater perceived conflict, where the minimum score on the scale was 8 and maximum score was 40. The factor structure of the CPRS has been validated (Dyer et al., 2017). Moreover, in the present study, good internal reliability was found for the conflict scale (α = .80).

Carer's negative emotional responses. Emotional responses to young people were measured using the Positive and Negative Affect Schedule (PANAS; Watson, Clark & Tellegen, 1988). The PANAS is a self-report questionnaire that consists of two scales which measure a range of positive and negative emotional responses. Each subscale consists of ten single-word items that describe positive (e.g. "excited") or negative (e.g. "irritable") affective states, rated on a five-point Likert scale (anchored with "Not at all" and "Very much"). Minimum scores on both scales was 10 and the maximum score was 50. In the current study, carers were asked to complete the PANAS by rating how much they felt each emotion in their interactions with the identified young person. The negative subscale was then calculated, where higher scores indicated greater negative emotional responses. The measure has been demonstrated to have good validity in non-clinical populations (Crawford & Henry, 2004) and good internal reliability was also found (α = .89).

2.2.2. General measures. In addition to the dyadic measures described, three carer-level variables were operationalised: carer wellbeing, carer attachment pattern, and carer mentalization capacity.

Carer wellbeing. The Professional Quality of Life Scale (ProQol; Stamm, 2010) was used to measure carer wellbeing. The ProQol is a 30-item self-report

questionnaire that measures the quality of an individual's life in relation to their work as a caring professional. The ProQol conceptualises quality of life as having positive aspects (Compassion satisfaction) and negative aspects (Compassion fatigue). Compassion satisfaction consists of a ten-item subscale (e.g. "I get satisfaction from the people I help") and compassion fatigue consists of two ten-item subscales: burnout (e.g. "I feel bogged down by the system") and secondary trauma (e.g. "I am preoccupied with more than one person I help"). All items are rated on a five-point Likert scale (anchored with "Never" and "Very often"). Total scores are calculated, where the minimum score is 10 and the maximum score is 50, and then converted into *t* scores. In the present study, all three subscales were used, where higher scores indicated greater experience of compassion satisfaction, burnout and secondary traumatic stress. The measure has been shown to have good reliability (Stamm, 2005). Within this study, good internal reliability for the compassion satisfaction (α = .92), burnout (α = .86) and secondary trauma (α = .84) scales was found.

Carer attachment pattern. The Experiences in Close Relationships – short form (ECR; Wei, Russell, Mallinckrodt & Vogel, 2007) was used to measure carers' attachment. The ECR is a 12-item self-report questionnaire that assesses general patterns of adult attachment across two scales: anxiety and avoidance. Attachment anxiety is defined as patterns of attachment where adults fear rejection. Attachment avoidance is defined as patterns of attachment where adults fear dependence. All items are rated on a seven-point Likert scale (anchored with "Strongly Disagree" and "Strongly Agree"). Higher scores are indicative of a more insecure adult attachment orientation (Brennan et al., 1998), where the minimum score on each scale is 7 and maximum score is 42. In the current study, both scales were used to conceptualise carer attachment style. The measure has been shown to have good reliability and

validity (Wei et al., 2007). Good reliability was also demonstrated in the present study for the anxiety subscale (α = .84) and acceptable reliability was found for the avoidance scale (α = .71).

Carer mentalization. The reflective functioning questionnaire - short form (RFQ; Fonagy et al., 2016) was used to measure carers' ability to mentalize, which refers to a carer's capacity to understand their own feelings and attitudes as separate to others' feelings and attitudes. The RFQ is an eight-item self-report questionnaire that measures mentalizing across two 6-item subscales: certainty and uncertainty about mental states. Items are initially rated on a seven-point Likert scale (anchored with "Strongly disagree" and "Strongly agree"). The scale responses are then recoded to measure response strength at either end of the scale. The mean score of each scale is then calculated, where the maximum score on each scale is 3. Higher scores on both scales indicate poorer reflective functioning, where higher scores on the certainty scale reflect individuals being 'too certain' about other's mental states (hyper-mentalizing) and higher scores on the uncertainty scale reflect individuals being 'too uncertain' about other's mental states. Lower scores therefore reflect a greater ability to mentalize. Acceptable levels of reliability and validity of the measure have been established in non-clinical populations (Fonagy et al., 2016). Within this study, good levels of internal reliability for the certainty scale (α = .89) and uncertainty scale (α = .80) were established.

2.3. Procedure

Ethical approval for the current study was obtained from the University of Birmingham Science, Technology, Engineering and Mathematics Ethical Review

Committee (see Appendix C). Written approvals were also obtained from each participating organisation.

Clinical leads in private residential care organisations for looked after children were contacted about taking part in the research project. If clinical leads agreed to take part in the project, they sent an email to potential participants within their respective organisations, containing a secure URL link to an online web-survey. The online survey was hosted by LimeSurvey (Schmitz, 2015). By clicking the URL link, participants accessed an electronic version of the study information sheet (see Appendix C), consent form (see Appendix D), and questionnaires (see Appendix A) which they completed anonymously if they met inclusion criteria. Following completion of the questionnaires participants accessed electronic debrief information (see Appendix E) and were given a unique code should they wish to withdraw their data. At the end of the survey, participants were given the opportunity to be entered into a prize draw for £50, £20 and £10 of Amazon vouchers. If they did so, they were asked to submit their email address. The email information was not linked to a participant's survey responses and so responses remained anonymous.

2.4. Data Analysis Strategy

Data analyses was undertaken using SPSS (v.25; IBM Corp., 2017). Descriptive statistics including mean, standard deviation and range were calculated for all variables. Regression analyses were conducted using linear regression within SPSS. Mediation analyses were carried out using the PROCESS macro for SPSS. Prior to regression and mediation analysis, all raw data were transformed into *z* scores in order to standardise the regression parameters. Transforming all study variables

into *z* scores also allowed for the combination of the ACC and ACA data, such that this could be inputted into all analyses as one variable.

For mediation analyses, the strategy described by Preacher and Hayes (2004, 2008) were used. When completing these analyses, Preacher and Hayes (2004, 2008) recommend the non-parametric bootstrap procedure as an inferential test. The non-parametric bootstrap procedure has the advantage of being independent of sample and population distribution and so calculates bias-corrected confidence intervals that are robust to violation of parametric inference assumptions (Hardle & Marron, 1991). Accordingly, for all analyses, traditional asymptotic probability estimates will be supplemented by bootstrap parameter estimates and associated 95% confidence intervals, calculated from 10000 bootstrap samples.

Fritz and MacKinnon (2007) provide estimates of the sample size needed in order to obtain .8 power in a mediated analysis, suggesting a sample size of 71 participants is required to achieve moderate to large effect sizes. In the present study, 40 participants completed all of the questionnaires, so each analysis was conducted with 40 participants data. Therefore, as a result of the small sample size, it was difficult to detect medium effects. Moreover, given the potentially reduced statistical power in the analysis, the possibility of Type 2 errors cannot be dismissed. Despite these limitations to the sample, it was hoped that analysis would still identify effects of clinical interest.

3. Results

3.1. Preliminary Analysis

Table 1.9. reports the means and standard deviations for the study variables. Mean levels of attachment anxiety (*M*=22.05) and attachment avoidance (*M*=18.45) were around the midpoint of the range but higher than levels reported in a previous study of Doctors (Cherry, Fletcher & O'Sullivan, 2014) and residential care workers (Klama, 2015). Therefore, participants in this sample demonstrated higher levels of attachment anxiety and avoidance relative to samples of other caring professionals. Mean levels of burnout (*M*=59.88) and secondary traumatic stress (*M*=67.55) were above the midpoint of the range. Levels of burnout and traumatic stress in this sample were also higher than those reported in other samples of helping professionals (De La Rosa et al., 2018; Harker et al., 2015; Wagaman et al., 2015). With regards to reflective functioning, mean levels of hyper-mentalizing (certainty about mental states; *M*=1.00) and hypo-mentalizing (uncertainty about mental states; *M*=0.67) were lower than a non-clinical comparison sample (Fonagy et al., 2016), indicating residential carer workers in this sample had a greater ability to mentalize relative to a student sample.

For dyadic measures, mean scores on the ACC (*M*=45.20) and ACA (*M*=35.44) were around the midpoint of the range. A higher proportion of young peoples' scores on the ACC and ACA were in the clinical range relative to another sample of foster children (Selwyn et al., 2016), indicating that the young people carers identified in this sample had a greater level of psychological distress. Mean levels of conflict in the relationship with a young person as measured by the conflict scale of the CPRS

(*M*=28.05) were also around the midpoint of the range, and similar to scores obtained in another sample of carer-child dyads (Farris, 2017). Therefore, in this sample, residential care workers perceptions of relational difficulties in the young people they cared for were similar to the degree of relational difficulties perceived in another sample of foster children. The mean score on negative scale of the PANAS were also around the midpoint of the range. Given the uniqueness of this study though in requiring participants to complete the PANAS in relation to a specific young person whom they found challenging, there was no previously published data against which to make comparisons.

Inter-correlations between all study variables are shown in Table 1.10. Burnout and secondary traumatic stress were significantly strongly positively correlated, supporting the notion that they are related concepts conceptualising compassion fatigue. Both burnout and traumatic stress were also significantly strongly negatively correlated with compassion satisfaction.

Table 1.11. shows correlations coefficients between study variables and demographic variables. There was a significant positive correlation between experience of secondary trauma and length of experience, and further, a significant positive correlation between hyper-mentalizing and ethnicity. When all analyses were repeated, controlling for length of experience and ethnicity, an identical pattern of results emerged.

Table 1.9.

Descriptive statistics of all study variables.

Variables	Mean	SD	Range	Skewness		Kurtosis		N
				Statistic	SE	Statistic	SE	
Dyadic Relationship Measures								
ACC	42.20	21.21	8.00 - 60.00	-1.29	0.91	1.55	2.00	5
ACA	35.44	13.40	13.00 - 73.00	0.85	0.39	0.90	0.77	35
CPRS Conflict Scale	28.05	6.26	13.00 - 38.00	-0.46	0.37	-0.05	0.73	40
PANAS Negative Affect Scale	24.43	8.64	11.00 - 44.00	0.36	0.37	-0.53	0.73	40
General Measures								
ProQol Burnout Scale	59.88	9.48	41.00 - 73.00	-0.19	0.37	-1.21	0.73	40
ProQol Secondary Trauma Scale	67.53	8.41	52.00 - 77.00	-0.37	0.37	-1.26	0.73	40
ProQol Compassion Satisfaction Scale	47.90	10.19	19.00 - 64.00	-0.56	0.37	0.31	0.73	40
ECR Anxiety Scale	22.05	8.43	8.00 - 37.00	0.30	0.37	-0.94	0.73	40
ECR Avoidance Scale	18.45	6.75	9.00 - 34.00	0.88	0.37	0.01	0.73	40
RFQ Certainty Scale	1.00	0.92	0.00 – 3.00	0.55	0.37	-0.72	0.73	40
RFQ Uncertainty Scale	0.67	0.73	0.00 – 2.67	0.98	0.37	-0.04	0.73	40

Table 1.10.

Correlation matrix (Pearson's r) for all study variables.

Variables	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
1. ACC/ACA		.518**	.611**	.323*	.345*	-.198	.353*	-.024	-.160	.463**
2. CPRS Conflict Scale			.597**	.409**	.524**	-.368*	.449**	-.013	-.399*	.391*
3. PANAS Negative Affect Scale				.366*	.443*	-.289	.517*	-.164	-.270	.435**
4. ProQol Burnout Scale					.677**	-.766**	.395*	.264	-.716**	.536**
5. ProQol Secondary Trauma Scale						-.515**	.392*	.133	-.485**	.540**
6. ProQol Compassion Satisfaction Scale							-.133	-.282	.530**	-.458**
7. ECR Anxiety Scale								-.105	-.453**	.405**
8. ECR Avoidance Scale									-.104	.138
9. RFQ Certainty Scale										-.639**
10. RFQ Uncertainty Scale										

* p < .05. ** p < .001

Table 1.11.

Pearson's r correlations between study and demographic variables.

	Demographic Variables				
Variables	**Age**	**Gender[a]**	**Ethnicity[b]**	**Job Role[c]**	**Length of Experience**
1. ACC/ACA	-.150	-.135	-.111	-.003	-.109
2. CPRS Conflict Scale	-.128	.014	.014	-.056	-.205
4. PANAS Negative Affect Scale	-.095	-.186	.046	-.263	-.076
5. ProQol Burnout Scale	-.001	.028	-.110	.023	-.142
6. ProQol Secondary Trauma Scale	-.072	.147	-.155	-.215	-.349*
7. ProQol Compassion Satisfaction Scale	-.034	.016	-.103	.054	.084
7. ECR Anxiety Scale	-.136	.051	-.288	-.054	-.175
8. ECR Avoidance Scale	.023	.243	-.048	.127	.027
9. RFQ Certainty Scale	.041	.016	.335*	-.138	.157
10. RFQ Uncertainty Scale	-.012	-.300	-.290	.170	-.082

Notes: Dummy variables coded as: [a] Gender: male = 0, female = 1; [b] Ethnicity: White British = 0, Ethnic Minority = 1; [c] Job Role: Residential Care Worker = 0, Senior Residential Care Worker = 1; * $p < .05$. ** $p < .001$

3.2. Hypothesis 1: Reflective Functioning Mediates the Association between Negative Emotions and Burnout

To explore the impact of carer reflective functioning on the association between negative emotional responses and experience of burnout, a series of regression and mediation analyses were conducted (see Figure 1.15 and 1.16).

3.2.1. Association between negative emotions and burnout. Negative emotional responses to young people were positively and significantly associated with carer's experience of burnout, where a single unit increase in a carer's negative emotions was associated with approximately a half unit increase in carers' experience of burnout (β= 0.37, Bootstrap 95% CI 0.07 to 0.66, p<.014).

3.2.2. Association between reflective functioning and burnout. Against initial predictions, hyper-mentalising was significantly associated with a decreased experience of burnout (β= -0.67, Bootstrap 95% CI -0.86 to -0.48, p<.001). Therefore, 'too certain' reflective functioning (i.e. poorer reflective functioning) was predictive of increased wellbeing, where a single unit increase in certainty about others mental states was associated with approximately a half unit decrease in carers experience of burnout.

Hypo-mentalising was predictive of burnout and is reported in path *b* of Figure 1.16. Indeed, the analysis indicated that 'too uncertain' reflective functioning (i.e. poorer reflective functioning) was significantly associated with an increased experience of burnout, where a single unit increase in uncertainty about others' mental

states was associated with approximately a half unit increase in carer's experience of burnout (β=0.47, Bootstrap 95% CI 0.07 to 0.78, p<.009).

3.2.3. Mediating effect of reflective functioning. In the mediated model, multiplication of paths *a* and *b* provided an estimate of the indirect effect of hyper-mentalizing on the association between negative emotions and burnout. The total effect for the mediated pathway was calculated as β= 0.18 (Bootstrap 95% CI -0.01 to 0.33, *p*<.032). Further, when hyper-mentalizing was included as a mediator, the association between negative emotions and burnout became non-significant (β= 0.19 Bootstrap 95% CI -0.05 to 0.36, *p*<.075), indicating a full mediation effect.

In the mediated model, multiplication of paths *a* and *b* provided an estimate of the indirect effect of hypo-mentalizing on the association between negative emotions and burnout. The total effect for the mediated pathway was calculated as β= 0.20 (Bootstrap 95% CI 0.02 to 0.43, *p*<.04). Further, when hypo-mentalizing was included as a mediator, the association between negative emotions and burnout became non-significant (β= 0.16 Bootstrap 95% CI -0.11 to 0.58, *p*<.260). Accordingly, a full mediation effect was observed.

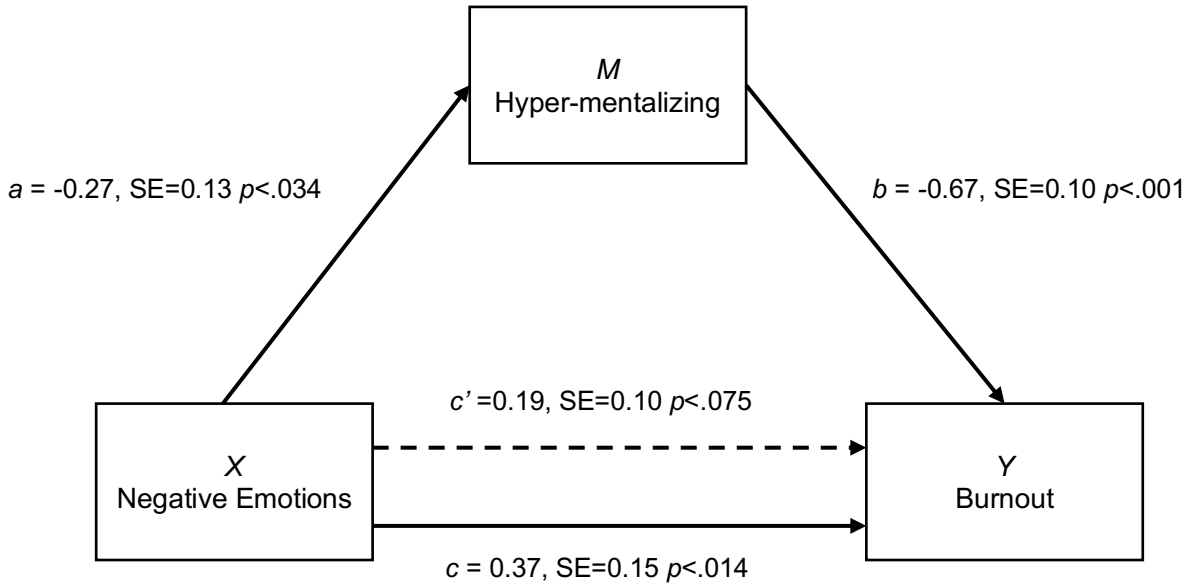


Figure 1.16. Simple mediation model showing the indirect effect of carer's negative emotional responses (X) on experience of burnout (*Y*) through carer's hyper-mentalizing (*M*).

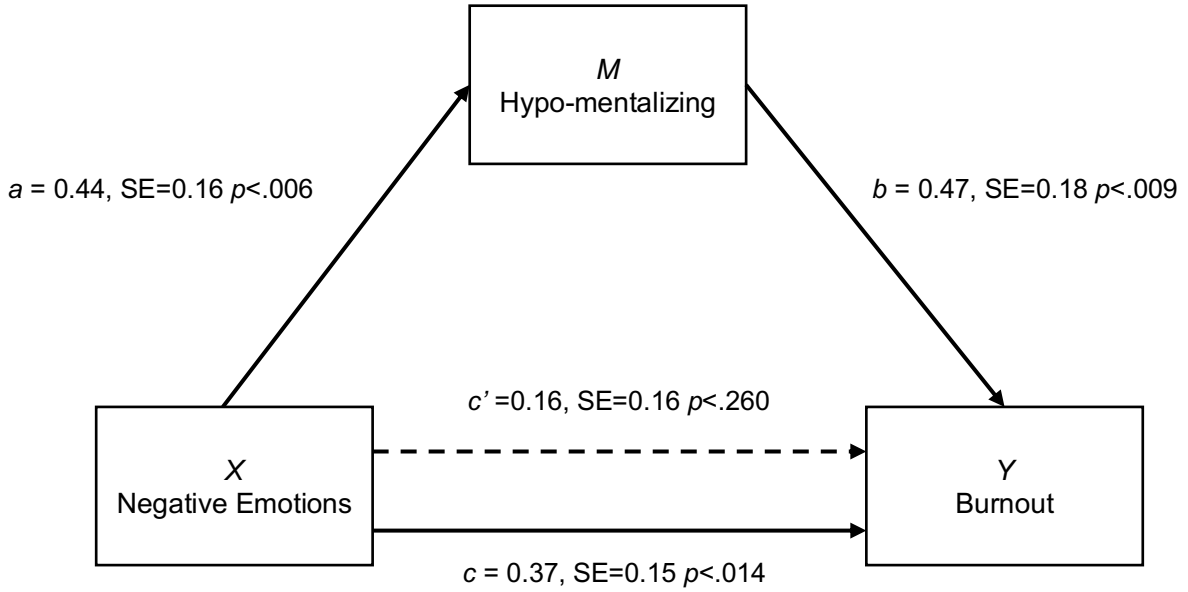


Figure 1.17.. Simple mediation model showing the indirect effect of carer's negative emotional responses (X) on experience of burnout (*Y*) through carer's hypo-mentalizing (*M*).

3.3. Hypothesis 2: Reflective Functioning Mediates the Association between Negative Emotions and Secondary Traumatic Stress

Further regression and mediation analyses (see Figure 1.17 and 1.18) were conducted to examine the indirect effect of reflective functioning on the association between negative emotional responses and secondary traumatic stress.

3.3.1. Association between negative emotions and secondary traumatic stress. Negative emotional responses to young people were positively and significantly associated with carers' experience of secondary traumatic stress, where a single unit increase in a carer's negative emotions was associated with approximately a half unit increase in carer's experience of secondary traumatic stress (β=0.44, Bootstrap 95% CI 0.16 to 0.72, p<.02).

3.3.2. Association between reflective functioning and traumatic stress. Contrary to initial predictions, hyper-mentalizing was significantly associated with a decreased experience of secondary traumatic stress in carers (β= -0.39, Bootstrap 95% CI -0.70 to -0.07, p<.015). Consequently, 'too certain' reflective functioning (i.e. poorer reflective functioning) was predictive of increased wellbeing, where a single unit increase in certainty about mental states was associated with nearly a half unit decrease in carer's experience of secondary traumatic stress.

Hypo-mentalising was predictive of secondary traumatic stress (β=0.43, Bootstrap 95% CI 0.040 to 0.71, *p*<.011) as the analysis indicated that a single unit increase in uncertainty about mental states was associated with nearly a half increase in carers' experience of secondary traumatic stress. Therefore, 'too uncertain'

reflective functioning (i.e. poorer reflective functioning) was significantly associated with decreased wellbeing.

3.3.3. Mediating effect of reflective functioning. In the mediated model, multiplication of paths *a* and *b* provided an estimate of the indirect effect of hyper-mentalizing on the association between negative emotions and traumatic stress. The total effect for the mediated pathway was calculated as β= 0.11 (Bootstrap 95% CI 0.00 to 0.26, $p<.11$). Therefore, 'too certain' reflective functioning did not significantly mediate the association between carer's negative emotions and experience of traumatic stress.

In the mediated model, increased negative emotional responses to young people were associated with hypo-mentalizing (path *a*), which was also associated with increased levels of secondary traumatic stress (path *b*). Multiplication of paths *a* and *b* provided an estimate of the indirect effect of capacity for reflective functioning on the association between negative emotions and secondary traumatic stress. Indeed, the total effect for the mediated pathway was calculated as β= 0.186 (Bootstrap 95% CI 0.06 to 0.43, $p<.032$). Moreover, when hypo-mentalizing was included as a mediator, the association between negative emotions and traumatic stress was non-significant, indicating a full mediation effect.

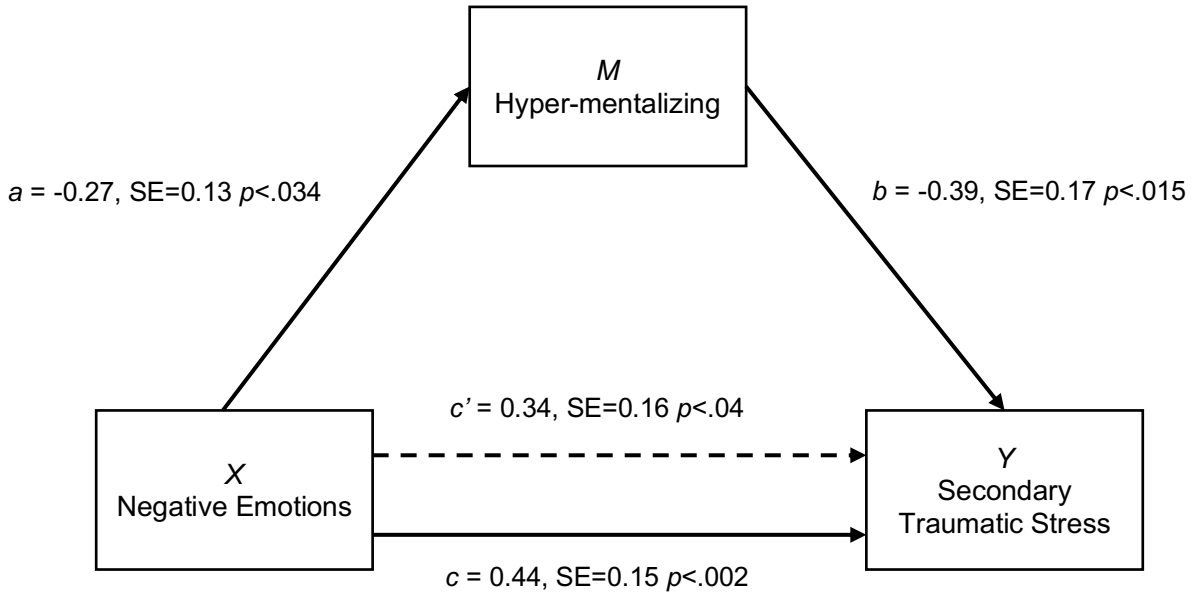


Figure 1.18. Simple mediation model showing the indirect effect of carer's negative emotional responses (X) on experience of secondary traumatic stress (*Y*) through carer's hyper-mentalizing (*M*).

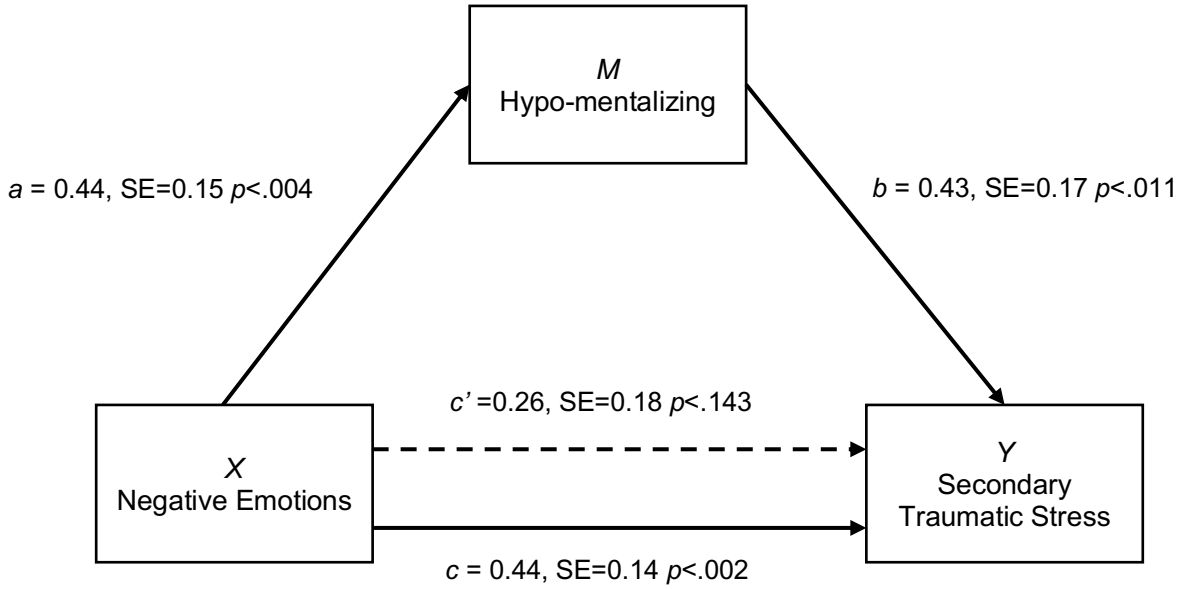


Figure 1.19. Simple mediation model showing the indirect effect of carer's negative emotional responses (X) on experience of secondary traumatic stress (*Y*) through carer's hypo-mentalizing (*M*).

3.4. Hypothesis 3: Reflective Functioning Mediates the Association between Negative Emotions and Compassion Satisfaction

Further regression analyses were conducted to examine associations between negative emotional responses, reflective functioning, and compassion satisfaction.

3.4.1. Association between negative emotions and compassion satisfaction. Increased levels of negative emotions were associated with a decreased experience of compassion satisfaction, although the effect was non-significant (β=-0.289 Bootstrap 95% CI -0.589 to 0.012, p<.059). Given that the association between carer's negative emotional responses and experience of compassion satisfaction was non-significant, further mediation analysis examining the impact of reflective functioning on this association was not undertaken.

3.5. Hypothesis 4a and 4b: Association between Attachment Anxiety and Avoidance and Reflective Functioning

A simple linear regression was carried out to explore the relationship between carers' levels of attachment anxiety and reflective functioning. In support of H4, attachment anxiety statistically significantly predicted hyper-mentalizing (R^2= .21, F(1,39)= 9.81, p<.003) and hypo-mentalizing (R^2=0.16, F(1,39)=7.46, p<.01). The unstandardized coefficient for certainty about mental states (β= -0.45) indicated that for every single unit increase in the degree of attachment anxiety, there was approximately a half unit decrease in hyper-mentalizing. As such, carers with higher levels of attachment anxiety were less likely to be 'too certain' about the mental states

of others. Further, the unstandardized coefficient for uncertainty about mental states (β= 0.41) demonstrated that for every single unit increase in level of attachment anxiety, there was nearly a half unit increase in hypo-mentalizing. Therefore, carers with higher levels of attachment anxiety were also more likely to be 'too uncertain' about the mental states of others.

A further linear regression was carried out to further explore the association between levels of attachment avoidance and reflective functioning. The results of the regression indicated that attachment avoidance did not predict hyper-mentalizing (R^2=0.01, F(1,39)= 0.42, p<.523) or hypo-mentalizing (R^2= .02, F(1,39)= .73, p<.397) in carers.

3.6. Hypothesis 5a and 5b: Association between Young People's Difficulties and Negative Emotions

Firstly, the association between a young person's problematic behaviour and carer's negative emotional responses to this was investigated using a linear regression. In support of H5a, increased behavioural and emotional difficulties in young people statistically significantly predicted negative affective responses (R^2=0.37, F(1,39)=22.62, p<.001).

A further linear regression was calculated to examine the association between a young person's relational functioning and carer's negative emotional responses to this. In support of H5b, perceived conflict in the relationship with a young person (and

so poorer relational functioning) statistically significantly predicted carers' negative affective responses (R^2=0.36, F(1,39)=21.09, p<.001).

4. Discussion

4.1. Main Findings

The present study sought to test some of the predictions arising from Klimecki and Singer's (2012) model of compassion fatigue and compassion satisfaction, in addition to whether increased reflective functioning buffered against the development of compassion fatigue. In support of hypothesis 1 and 2, negative emotional responses towards a young person were positively associated with carers' experience of burnout and secondary traumatic stress, and moreover, carers' reflective functioning was a significant mediator in these relationships. Contrary to hypothesis 3, there was a negative association between negative emotions and compassion satisfaction, but this was non-significant. Partially, supporting hypothesis 4, carers' reflective functioning was significantly predicted by carers' degree of attachment anxiety, but not attachment avoidance. Finally, supporting hypothesis 5, increased reports of behavioural, emotional and relational difficulties in young people significantly predicted increased negative emotional responses in carers.

The first and second hypothesis attempted to explore whether negative emotional responses towards a young person were associated with the components of compassion fatigue. Results indicated that carers who experienced a greater degree of negative emotions towards the young people they cared for, experienced greater symptoms of burnout and secondary traumatic stress. Certainly, these findings are in keeping with the findings of other studies, that also support the notion that negative feelings towards clients increase the likelihood of helping professionals experiencing

burnout and traumatic stress (Andreychick, 2019; Baer et al., 2017; Barnet & Ruiz, 2018; Beauvais et al., 2018). Further, results indicated that greater levels of perceived behavioural, emotional and relational difficulties in young people predicted greater levels of negative emotions in carers, in line with other studies that have shown that perceived challenging behaviour in young people is associated with increased parental distress (Morgan & Baron, 2011).

Klimecki and Singer's (2012) model of compassion fatigue is useful for understanding these findings. Indeed, according to the model, by feeling empathy for those they cared for, carers may have experienced their distress vicariously. If care workers appraised their own distress as threatening, the model assumes that carers will have felt negatively towards the source of the distress (i.e. the young person), where greater perceived suffering in young people led to greater negative emotional responses in carers. As a result, the model assumes that care workers will have been motivated to alleviate their suffering by withdrawing from those they care for. However, given that their role as a residential care worker involves them having to continue to care for young people, despite the physical and emotional challenges they may face, their ability to withdraw is limited, leading to prolonged distress and consequently compassion fatigue. As a result, the findings of the current study lend support to Klimecki and Singer's (2012) model of compassion fatigue, namely that negative feelings towards young people may lead to compassion fatigue. However, given that this study did not include any measures of empathy, the processes underlying negative emotional responses to young people (i.e. carer distress in response to empathy) could not be tested. As such, there may be an alternative explanation for why carers felt negatively towards young people, such as due to organizational pressures. Regardless

though, this study highlights the importance of carers' emotional responses to young people, specifically negative responses, in the development of compassion fatigue.

In further support of hypothesis 1 and 2, reflective functioning was found to buffer against the development of burnout and partially buffered against the development of traumatic stress (see Figure 1.19). Indeed, hypo-mentalizing ('too uncertain' reflective functioning) significantly mediated the association between negative emotions and compassion fatigue, whereby as carers' negative emotional responses to a young person increased, the likelihood of them experiencing burnout and traumatic stress increased, indirectly by decreasing their ability to mentalize (i.e. they became 'too uncertain' about others' mental states). As such, more genuine mentalizing (i.e. neither 'too certain' or 'too uncertain', where an individual can acknowledge the opaqueness of another's mental states) buffered against the development of compassion fatigue, which is supported by research demonstrating that better reflective functioning is associated with increased wellbeing and resilience (Bateman & Fonagy 2010; Yong Hee Kim, 2018).

Hyper-mentalising ('too certain' reflective functioning) on the other hand, was associated with the experience of burnout and traumatic stress in carers, but not as the author had predicted (see Figure 1.19). Indeed, 'too certain' reflective functioning (i.e. poorer reflective functioning) was associated with a decreased experience of compassion fatigue in carers and so buffered against the development of compassion fatigue. Moreover, hyper-mentalizing mediated the association between negative emotions and burnout (but not secondary traumatic stress), demonstrating that again, contrary to initial expectations, as negative emotions increased, carers'

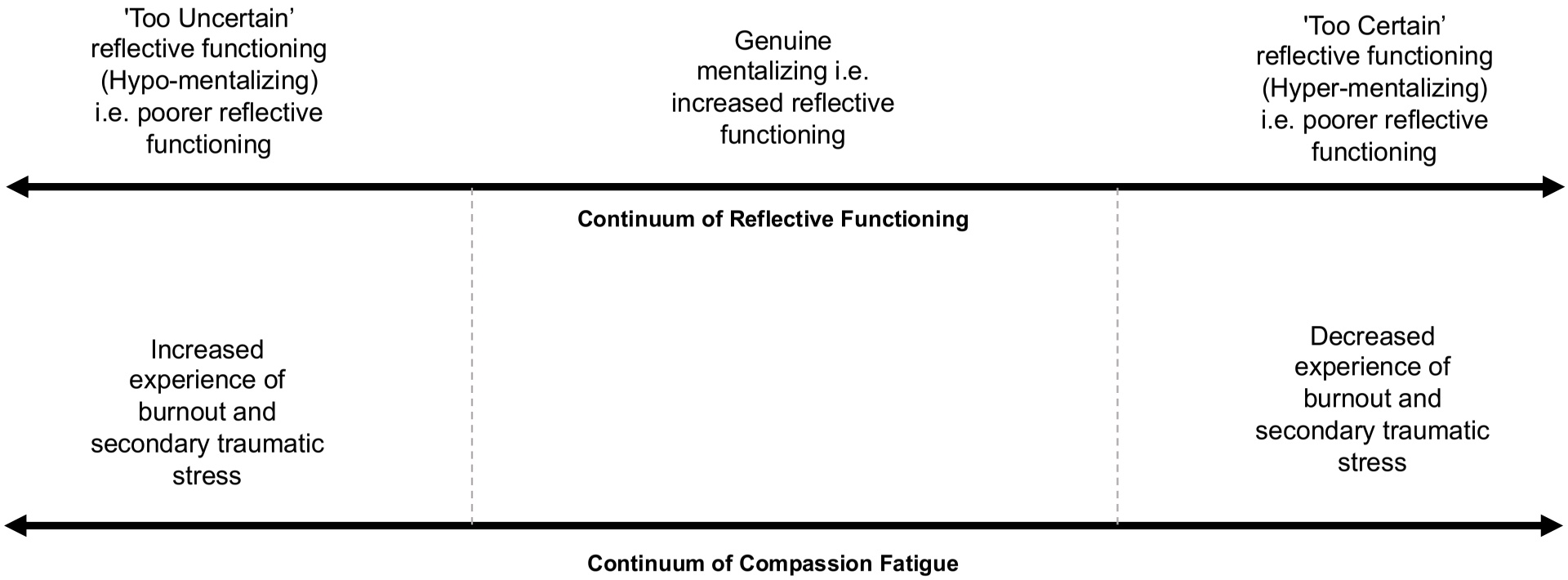


Figure 1.20. A representation of the association between carers' capacity for reflective functioning (as measured by the RFQ) and carers' experience of compassion fatigue (as measured by the ProQol) found in this study.

experience of burnout decreased indirectly by decreasing carers capacity to mentalize. This result was surprising. Indeed, whilst 'too uncertain' reflective functioning was associated with decreased wellbeing, 'too certain' reflective functioning was associated with increased wellbeing. These results are not in keeping with the literature on reflective functioning, which has established that impairments in mentalizing (both 'too uncertain' and 'too certain' reflective functioning) are associated with increased psychopathology (Fonagy & Bateman, 2008; Fossati et al., 2014; Lorenzini & Fonagy, 2013).

The use of the RFQ may account for the surprising result that impaired mentalizing (being too certain) was associating with increased wellbeing. Indeed, the RFQ is a measure that was designed to assess severe breakdowns in mentalizing, which are typically observed in clinical populations, such as individuals with features of borderline personality disorder (Bateman, Fonagy & FBA, 2019). As such, Bateman et al. (2019) advise that the RFQ may not be suitable for community samples. Therefore, the results obtained regarding carers' mentalizing capacity may not reflect their true ability to mentalize due to a lack of sensitivity in the RFQ. Certainly, other studies have questioned the validity of the hyper-mentalizing scale of the RFQ (Ghossain, 2014). Other measures which have been validated in non-clinical samples, such as the Mentalization Scale (Dimitrijević, Hanak, Altaras Dimitrijević, & Jolić Marjanović, 2018) may be useful for further investigating whether hyper-mentalizing is protective against the development of compassion fatigue in residential care workers.

Another explanation for the findings that 'too certain' reflective functioning (hyper-mentalizing) was associated with a decreased experience of compassion fatigue is that it may act as a psychological defence. Indeed, it is well established that

intolerance of uncertainty is a central component of many anxiety disorders (Carleton, 2012) and, as such, it is associated with decreased wellbeing (for a review see Strout et al., 2018). This would also fit with the findings in this study, that less uncertain reflective functioning was associated with increased wellbeing (i.e., burnout and secondary traumatic stress. In many cases where individuals' experience uncertainty, they are motivated to do things to gain certainty, to reduce feelings of anxiety (Wells, 2005). Given the potential unpredictability of caring for young people with severe behavioural, emotional and relational difficulties, it is likely that care workers have developed a way of managing uncertainty, by feeling more certain of others' mental states. In doing so, carers are likely to feel more in control, defending against anxiety, which may allow carers to maintain empathy, reducing the likelihood of blocked care (Geiger, Hayes & Lietz, 2013; Shofield & Beek, 2005). Indeed, by creating an environment of increased certainty and control, it is likely that carers create an environment for young people that also feels more certain and predictable, acting as external regulator, helping young people to develop self-regulation skills. Therefore, in the context of residential care work, 'too certain' reflective functioning may be a healthy defence. However, it is important to note that residential care workers' mean scores on the hyper-mentalizing scale in this study were still low, relative to other samples (Fonagy et al., 2016). Therefore, although carers were found to have some impairment in hyper-mentalizing, the impairment was not extreme. Consequently, this study highlights the importance of reflective functioning in potentially protecting carers; 'a little' certainty about the mental states of others appears to protect residential care workers from compassion fatigue when they feel negatively towards young people. Future research should examine whether 'too certain' reflective functioning (more

extreme scores on the hyper-mentalizing scale) continue to buffer against the development of compassion fatigue in care workers.

Whilst associations between negative emotions, reflective functioning and compassion fatigue were established in this study, no such significant associations were found with compassion satisfaction. Indeed, a non-significant negative relationship was found between negative emotional responses to young people and experience of compassion satisfaction. However, given the small sample size in this study, it may be that the study was underpowered and so unable to detect the effect.

In partial support of Hypothesis 4, increased attachment anxiety was predictive of capacity for reflective functioning in carers. Interestingly though, whilst attachment anxiety was predictive of hypo-mentalizing, it was not predictive of hyper-mentalising. Indeed, carers with higher levels of attachment anxiety were less likely to be 'too certain' about the mental states of others. Although this result is surprising, it would fit with the notion suggested in this study that some certainty regarding the mental states of others is protective in carers. Indeed, it would appear that carers with a more anxious attachment orientation are less able to develop the psychological defence of certainty, and thus are more likely to experience anxiety when caring for young people. Consequently, this study supports the idea that a greater attachment anxiety is a risk factor for poorer reflective functioning, and possibly poorer wellbeing in residential care workers.

4.2. Strengths of the Current Study

This is the first empirical study examining the role of mentalization in the development of compassion fatigue in residential care workers, from which a number of important clinical implications have arisen, which are discussed below. Moreover, despite there being a small sample in this study, attempts were made to increase the generalisability of findings by including residential care workers with a range of experiences from across the United Kingdom, which serves to increase confidence in the conclusions of this study.

4.3. Limitations of the Current Study

There are several further limitations that may limit confidence in the conclusions that have been drawn in this study. Firstly, the cross-sectional design used in this study means that firm causal conclusions regarding the interplay of negative emotional responses to young people, compassion fatigue and reflective functioning cannot be drawn. Indeed, although the mediation analyses conducted in the current study obtained results that were consistent with previous theoretical and empirical research, longitudinal study designs would be helpful in establishing causality in the mediation models proposed in the present study. Moreover, longitudinal research in this area may be beneficial in understanding how the experience of compassion fatigue influences further negative emotional responses towards young people.

Secondly, the low response rate and subsequent small sample size limit the confidence in the conclusions of the present study. Indeed, the present study hoped to recruit 71 residential care workers in order to obtain .8 power in mediated analyses (Fritz & MacKinnon, 2007), but only 40 carers provided complete responses to the

online survey. It was promising though, that despite the small sample, effects were detected in the mediation analyses, suggesting that the effects were moderate in size. Certainly though, the low response rate to the study was disappointing. Indeed, when considering the high levels of burnout and traumatic stress found in the current sample, it may have been that residential care workers who were experiencing compassion fatigue were more motivated to complete the study, and thus make up the majority of the sample. As such, the findings may not generalise to those care workers who are experiencing lower levels of compassion fatigue. The author went on to examine the partial responses of those carers who did not complete the online survey in an attempt to understand the low response rate. It became apparent that most non-completers exited the survey when they accessed questionnaires about their attachment style, indicating carers may have found these questions too personal, or may have been worried about who would access this data (i.e. their managers). This is despite the fact that all residential care workers were reminded that all of their responses were given anonymously. Perhaps in future research, further assurances could be given to reassure carers that their data would always remain confidential and anonymous.

A third limitation is that the study did not measure potential confounding variables, such as job demands, job control or job resources, which have been shown to be positively associated with compassion fatigue in residential care workers (Brouwers & Tomic, 2016; McFadden, Mallett, & Leiter, 2018). As such, it is unclear how much of the variance in the effect on compassion fatigue is due to negative emotional responses to young people. Future studies should measure work-related stress and control for this in any subsequent analyses examining the associations between negative emotions, compassion fatigue and reflective functioning.

4.4. Clinical Implications

The findings in the current study are consistent with the findings of other studies that have established high levels of burnout and symptoms of secondary traumatic stress amongst professionals working with individuals with trauma (Craig & Sprang, 2010; Sodeke-Gregson, Holttum, & Billings, 2013; Sprang, Craig & Clark, 2011). The notion that reflective functioning was found to mediate the association between carers' negative emotional responses to young people and experience of compassion fatigue in this study is promising though, as it implies that interventions which support residential care workers capacity to mentalize may be key in improving their wellbeing, and consequently their ability to care for young people with complex needs. This is in line with the NICE (2015) guidance for working with looked-after children, as they recommend that care workers should be encouraged to have reflective conversations with their supervisors in order to support the development of self-awareness and emotional resilience. Indeed, this study advocates the use of reflective practice groups and supervision, which have been shown to be effective in protecting carers from compassion fatigue (Frosch et al., 2018; Muskett, 2013; Pfaff et al., 2017; Smethers, 2012). In particular, it may be helpful to encourage residential care workers to reflect on how they feel towards a particular young person, particularly their negative feelings, as these have been implicated in the development of compassion fatigue here. Moreover, it may be beneficial for supervisors to be aware of young people who display more complex behavioural, emotional and relational difficulties, as carers are likely to develop increased negative feelings towards these young people.

Additionally, this study supports the development of mentalization-based training packages for residential care workers, to support their capacity for mentalizing. Certainly, interventions such as the mentalisation-based treatment skills (MBT-S) have been shown to be effective in changing healthcare professionals' views of clients, allowing them to maintain empathy (Welstead et al., 2018). Importantly though, this study has shown that residential care workers benefit from 'a little' certainty about the mental states of others, in protecting them from compassion fatigue. Therefore, healthcare professionals should be mindful of supporting residential care workers to develop their capacity to mentalize, as developing less certainty may break down psychological defences that carers' have developed to cope with the unpredictability of residential care. Indeed, some NICE (2015) recommended evidence-based approaches such as Dyadic Developmental Psychotherapy advocate 'empathic dialogue', where a carer is encouraged to wonder about the mental states of the child. Whilst empathic dialogue may be a useful strategy in promoting the wellbeing of young people, it may not be helpful for residential care workers, as wondering and therefore uncertainty may put carers at risk for developing compassion fatigue.

Finally, the findings of this study support the idea that an anxious attachment style is a vulnerability factor for poorer mentalizing. It may be helpful for supervisors and residential care workers to be aware of their own attachment style so that increased support can be given to these carers. However, given that carers in this study appeared to find questions about their attachment style difficult, this may be a challenge. Perhaps more open and honest dialogues within residential care services regarding how one's own personal experiences may affect their ability to care another need to happen, in order to create a more open and honest culture.

4.5. Future Directions

The present study has identified that 'too certain' reflective functioning protected residential care workers from compassion fatigue, whereas 'too uncertain' reflective functioning was predictive of compassion fatigue. Future research should aim to examine whether the patterns of reflective functioning identified in this study are unique to residential care workers, or whether impairments in reflective functioning buffer against the effects of stress in other helping professionals who care for individuals with behavioural, emotional and relational difficulties, such as social workers, psychologists and nursing staff. By identifying this, the value of mentalization-based approaches for helping professionals in preventing symptoms of burnout and traumatic stress can be further considered.

Additionally, given that this study focused on residential care workers experience of negative emotions, it may be useful to explore the impact of carers' positive emotional responses on compassion fatigue and compassion satisfaction. Indeed, positive emotional responses may partly underpin the development of compassion satisfaction and lead to compassionate care towards the other. Moreover, positive emotional responses may prevent the development of compassion fatigue.

4.6. Conclusion

In summary, residential care workers' capacity for mentalization has a significant role in mediating carers' experience of burnout and secondary traumatic

stress in response to feeling negatively towards the young people that they care for. Indeed, ‘too uncertain’ reflective functioning was predictive of compassion fatigue in carers, whereas ‘too certain’ reflective functioning actually buffered against the development of compassion fatigue. Moreover, attachment anxiety, rather than attachment avoidance was predictive of reflective functioning, and as such, may be a risk factor for carers developing symptoms of burnout and secondary traumatic stress. These findings argue for the implementation of reflective practice and mentalization-based training focused on enabling carers to feel more certain about the mental states of those that they care for.

List of References

Andreychik, M. R. (2019). Feeling your joy helps me to bear feeling your pain: Examining associations between empathy for others' positive versus negative emotions and burnout. *Personality and Individual Differences*, *137*, 147-156.

Andreychik, M. R., & Migliaccio, N. (2015). Empathizing with others' pain versus empathizing with others' joy: examining the separability of positive and negative empathy and their relation to different types of social behaviors and social emotions. *Basic and Applied Social Psychology*, *37*(5), 274-291.

Audin, K., Burke, J., & Ivtzan, I. (2018). Compassion fatigue, compassion satisfaction and work engagement in residential child care. *Graham Connelly*, *17*(3), 5.

Baer, T. E., Feraco, A. M., Sagalowsky, S. T., Williams, D., Litman, H. J., & Vinci, R. J. (2017). Pediatric resident burnout and attitudes toward patients. *Pediatrics*, *139*(3), e20162163.

Barnett, M. D., & Ruiz, I. A. (2018). Psychological distress and compassion fatigue among hospice nurses: The mediating role of self-esteem and negative affect. *Journal of palliative medicine*, *21*(10), 1504-1506.

Barton, S., Gonzalez, R., & Tomlinson, P. (2012). *Therapeutic residential care for children and young people*. London: Jessica Kingsley Publishers.

Bateman, A., & Fonagy, P. (2010). Mentalization based treatment for borderline personality disorder. *World psychiatry*, *9*(1), 11.

Bateman, A. W., Fonagy, P., & FBA, F. (Eds.). (2019). *Handbook of mentalizing in mental health practice*. American Psychiatric Pub.

Beauvais, A., Andreychik, M., & Henkel, L. A. (2017). The role of emotional intelligence and empathy in compassionate nursing care. *Mindfulness & Compassion*, *2*(2), 92-100.

Brennan, K. A., Clark, C. L., & Shaver, P. R. (1998). Self-report measurement of adult attachment: An integrative overview. In J. A. Simpson & W. S. Rholes (Eds.), *Attachment theory and close relationships* (pp. 46–76). New York: Guilford Press.

Bride, B. E., Radey, M., & Figley, C. R. (2007). Measuring compassion fatigue. *Clinical social work journal*, *35*(3), 155-163.

Bronsard, G., Alessandrini, M., Fond, G., Loundou, A., Auquier, P., Tordjman, S., & Boyer, L. (2016). The prevalence of mental disorders among children and adolescents in the child welfare system: A systematic review and meta-analysis. *Medicine*, *95*(7).

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.

Bullock, R., Clough, R., & Ward, A. (2006). *What Works in Residential Child Care: A review of research evidence and the practical considerations*. Jessica Kingsley Publishers.

Cameron, R. J., & Maginn, C. (2008). Professional childcare: The authentic warmth dimension. *British Journal of Social Work*, *38*(6), 1151-72.

Carleton, R. N. (2012). The intolerance of uncertainty construct in the context of anxiety disorders: Theoretical and practical perspectives. *Expert Review of Neurotherapeutics, 12*(8), 937-947.

Chen, J. Y. (2011). Problem-based learning: developing resilience in nursing students. *The Kaohsiung journal of medical sciences*, *27*(6), 230-233.

Cherry, M. G., Fletcher, I., O'Sullivan, H., & Dornan, T. (2014). Emotional intelligence in medical education: a critical review. *Medical education*, *48*(5), 468-478.

Coetzee, S. K., & Laschinger, H. K. (2018). Toward a comprehensive, theoretical model of compassion fatigue: A n integrative literature review. *Nursing & health sciences*, *20*(1), 4-15.

Cologon, J., Schweitzer, R. D., King, R., & Nolte, T. (2017). Therapist reflective functioning, therapist attachment style and therapist

effectiveness. *Administration and Policy in Mental Health and Mental Health Services Research*, *44*(5), 614-625.

Colton, M., & Roberts, S. (2007). Factors that contribute to high turnover among residential child care staff. *Child & Family Social Work*, *12*(2), 133-142.

Cook, A., Spinazzola, J., Ford, J., Lanktree, C., Blaustein, M., Cloitre, M., ... & Mallah, K. (2017). Complex trauma in children and adolescents. *Psychiatric annals*, *35*(5), 390-398.

Craig, C. D., & Sprang, G. (2010). Compassion satisfaction, compassion fatigue, and burnout in a national sample of trauma treatment therapists. *Anxiety, Stress, & Coping*, *23*(3), 319-339.

Crawford, J. R., & Henry, J. D. (2004). The Positive and Negative Affect Schedule (PANAS): Construct validity, measurement properties and normative data in a large non-clinical sample. *British journal of clinical psychology*, *43*(3), 245-265.

Decety, J., & Jackson, P. L. (2006). A social-neuroscience perspective on empathy. *Current directions in psychological science*, *15*(2), 54-58.

Decety, J., & Lamm, C. (2009). Empathy versus personal distress: Recent evidence from social neuroscience. In J. Decety & W. Ickes (Eds.), *The social neuroscience of empathy* (pp. 199–213). Cambridge, MA: The MIT Press.

De La Rosa, G. M., Webb-Murphy, J. A., Fesperman, S. F., & Johnston, S. L. (2018). Professional quality of life normative benchmarks. *Psychological Trauma: Theory, Research, Practice, and Policy*, *10*(2), 225.

Dimitrijević, A., Hanak, N., Altaras Dimitrijević, A., & Jolić Marjanović, Z. (2018). The Mentalization Scale (MentS): A self-report measure for the assessment of mentalizing capacity. *Journal of personality assessment, 100*(3), 268-280.

Driscoll, K., & Pianta, R. C. (2011). Mothers' and fathers' perceptions of conflict and closeness in parent-child relationships during early childhood. *Journal of Early Childhood and Infant Psychology*, *7*, 1-25.

Dyer, W. J., Kaufman, R., & Fagan, J. (2017). Father–child closeness and conflict: Validating measures for nonresident fathers. *Journal of Family Psychology*, *31*(8), 1074.

Eastwood, C. D., & Ecklund, K. (2008). Compassion fatigue risk and self-care practices among residential treatment center childcare workers. *Residential Treatment for Children & Youth*, *25*(2), 103-122.

Edward, K. L., & Hercelinskyj, G. (2007). Burnout in the caring nurse: learning resilient behaviours. *British Journal of Nursing*, *16*(4), 240-242.

Farmer, E., Lipscombe, J., & Moyers, S. (2005). Foster carer strain and its impact on parenting and placement outcomes for adolescents. *British Journal of Social Work*, *35*(2), 237-253.

Farris, J. L. (2017). *Examining Differences Between Foster Parents Who Continue to Foster Children and Those Who Do Not.* (Unpublished doctoral dissertation). Walden University. Retrieved from https://scholarworks.waldenu.edu/cgi/viewcontent.cgi?referer=https://scholar.google.co.uk/scholar?start=30&q=cprs+foster+children&hl=en&as_sdt=0,5&httpsredir=1&article=5089&context=dissertations.

Figley, C. R. (1995). Compassion fatigue as secondary traumatic stress disorder: An overview. In C. R. Figley (Ed.), *Compassion fatigue: Coping with secondary traumatic stress disorder in those who treat the traumatized.* New York: Brunner-Routledge.

Figley, C. R. (2002). Compassion fatigue: Psychotherapists' chronic lack of self care. *Journal of clinical psychology*, *58*(11), 1433-1441.

Fisher, P. A. (2015). Adoption, fostering, and the needs of looked-after and adopted children. *Child and adolescent mental health*, *20*(1), 5-12.

Fonagy, P. (2018). *Affect regulation, mentalization and the development of the self*. Routledge.

Fonagy, P., & Bateman, A. (2008). The development of borderline personality disorder—A mentalizing model. *Journal of personality disorders*, *22*(1), 4-21.

Fonagy, P., & Target, M. (2006). The mentalization-focused approach to self pathology. *Journal of personality disorders*, *20*(6), 544-576.

Fonagy, P., Target, M., Steele, H., & Steele, M. (1998). Reflective-functioning manual, version 5.0, for application to adult attachment interviews. *London: University College London*, 161-2.

Fonagy, P., Luyten, P., Moulton-Perkins, A., Lee, Y. W., Warren, F., Howard, S., ... & Lowyck, B. (2016). Development and validation of a self-report measure of mentalizing: The reflective functioning questionnaire. *PLoS One*, *11*(7), e0158678.

Fossati, A., Feeney, J., Maffei, C., & Borroni, S. (2014). Thinking about feelings: Affective state mentalization, attachment styles, and borderline personality disorder features among Italian nonclinical adolescents. *Psychoanalytic psychology*, *31*(1), 41.

Fraley, R. C., Waller, N. G., & Brennan, K. A. (2000). An item response theory analysis of self-report measures of adult attachment. *Journal of personality and social psychology*, *78*(2), 350.

Fritz, M. S., & MacKinnon, D. P. (2007). Required sample size to detect the mediated effect. *Psychological science*, *18*(3), 233-239.

Frosch, C. A., Varwani, Z., Mitchell, J., Caraccioli, C., & Willoughby, M. (2018). Impact of reflective supervision on early childhood interventionists' perceptions of self-efficacy, job satisfaction, and job stress. *Infant mental health journal*, *39*(4), 385-395.

Gilbert, P. (Ed.). (2005). *Compassion: Conceptualisations, research and use in psychotherapy*. Routledge.

Glennon, A., Pruitt, D. K., & Rouland Polmanteer, R. S. (2019). Integrating self-care into clinical practice with trauma clients. *Journal of Human Behavior in the Social Environment*, *29*(1), 48-56.

Greeson, J. K., Briggs, E. C., Kisiel, C. L., Layne, C. M., Ake, G. S., Ko, S. J., & Fairbank, J. A. (2011). Complex trauma and mental health in children and adolescents placed in foster care: Findings from the National Child Traumatic Stress Network. *Child welfare*, *90*(6), 91-108.

Hannah, B., & Woolgar, M. (2018). Secondary trauma and compassion fatigue in foster carers. *Clinical child psychology and psychiatry*, *23*(4), 629-643.

Hardle, W., & Marron, J. S. (1991). Bootstrap simultaneous error bars for nonparametric regression. *The Annals of Statistics*, 778-796.

Hee Kim, Y. (2018). The Relationship between Negative Affect-Intensity and Depression: Moderated Mediating Effect of Self-Compassion through Non-Mentalization. *Korean Journal of Stress Research*, *26*(3), 201-207.

Holmqvist, R., & Jeanneau, M. (2006). Burnout and psychiatric staff's feelings towards patients. *Psychiatry Research*, *145*(2-3), 207-213.

Hunsaker, S., Chen, H. C., Maughan, D., & Heaston, S. (2015). Factors that influence the development of compassion fatigue, burnout, and compassion satisfaction in emergency department nurses. *Journal of Nursing Scholarship*, *47*(2), 186-194.

IBM Corp. (2017). IBM SPSS Statistics for Windows. Armonk, NY: IBM Corp.

Ibrahim, J., Cosgrave, N., & Woolgar, M. (2018). Childhood maltreatment and its link to borderline personality disorder features in children: A systematic review approach. *Clinical child psychology and psychiatry*, *23*(1), 57-76.

Ironside, L. (2012). Meeting of minds: using the Tavistock model of child observation and reflective group work in the advanced training of foster carers. *Adoption & Fostering*, *36*(2), 29-42.

Katznelson, H. (2014). Reflective functioning: A review. *Clinical psychology review*, *34*(2), 107-117.

Klama, E. K. (2015). *Beliefs, attachment style and secondary trauma as predictors of burnout in care staff for looked after children* (Unpublished doctoral dissertation, Staffordshire University). Retrieved from http://eprints.staffs.ac.uk/2247/1/Klama%2C%20Eve%20Katrin.pdf.

Klimecki, O., & Singer, T. (2012). Empathic distress fatigue rather than compassion fatigue? Integrating findings from empathy research in psychology and social neuroscience. *Pathological altruism*, 368-383.

Kinman, G., & Grant, L. (2010). Exploring stress resilience in trainee social workers: The role of emotional and social competencies. *The British Journal of Social Work*, *41*(2), 261-275.

Kokkonen, T. M., Cheston, R. I., Dallos, R., & Smart, C. A. (2014). Attachment and coping of dementia care staff: The role of staff attachment style, geriatric nursing self-efficacy, and approaches to dementia in burnout. *Dementia, 13*(4), 544-568.

Lawrence, E. J., Shaw, P., Baker, D., Baron-Cohen, S., & David, A. S. (2004). Measuring empathy: reliability and validity of the Empathy Quotient. *Psychological medicine*, *34*(5), 911-920.

Leathers, Sonya J., Jill E. Spielfogel, Jennifer Geiger, James Barnett, and Beth L. Vande Voort. "Placement disruption in foster care: Children's behavior, foster

parent support, and parenting experiences." *Child abuse & neglect 91* (2019): 147-159.

Ledoux, K. (2015). Understanding compassion fatigue: understanding compassion. *Journal of advanced nursing*, *71*(9), 2041-2050.

Lorenzini, N., & Fonagy, P. (2013). Attachment and personality disorders: A short review. *Focus*, *11*(2), 155-166.

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.

Lutz, G., Scheffer, C., Edelhaeuser, F., Tauschel, D., & Neumann, M. (2013). A reflective practice intervention for professional development, reduced stress and improved patient care—a qualitative developmental evaluation. *Patient education and counseling, 92*(3), 337-345.

Mann, K., Gordon, J., & MacLeod, A. (2009). Reflection and reflective practice in health professions education: a systematic review. *Advances in health sciences education*, *14*(4), 595.

Maslach, C., & Jackson, S. E. (1981). The measurement of experienced burnout. *Journal of organizational behavior*, *2*(2), 99-113.

McCain, R. S., McKinley, N., Dempster, M., Campbell, W. J., & Kirk, S. J. (2018). A study of the relationship between resilience, burnout and coping strategies in doctors. *Postgraduate medical journal*, *94*(1107), 43-47.

McDonald, G., Jackson, D., Wilkes, L., & Vickers, M. H. (2012). A work-based educational intervention to support the development of personal resilience in nurses and midwives. *Nurse Education Today*, *32*(4), 378-384.

McFadden, P., Mallett, J., & Leiter, M. (2018). Extending the two-process model of burnout in child protection workers: The role of resilience in mediating burnout via organizational factors of control, values, fairness, reward, workload, and community relationships. *Stress and Health, 34*(1), 72-83.

Miller, B., & Sprang, G. (2017). A components-based practice and supervision model for reducing compassion fatigue by affecting clinician experience. *Traumatology*, *23*(2), 153.

Morelli, S. A., Rameson, L. T., & Lieberman, M. D. (2012). The neural components of empathy: predicting daily prosocial behavior. *Social cognitive and affective neuroscience*, *9*(1), 39-47.

Morgan, K., & Baron, R. (2011). Challenging behaviour in looked after young people, feelings of parental self-efficacy and psychological well-being in foster carers. *Adoption & fostering*, *35*(1), 18-32.

Muskett, C. (2014). Trauma-informed care in inpatient mental health settings: A review of the literature. *International journal of mental health nursing*, *23*(1), 51-59.

National Institute for Health and Care Excellence. (2015). *Looked-after children and young people* (NICE Public Health Guideline No. 28). Retrieved from https://www.nice.org.uk/guidance/PH28.

O'Sullivan, H., & Dornan, T. (2014). Emotional intelligence in medical education: a critical review. *Medical education*, *48*(5), 468-478.

Pfaff, K. A., Freeman-Gibb, L., Patrick, L. J., DiBiase, R., & Moretti, O. (2017). Reducing the “cost of caring” in cancer care: Evaluation of a pilot interprofessional compassion fatigue resiliency programme. *Journal of interprofessional care*, *31*(4), 512-519.

Preacher, K. J., & Hayes, A. F. (2004). SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behavior research methods, instruments, & computers*, *36*(4), 717-731.

Preacher, K. J., & Hayes, A. F. (2008). Assessing mediation in communication research. *The Sage sourcebook of advanced data analysis methods for communication research*, 13-54.

Preacher, K. J., Rucker, D. D., & Hayes, A. F. (2007). Addressing moderated mediation hypotheses: Theory, methods, and prescriptions. *Multivariate behavioral research*, *42*(1), 185-227.

Price, A. (2004). Encouraging reflection and critical thinking in practice. *Nursing Standard*, *18*(47), 46-55.

Pross, C. (2006). Burnout, vicarious traumatization and its prevention. *Torture*, *16*(1), 1-9.

Ray, S. L., Wong, C., White, D., & Heaslip, K. (2013). Compassion satisfaction, compassion fatigue, work life conditions, and burnout among frontline mental health care professionals. *Traumatology*, *19*(4), 255-267.

Redfern, S., Wood, S., Lassri, D., Cirasola, A., West, G., Austerberry, C., ... & Midgley, N. (2018). The Reflective Fostering Programme: background and development of a new approach. *Adoption & Fostering*, *42*(3), 234-248.

Rock, S., Michelson, D., Thomson, S., & Day, C. (2013). Understanding foster placement instability for looked after children: A systematic review and narrative synthesis of quantitative and qualitative evidence. *British Journal of Social Work*, *45*(1), 177-203.

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.

Schofield, G., & Beek, M. (2005). Risk and resilience in long-term foster-care. *British Journal of Social Work, 35(*8), 1283-1301.

Schön, D. A. (1983). *The reflective practitioner: How professionals think in action*. Routledge.

Selwyn, J., Golding, K., Alper, J., Gurney-Smith, B., & Hewitt, O. (2016). *A Quantitative and Qualitative Evaluation of the Nurturing Attachments Group Programme*. Retrieved from http://www.adoptionplus.co.uk/userassets/12763_AdoptionPlus_Summary_Report_Digital917144.pdf.

Selwyn, J., Staines, J., & Golding, K. (2019). Nurturing Attachments Parenting Programme: The relationship between adopters' parental reflective functioning and perception of their children's difficulties. *Developmental Child Welfare*.

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

Showalter, S. E. (2010). Compassion fatigue: What is it? Why does it matter? Recognizing the symptoms, acknowledging the impact, developing the tools to prevent compassion fatigue, and strengthen the professional already suffering from the effects. *American Journal of Hospice and Palliative Medicine®*, *27*(4), 239-242.

Siegel, D. J., & Bryson, T. P. (2012). *The whole-brain child: 12 revolutionary strategies to nurture your child's developing mind*. Bantam.

Singer, T., & Lamm, C. (2009). The social neuroscience of empathy. *Annals of the New York Academy of Sciences*, *1156*(1), 81-96.

Smethers, S. R. (2012). *Organizational culture, supervision, and employee burnout: A study of residential treatment facilities concerning direct care staff* (Doctoral dissertation, Purdue University).

Sprang, G., Craig, C., & Clark, J. (2011). Secondary traumatic stress and burnout in child welfare workers: a comparative analysis of occupational distress across professional groups. *Child welfare, 90*(6).

Sodeke-Gregson, E. A., Holttum, S., & Billings, J. (2013). Compassion satisfaction, burnout, and secondary traumatic stress in UK therapists who work with adult trauma clients. *European journal of psychotraumatology, 4*(1), 21869.

Stamm, B. H. (2005). The ProQOL manual: The professional quality of life scale: Compassion satisfaction, burnout & compassion fatigue/secondary trauma scales. *Baltimore, MD: Sidran*.

Stamm, B. (2010). The concise manual for the professional quality of life scale. Pocatello, ID: ProQOLorg.

Strauss, C., Taylor, B. L., Gu, J., Kuyken, W., Baer, R., Jones, F., & Cavanagh, K. (2016). What is compassion and how can we measure it? A review of definitions and measures. *Clinical psychology review*, *47*, 15-27.

Strout, T. D., Hillen, M., Gutheil, C., Anderson, E., Hutchinson, R., Ward, H., ... & Han, P. K. (2018). Tolerance of uncertainty: a systematic review of health and healthcare-related outcomes. *Patient education and counseling, 101*(9), 1518-1537.

Tarren-Sweeney, M. (2007). The Assessment Checklist for Children—ACC: A behavioral rating scale for children in foster, kinship and residential care. *Children and Youth Services Review*, *29*(5), 672-691.

Tarren-Sweeney, M. (2013). The Assessment Checklist for Adolescents—ACA: A scale for measuring the mental health of young people in foster, kinship, residential and adoptive care. *Children and Youth Services Review*, *35*(3), 384-393.

Teyhan, A., 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.

Truter, E., & Fouché, A. (2015). Reflective supervision: Guidelines for promoting resilience amongst designated social workers. *Social Work*, *51*(2), 221-243.

Turgoose, D., & Maddox, L. (2017). Predictors of compassion fatigue in mental health professionals: A narrative review. *Traumatology*, *23*(2), 172.

Wagaman, M. A., Geiger, J. M., Shockley, C., & Segal, E. A. (2015). The role of empathy in burnout, compassion satisfaction, and secondary traumatic stress among social workers. *Social work*, *60*(3), 201-209.

Walker, S. (1996). Reflective practice in the accident and emergency setting. *Accident and emergency nursing*, *4*(1), 27-30.

Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: the PANAS scales. *Journal of personality and social psychology*, *54*(6), 1063.

Wei, M., Russell, D. W., Mallinckrodt, B., & Vogel, D. L. (2007). The Experiences in Close Relationship Scale (ECR)-short form: Reliability, validity, and factor structure. *Journal of personality assessment*, *88*(2), 187-204.

Wells, A. (2005). Generalized anxiety disorder. In *Encyclopedia of cognitive behavior therapy* (pp. 195-198). Springer, Boston, MA.

Welstead, H. J., Patrick, J., Russ, T. C., Cooney, G., Mulvenna, C. M., Maclean, C., & Polnay, A. (2018). Mentalising skills in generic mental healthcare settings: can we make our day-to-day interactions more therapeutic*?. BJPsych bulletin, 42*(3), 102-108.

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.

Whittaker, J. K., Del Valle, J. F., & Holmes, L. (2015). The current landscape of therapeutic residential care. *Therapeutic Residential Care for Children and Youth: Developing Evidence-Based International Practice.* Philadelphia: Jessica Kingsley Publishers.

Wilkinson, H., Whittington, R., Perry, L., & Eames, C. (2017). Examining the relationship between burnout and empathy in healthcare professionals: A systematic review. *Burnout Research*, *6*, 18-29.

Wilson, K., Sinclair, I., & Gibbs, I. (2000). The trouble with foster care: The impact of stressful 'events' on foster carers. *British Journal of Social Work*, *30*(2), 193-209.

Winstanley, S., & Hales, L. (2014). A preliminary study of burnout in residential social workers experiencing workplace aggression: Might it be cyclical?. *British Journal of Social Work*, *45*(1), 24-33.

Zerach, G. (2013). Compassion fatigue and compassion satisfaction among residential child care workers: The role of personality resources. *Residential Treatment for Children & Youth*, *30*(1), 72-91.

CHAPTER THREE

PUBLIC DISSEMINATION DOCUMENT

SUPPORTING CARERS WHO CARE FOR CHILDREN AND YOUNG PEOPLE WHO ARE LOOKED AFTER

Supervised by:
Dr G. Urquhart Law

SUPPORTING CARERS WHO CARE FOR CHILDREN AND YOUNG PEOPLE WHO ARE LOOKED AFTER

Child maltreatment is a global phenomenon. A report by The World Health Organisation (WHO, 2017) estimates that 1 in 4 children have experienced abuse and/or neglect. Given the devastating effects that abuse, and neglect can have on child development, it is common practice for children to be removed from their birth family and placed into foster or residential care or adopted by a family, all of which aim to offer a nurturing environment. However, children in care remain at an increased risk of developing relational, behavioural and emotional problems which can be incredibly stressful and difficult for carers to manage. This report summarises two pieces of research, which aim to understand how carers can be better supported in order to promote their wellbeing. The first piece of research is a review, which brings together all of the available evidence on a promising intervention for foster and adoptive families: attachment-based interventions. The second is a research study which examines factors that may improve the wellbeing of residential care workers who look after children who have been placed into residential care.

Literature Review: The Effectiveness of Attachment-Based Interventions with Foster and Adoptive Families

Background. Children who have been fostered or adopted often display challenging behaviour due to experiences of abuse and neglect. Children's' behaviour can be very difficult for foster and adoptive carers to manage. Often, when their behaviour becomes too difficult, placements can breakdown, where young people are

placed with different carers. Placement breakdown has been shown to be linked with poor psychosocial development in young people (Teyhan, Wijedsa & Macleod, 2018). It is therefore important to prevent placement breakdown by helping foster and adoptive carers manage young peoples' behaviour. It has been suggested that interventions which focus on developing the relationship between the carer and the child, termed 'attachment-based interventions' may be helpful in improving foster and adoptive children's' behaviour (Kerr & Cossar, 2014).

Method. Research databases were searched to identify all of the available studies that have tested the effectiveness of attachment-based interventions with foster and adoptive families. To bring together all of the findings, a statistical technique called *meta-analysis* was used. In total, 32 studies were included in the review.

Main results. The reviewed studies tested the effectiveness of attachment-based interventions on improving foster and adoptive children's relational, behavioural and emotional difficulties. Overall, the findings for attachment-based interventions were promising, as small to moderate improvements were found on children's relational, behavioural and emotional functioning. Interventions that were delivered individually were more effective than those that were delivered in a group. A number of limitations were identified (e.g. small number of carers in some studies).

Conclusions. This review builds upon the growing evidence base that attachment-based interventions with foster and adoptive families are effective in improving foster and adoptive children's wellbeing. Social work agencies and child and adolescent mental health teams would benefit from offering attachment-based interventions to foster and adoptive families, particularly in an individual format. However, given that group interventions were also effective in improving children's

wellbeing, it may be more cost-effective for services to offer group interventions initially, followed by individual interventions if more intensive support is needed to support carers.

Research Study: The Role of Reflective Thinking in the Wellbeing of Residential Care Workers

Background. Residential care work is an emotionally demanding profession. Indeed, residential care workers are expected to manage challenging behaviour from young people, which can lead carers to experience a negative emotional state called *compassion fatigue*, which is characterised by high stress and decreased empathy for others. Some studies have suggested that carers develop compassion fatigue when they feel negatively towards the young people they care for (Klimecki & Singer, 2012). Other studies have suggested that *mentalization*, which refers to an individual's ability to understand that others have different thoughts and feelings to them, can protect carers from developing compassion fatigue (Fonagy, 2018). Finally, other research suggests that an *anxious attachment style*, where individuals are concerned with being rejected by others (Crittenden, 2006), is a risk factor for poor mentalization. This study aimed to understand how compassion fatigue develops in residential care workers, as it can affect carers ability to care for young people.

Method. 40 residential care workers who care for children who are placed in residential care completed an online survey. The questionnaires in the survey measured residential care workers' wellbeing, attachment style and ability to reflect. The questionnaires also asked residential care workers to think about a particular

young person who they found challenging to care for, and think about how they felt towards them emotionally, as well as their perceptions of that young person's behaviour.

Main results. Predictions were partially supported by the findings that:

1. Carers were more likely to experience compassion fatigue if they felt negative feelings towards a young person they cared for, and the extent to which they experienced compassion fatigue was explained by carers' ability to mentalize.
2. Carers were more likely to experience negative feelings towards young people if young people displayed challenging behaviour.
3. Carers who had an anxious attachment style were more likely to be poorer at mentalizing.

Conclusions. These findings support the theory that negative feelings towards young people are important in the development of compassion fatigue in residential care workers. The findings also suggest that mentalizing may protect carers from developing compassion fatigue. Therefore, encouraging residential care workers to reflect on their feelings towards young people through training, supervision or reflective practice may be beneficial in promoting carers' wellbeing. Specifically, such support should be offered to carers who have an anxious attachment style as they are at increased risk of being poorer at mentalizing.

List of References

Crittenden, P. M. (2006). A dynamic-maturational model of attachment. *Australian and New Zealand Journal of Family Therapy*, *27*(2), 105-115.

Fonagy, P. (2018). *Affect regulation, mentalization and the development of the self*. Routledge.

Kerr, L., & Cossar, J. (2014). Attachment Interventions with Foster and Adoptive Parents: A Systematic Review. *Child Abuse Review, 23*(6), 426-439.

Klimecki, O., & Singer, T. (2012). Empathic distress fatigue rather than compassion fatigue? Integrating findings from empathy research in psychology and social neuroscience. *Pathological altruism*, 368-383.

Teyhan, A., 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.

World Health Organization. (2017). *Child Maltreatment* [PDF file]. Retrieved from https://www.who.int/violence_injury_prevention/violence/child/Child_maltreatment_infographic_EN.pdf

Appendices

References for Appendix A:

Fonagy, P., Luyten, P., Moulton-Perkins, A., Lee, Y.W., Warren, F., Howard, S. (2016). Development and validation of a self-report measure of mentalizing: The Reflective Functioning Questionnaire. *PLOS ONE, 11.* doi: 10.1371/journal.pone.0158678.

Hudnall Stamm, B. (2009). *Professional Quality of Life: Compassion Satisfaction and Fatigue Version 5 (ProQOL).* Retrieved from http://www.isu.edu/~bhstamm.

Pianta, R.C. (1992). Child-parent relationship scale. Unpublished measure, University of Virginia.

Tarren-Sweeney, M. (2007). The Assessment Checklist for Children – ACC: A behavioral rating scale for children in foster, residential and kinship care. *Children and Youth Services Review*, *29,* 672-691.

Tarren-Sweeney, M. (2013). The Assessment Checklist for Adolescents – ACA: A scale for measuring the mental health of young people in foster, kinship, residential and adoptive care. *Children and Youth Services Review,* 35, 348-393.

Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology*, 54, 1063-1070.

Wei, M., Russell, D. W., Mallinckrodt, B., & Vogel, D. L. (2007). The experiences in Close Relationship Scale (ECR)-Short Form: Reliability, validity, and factor structure. *Journal of Personality Assessment, 88,* 187-204.

Appendix B: Letter of Ethical Approval

Dear Dr Law

Re: "Stress and wellbeing in carers of young people looked after"
Application for Ethical Review ERN_17-0855

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 bought 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 athttps://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

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Appendix C: Information Sheet

UNIVERSITY OF BIRMINGHAM

INFORMATION SHEET
Wellbeing in carers of young people looked after

My name is Emily Dunn and I am currently doing a doctorate in clinical psychology at the University of Birmingham. I am conducting research into the wellbeing of residential care workers who care for looked after children.

I would like to invite residential care workers to take part in this research study. Before you decide whether or not you would like to participate, please take time to read the information sheet provided carefully. Talk to others about the study if you wish, or ask us if anything is not clear or if you would like more information (see below for contact details).

What is the purpose of the study?

The aim of this study is to understand wellbeing in residential care workers who care for looked after children. In particular, we are interested in how interactions between residential care workers, young people and their organisation change the experience of wellbeing, and factors that may increase an individual's resilience. This study is being run as part of a doctoral research project at the University of Birmingham.

Why have I been invited to take part?

You have been approached to take part in this study because we are interested in the experiences of residential care workers who care for looked after children, with varying amounts of experience. We aim to recruit approximately 70 residential care workers.

What will happen to me if I agree to take part?

If you agree to take part in this study, you will be given a unique participant code and asked to complete a series of questionnaires through an online web-survey. These will ask you questions about how you have been feeling recently, your relationships with some important people in your life, and your experiences in your current job. These questionnaires should take 30 minutes to complete. Your responses will be made anonymously. No one from your organisation will know your individual responses.

To thank you for your participation, you can choose to submit your email address in order to be entered into a prize draw to win prizes of £50, £20 and £10 of amazon vouchers.

What will happen if I do not want to carry on with the study?

You do not have to take part in this study and you are free to withdraw from the study at any time up until 1st March 2019. If you would like to withdraw your data from the study, please contact the researcher (please see contact details below) and quote your unique code given to you during the study. If you decide to withdraw, you do not have to give a reason and it will have no effect on your rights. If you choose to withdraw your data from the study, you will still be eligible for the prize draw.

What are the benefits of taking part in this study?

It is unlikely that you will receive any immediate personal benefit from participating in this research. However, it is hoped that this study will provide an evidence-base for the development of effective support programmes for residential carers.

What are the disadvantages of taking part in this study?

Some of the questionnaires ask about your wellbeing. At the end of the study you will be given a number of help and support organisations, which you may find useful.

What will happen to the results of the research study?

The data we collect will be used in the strictest confidence, and no identifying information will be stored, to safeguard your confidentiality and ensure anonymity. The data will be stored on a secure server for 5 years, which only the researchers will have access to. The University of Birmingham may need access to information for the monitoring of research.

The study findings will be written up in a thesis and in a report, that will be shared with you through your organisation. Results will be presented in such a way that individual data will not be identifiable.

What now?

If after reading this information sheet you are interested in participating in the research, please click the URL link and complete the online survey.

If you would like to discuss any aspect of this research, or have any concerns, please contact the chief investigator:

Contact details: Emily Dunn
Supervisor: Dr Gary Law
Address: University of Birmingham, School of Psychology, Birmingham, B15 2TT
Telephone No:
E-mail:

If you would like to speak to someone independent to the research, please contact Dr Chris Jones [redacted]

Appendix D: Consent Form

UNIVERSITY OF BIRMINGHAM

CONSENT FORM

Title of Project: Wellbeing in carers of young people looked after

Researcher: Emily Dunn

Please tick box

1. I confirm that I have understood the information sheet dated October 2018 for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily. ☐

2. I understand that my participation is voluntary and that I am free to withdraw at any time during the research interview, without giving any reason, without my medical care or legal rights being affected. ☐

3. I understand that the data collected during this study will be looked at by the researcher and relevant others at the University of Birmingham to ensure that the analysis is a fair and reasonable representation of the data, but that my responses will be anonymised and cannot be linked to me. ☐

4. I agree to take part in the above study. ☐

Appendix E: Debrief Sheet

UNIVERSITY OF BIRMINGHAM

Thank you for taking part in this survey, we appreciate your time and effort!

I am interested in the wellbeing of residential care workers who care for looked after children. In particular, I am exploring the experience of stress in care workers, and factors that may increase their resilience. Through this research I hope that we will gain some further understanding of residential care workers' experiences so that they can be better supported in future through training and supervision.

If you have any questions or queries about the research, please don't hesitate to contact Emily Dunn (exd674@student.bham.ac.uk). A summary of the results of the research will be available from your clinical lead within your organisation in Summer 2019.

Signposting

If you think that you might be experiencing stress, don't worry. Stress is a normal response and there's a lot of support out there to help you if you are finding it difficult to cope. The following websites have information that may be helpful to you:

- **www.stress.org.uk** provides helpful resources on coping with stress
- **www.isma.org.uk** provides helpful resources on coping with stress
- **www.rethink.org** provides advice and support on dealing with mental health difficulties
- **www.mind.org.uk** provides advice and support on dealing with mental health difficulties
- **www.samaritans.org** provides confidential support, 24 hours a day (08457 90 90 90).

If this survey has raised concerns for you, and that you are worried that you are not managing your stress, please discuss how you are feeling with your manager and colleagues as they can help you. We suggest that you also discuss this with your G.P, physician or other healthcare professional, who will be able to signpost you to further support services.

If this survey has raised concerns for you, about a particular child in your service who may be behaving in an extreme manner, please discuss this with your line manager or supervisor who will advise how best to support you and the young person.