Attachment, Trauma and Recovery – an exploration of how trauma is assessed and treated.

by

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Volume One

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Thesis Overview

This thesis is submitted in partial fulfilment of the requirements for the degree of Doctorate of Clinical Psychology (ClinPsyD) at the University of Birmingham.

Volume One

This volume consists of three chapters. The first chapter is a meta-analysis review examining the internal reliability of the Post Traumatic Cognitions Inventory. The second chapter presents an empirical study of how dyadic developmental psychotherapy group interventions shape foster carers parenting practice and their relationship with their foster child. Lastly, the third chapter is a press release document providing an overview of the meta-analysis and empirical paper.

Volume Two

This volume consists of five clinical practice reports (CPR's). The first CPR presents a psychodynamic formulation and cognitive-behavioural formulation of a 31-year-old woman presenting with low mood and anxiety. The second CPR is a service evaluation exploring adherence to waiting list targets and the organisational factors influencing this in an adult community mental health team. The third CPR is a case study discussing the assessment, formulation, and intervention for a 67-year-old male presenting with low mood and hoarding behaviour, due to childhood trauma. The fourth CPR is a single case experimental design evaluating the effectiveness of progressive muscle relaxation for a 12-year-old male presenting with complex motor and verbal tics. The fifth CPR is the abstract of an oral presentation which outlines an integrative case study of an 18-year-old female, in which aspects of Systemic and Behavioural Therapy were used to assess, formulate, and treat behaviour that challenges. To ensure confidentiality all identifying information in these CPR's have been anonymised.

Acknowledgements

Firstly, I would like to thank my supervisors, Dr Lauren Good and Dr George Johnson. Your knowledge, enthusiasm and passion for this research was immeasurable. I appreciated your thought-provoking discussions, helpful reflections, and general supportiveness throughout the process - I have thoroughly enjoyed being able to work with you both. I would also like to extend my thanks to Dr Chris Jones for his expertise and support with the meta-analysis. Your guidance and support helped me achieve a piece of academic work which I did not know that I could achieve.

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Lastly, I would like to thank all my family and friends, who have supported me throughout this journey. You have all been a shoulder to cry on, someone to laugh with and someone to change the batteries on my Dictaphone for me! It has been amazing to share this experience with you all.

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Chapter 1: The reliability of the Post Traumatic Cognitions Inventory – a meta-analysis

ABSTRACT

Background

The Post Traumatic Cognitions Inventory (PTCI) is a 33-item scale comprised of three subscales, used to measure trauma-focused appraisals thought to be most influential in the development and maintenance of Post-Traumatic Stress disorder (PTSD). Following extensive search of the literature, no meta-analysis was apparent that offered a detailed description of the internal consistency of the PTCI and its three subscales. Consequently, this meta-analysis aimed to report on the internal consistency of the PTCI and its three sub-scales.

Method

A systematic search of the literature was completed. 818 articles were reviewed, resulting in the inclusion of 117 papers. From these 117 papers, a meta-analysis was completed on 62 data sets for the PTCI-Total, 69 data sets for the Negative Beliefs about Self subscale, 61 data sets for the Negative Beliefs about World subscale and 52 data sets for the Self-blame subscale.

Results

Overall, the PTCI-Total and the accompanying subscales which form it show good internal reliability, with all scales showing an aggregated alpha value greater than or equal to 0.8. Results showed that modification of the scale, clinical population, i.e., type of trauma experienced, and country of residence were important predictors of the alpha value.

Conclusion

By utilising a meta-analytic approach, conclusions regarding the internal reliability of the PTCI and its sub-scales can be made with increased confidence. It is thought that the PTCI-Total is a reliable way to help identify those at risk of developing PTSD following a traumatic incident, to monitor progress in treatment and to help identify what differentiates those who develop PTSD compared to those who recover naturally.

INTRODUCTION

Post-traumatic stress disorder (PTSD) was originally recognised in the third revision of the Diagnostic and Statistical Manual of Mental Disorders (DSM-III) (American Psychiatric Association, 1980). Over recent decades, a significant amount of research has been conducted into the psychology, biology, epidemiology, and treatment of the disorder. In the most recent version of the DSM, the DSM-5, PTSD is defined as a trauma and stressor related disorder characterised by intrusive symptoms, avoidance, negative alterations in cognitions/mood and alterations in arousal/reactivity, caused in response to direct or indirect exposure to threatened or actual death, violence, or serious injury (American Psychiatric Association, 2013). Often a significant number of individuals experience these symptoms in the immediate aftermath of a traumatic event and recover naturally; hence it is recognised that PTSD can only be diagnosed when these symptoms have persisted for longer than a month after the traumatic event (Ehlers & Clark, 2000). Over the years, several theories have been developed to explain why symptoms persist and develop into PTSD for some individuals, whilst others recover naturally.

One of the most widely accepted models is the cognitive model of PTSD proposed by Ehlers & Clark (2000). This model was developed from several earlier theories looking at the importance of assumptions in the development and maintenance of PTSD, such as the theories of shattered assumptions (Janoff-Bulman, 1993) and emotional processing theory (Foa & Riggs, 1993; Foa & Rothbaum, 1998). The cognitive model proposed by Ehlers & Clark (2000) builds upon these social-cognitive theories and suggests that PTSD symptoms develop and persist when an individual processes traumatic information in a way that produces a sense of current threat. This threat may represent an external threat to safety or an internal threat to one's sense of self or future (Ehlers & Clark, 2000). It is considered that there are two main mechanisms which are responsible for producing this effect. One mechanism represents an individual's appraisal of the trauma and its sequelae, whilst the other mechanism represents the nature of the trauma memory itself (Ehlers & Clark, 2000).

There are several types of appraisals of the trauma and its sequelae which are thought to produce a sense of current threat. These appraisals reflect interpretations about how the individual felt or behaved during the trauma, how others reacted after the trauma, the perceived consequences that the trauma has on an individual's future, interpretation of one's initial PSTD symptoms and appraisals of the probability of further traumas happening (Ehlers & Clark, 2000). For example, an individual may interpret the fact that the trauma happened to

them as evidence that bad things always happen to them (Ehlers & Clark, 2000). Similarly, individuals may interpret their trauma symptoms as an indication that they have permanently changed for the worse or are losing control of their mind (Ehlers & Clark, 2000). It is thought that these types of appraisals are linked to the development of PTSD as they produce a current sense of threat in the way that an individual views themselves, others and the world. Henceforth, targeting and modifying appraisals is a key treatment goal within various trauma-focused therapies, such as trauma-focused cognitive behavioural therapy, compassion focused therapy and narrative exposure therapy (Resick, 2001).

Due to the importance of trauma-focused cognitions in the development and treatment of PTSD, several measures have been developed to identify problematic appraisals within trauma victims. All of these measures agree on the importance of trauma-related cognitions but vary according to the specific appraisals thought to be of greatest importance. For example, the World Assumption Scale (WAS) developed by Janoff-Bulman (1989) is a 33-item self-report scale which focuses on measuring assumptions about the world, rather than appraisals linked to a specific trauma. Items focus on aspects such as the benevolence of the impersonal world, justice in the world and controllability in the world (Janoff-Bulam, 1989). In comparison, the Personal Beliefs and Reactions Scale (PBRS) is a 55-item self-report scale developed specifically for rape victims and centres on measuring aspects such as beliefs about safety, trust, power/control and intimacy (Resick, Schnicke & Markway, 1991).

One of the more recent measures is the Post Traumatic Cognitions Inventory (PTCI). The PTCI was developed with the aim to provide a comprehensive measure which incorporated the appraisals thought to be most influential in PTSD symptom development and maintenance (Foa, Ehlers, Clark, Tolin & Orsillo, 1999). Additionally, it was hoped that the PTCI could be generalised to victims from a wide range of different traumas (Foa et al., 1999). Initially, 114 items were generated based on theoretical assumptions and clinical interviews with victims who had experienced various traumas, such as sexual assault, motor vehicle accidents or natural disaster (Foa et al., 1999). These items were reviewed by six PTSD experts who had had extensive experience with treating trauma victims (Foa et al., 1999). This review resulted in the exclusion of four items and the rewording of several items, leaving an initial scale with the following: general view of self (27 items), perceived permanent change (23 items), self-blame (17 items), trust in other people (10 items), unsafe world (10 items), hopelessness (7 items), negative interpretation of symptoms (7 items), self-

trust (5 items) and alienation from self and others (4 items) (Foa et al., 1999). The measure was a self-report seven-point likert scale ranging from one (totally disagree) to seven (totally agree), whereby higher scores indicated stronger endorsement of negative cognitions (Foa et al., 1999). To consolidate these items, Foa et al (1999) completed a principal-components factor analysis on the scale, which suggested three main factors - these were negative beliefs about the self, negative beliefs about the world and self-blame. Items were considered if they loaded more than .50 on any given factor and less than .30 on the remaining factors (Foa et al.,1999). Further item selection was based on diversity of content, applicability to different types of trauma and moderate correlation with other items. This resulted in a 33-item scale, with 21 items reflecting negative beliefs about self, seven items reflecting negative beliefs about the world and five items reflecting self-blame (Foa et al., 1999). The PTCI is now a widely used measure within research and clinical practice. It is thought to help identify those at risk of developing PTSD following a trauma, can be used to monitor progress during trauma-focused treatment and can be used to help further identify what differentiates individuals who develop chronic PTSD compared to those who recover naturally.

Due to the extensive use of the PTCI within the literature, it is particularly important that the measure is valid and reliable. Reliability can be defined as how consistently items within an instrument measure various aspects of the same construct (internal reliability) and how consistently the measure is across various settings (external reliability) (Coolican, 2009). Internal reliability can be measured through various methods, including the split-half method (Osburn, 2000) and Cronbach's Alpha (Cronbach, 1951). Cronbach's alpha utilises the variance of respondents' scores on each item in relation to overall variance on the scale and is considered the most common statistic for estimating internal reliability (Coolican, 2009). Despite its prominence in the literature, statisticians have consistently debated what constitutes an acceptable alpha size (DeVillis, 2003). Initially, Nunnally (1967) recommended .50 to .60 for early stages of research, .80 for basic research tools and .90 for clinical purposes - this was increased to a starting level of .70 several years later (Nunnally, 1978; Nunnally & Bernstein, 1994). Hence, it is considered that the required alpha value needs to be higher for tests or measures which are used for clinical purposes compared to research (Ponterotto & Ruckdeschel, 2007). Furthermore, several authors have highlighted the need to be cautious when assessing alpha values for internal consistency, as the value can be influenced by factors such as the number of scale items and number of respondents (Vaske, Beaman, Sponarski, 2017; Ponterotto & Ruckdeschel, 2007).

Due to the prominence of the PTCI within academic literature and clinical settings, it is important to consider the internal reliability of the measure to ensure that negative appraisals linked to the development and maintenance of PTSD are identified and measured accurately and consistently. Following an extensive search of the literature, no meta-analysis was apparent that offers a detailed description of the internal consistency of the PTCI and its three subscales. As a result, this meta-analysis aimed to offer a synthesis and description of research into the internal consistency of the PTCI and its three subscales. Completing a meta-analysis offered the opportunity to account for methodological variation, quality control and biases within published research; thus giving guidance about potential factors that may moderate the internal consistency of the PTCI, such as type of trauma experienced, country of residence and whether the PTCI has been modified.

METHOD

Search of Electronic Databases

The review was carried out according to the guidelines specified by the Preferred Reporting Items for Systematic Review and Meta-Analysis (PRISMA) protocol (Moher, Liberati, Tetzlaff & Altman, 2009) and the Assessing the Methodological Quality of Systematic Reviews (AMSTAR) checklist (Shea et al., 2017).

In July 2019, a systematic search of the literature was carried out on the electronic database systems of PsychINFO (Ovid), EMBASE (Ovid) and Web of Science (Core Collection). Table 1 describes the search terms used to identify relevant studies. The search terms within each construct were combined with "or" and subsequent results were combined with "and". Searches were limited to studies that were published in peer reviewed journals. Additionally, the reference lists of the final included studies were searched for any additional appropriate studies.

Table 1: Search Terms

Construct	**Free Text Search Terms**	**Limits**
Post Traumatic Cognitions Inventory	post traumatic cognitions inventory OR PTCI	Peer reviewed articles
Alpha	"internal consistency"	

	valid*
	reliab*
	alpha
	“test retest”
	test-retest
	psychometric

Inclusion and exclusion criteria

The main inclusion criterion was that the studies must have been published in a peer reviewed journal and have reported the alpha value, from a novel data set for the PTCI and/or any of the three subscales. When reported, the subscale alpha values were recorded and analysed individually. As the literature was diverse in terms of methodologies, the inclusion criteria were kept broad. The full inclusion/exclusion criteria are presented in Table 2.

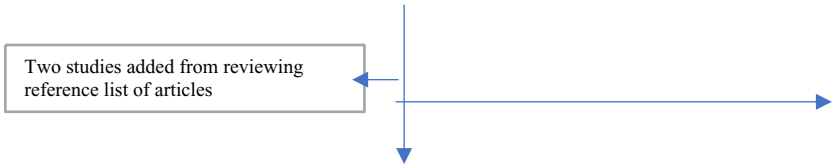
Table 2: Inclusion/Exclusion Criteria

Inclusion criteria	**Justification**
Definition of key-term	
The research has used the PTCI and reported either the total reliability of the scale and/or the reliability of the subscales. Research where the reliability of the PTCI was not the focus, or where other scales were used, were also included.	This was because the reliability of the PTCI and its subscales were the focus of this review. The primary aim of the paper itself does not influence this, as long as the alpha value was reported for the PTCI and/or the subscales.
Participant focus	
Studies were limited to those that focused on an adult population (18years+). No other restrictions were applied regarding participant demographics.	This was because the PTCI was developed for use with an adult population.
Outcome data	
Studies must have reported the alpha value for the PTCI and/or the subscales. Studies must have reported the alpha value from a novel data set.	This was to ensure that the articles could adequately answer the meta-analysis question.

There was no restriction on sample size or study design.	
Type of article	
The following article types were excluded: systematic reviews/theoretical papers/clinical guidance/qualitative papers.	These articles did not provide the outcome data needed for this meta-analysis.
Full text available in the English-language.	To ensure that articles could be read and analysed.

Study Selection

Figure 1 depicts the application of the inclusion and exclusion criteria to the results of the search of the electronic databases. This yielded 892 articles and 818 once duplicates were removed. These were screened by their title and 64 articles were excluded. The three most common reasons for exclusion were: 1) studies reporting a different subject matter (n 32), 2) systematic literature reviews (n 15) and 3) meta-analyses (n 8). Following, 754 articles were screened by their abstract and 242 articles were excluded. The three most common reasons for exclusion were: 1) studies reported using alternative measures to the PTCI (n 81), 2) theoretical papers (n 53), 3) the sample was limited to children (n 44). The full text of the remaining 512 articles were reviewed against the inclusion/exclusion criteria. 122 articles satisfied the criteria for the meta-analysis. The reference lists of these 122 articles were reviewed and an additional 2 studies were included. Within the remaining 124 articles, 14 articles reported a range for the alpha co-efficient. Consequently, authors were contacted to enquire about an exact alpha co-efficient rating. Out of the 14 articles, seven authors did not respond and were unable to be included in the numerical analysis. Hence, 117 articles were included in the final analysis.


Two studies added from reviewing reference list of articles

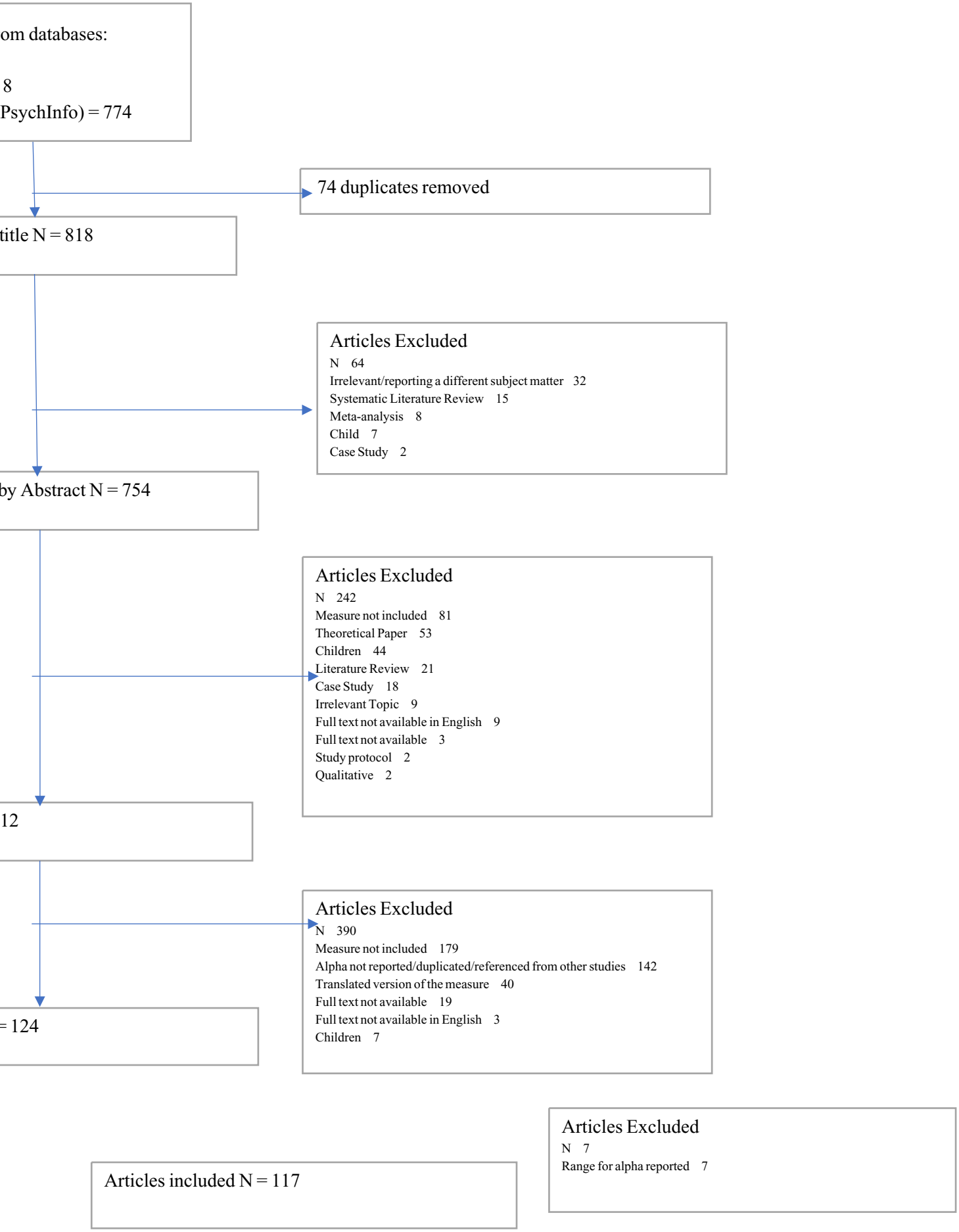

om databases:
8
PsychInfo) = 774
74 duplicates removed
title N = 818
Articles Excluded
N 64
Irrelevant/reporting a different subject matter 32
Systematic Literature Review 15
Meta-analysis 8
Child 7
Case Study 2
by Abstract N = 754
Articles Excluded
N 242
Measure not included 81
Theoretical Paper 53
Children 44
Literature Review 21
Case Study 18
Irrelevant Topic 9
Full text not available in English 9
Full text not available 3
Study protocol 2
Qualitative 2
12
Articles Excluded
N 390
Measure not included 179
Alpha not reported/duplicated/referenced from other studies 142
Translated version of the measure 40
Full text not available 19
Full text not available in English 3
Children 7
= 124
Articles Excluded
N 7
Range for alpha reported 7
Articles included N = 117

Figure 1: PRISMA Chart Results of the systematic search and application of inclusion criteria

Data Extraction

The data were extracted from the papers by the author. If a study had multiple participant groups and reported separate alpha values for each group, they were entered into the meta-analysis as separate samples.

Risk of bias assessment

The risk of bias for the extracted data was assessed with respect to six different domains: Selection Bias, Performance Bias, Treatment Fidelity, Reporting Bias, Detection Bias, Statistical Bias and Generalisability (see Table 3). These domains were developed based on existing frameworks, such as The Cochrane Collaboration Risk of Bias Tool (Higgins et al., 2011) and Risk of Bias Assessment Tool for Nonrandomised Studies (Kim et al., 2013). Each study was rated on each domain as either low, unclear or high risk (see Figure 2).

Table 3: Risk of Bias Criteria

Area	Brief Description	Risk of Bias
Selection bias	Was the selection method and characteristics of study participants adequately described?	**Low risk:** The characteristics of participants are clearly described (age, gender, ethnicity, relationship status) and without evidence of bias. The method of recruitment is clearly described. **Unclear risk:** The characteristics of participants are not clearly or fully reported. The recruitment process is unclear or has not been reported. **High risk:** The non reported characteristics are considered to significantly affect the outcome and there is no indication as to how participants were recruited.
Performance bias	Was there any systematic difference between participants motivation to complete the study?	**Low risk:** Participants were not rewarded for their participation. **Unclear risk:** It is unclear whether participants were rewarded for their participation in the study.

		High risk: Participants were rewarded for their participation in the study.
Treatment fidelity	Was the delivery of the PTCI sufficiently described? Was the PTCI delivered in adherence to the authors recommendations?	**Low risk:** Clear description of how the PTCI was administered and delivered in adherence with the author's recommendations, e.g., in paper format in a self report capacity. **Unclear risk:** Unclear as to how the PTCI was administered or the setting where the test was administered. **High risk:** No description of how the PTCI was administered or administered in an inappropriate format.
Reporting bias	Was the Cronbach's Alpha reported fully, i.e. for total PTCI if applicable and any accompanying subscales	**Low risk:** Cronbach's alpha has been reported for total PTCI if applicable and any subscales used. **Unclear risk:** Cronbach's alpha has not been reported for all subscales used/total score; however, it is considered that this is not selective reporting. **High risk:** Cronbach's alpha has not been reported for all subscales used/total score; there is evidence of selective reporting.
Detection bias	Was the PTCI administered with no modifications being made to the original measure?	**Low risk:** No modifications have been made to the scale. This means either 33 items have been reported for the full scale, 21 items for the negative beliefs about self subscale, 7 items for the negative beliefs about the world subscale and 5 items for the self blame subscale. **Unclear risk:** It is unclear whether the scale was administered with no modifications. Unclear whether the scale had been translated. **High risk:** Major alterations to the test, including wording and/or scoring. Only selected items of the scale were administered.
Statistical bias	Has the reliability coefficient been reported appropriately?	**Low risk:** Exact reliability coefficient is reported. **Unclear risk:** A variation or alternative statistic is provided instead of a Cronbach's Alpha value. **High risk:** Analysis does not produce an alpha value that is congruent for empirical analysis, e.g., reporting an alpha range
Generalisability	Was the study sample an adequate size to generalise findings to the wider population?	**Low risk:** The sample contains more than 110 participants. **Unclear risk:** The sample contains between 55 110 participants. **High risk:** The sample contains fewer than 55 participants.

The application of the risk of bias criteria to the included studies is shown in Table 4. A low risk of bias was awarded two points, an unclear risk of bias was given one point and a high risk of bias equalled zero points. Where multiple sources of bias were identified within a single domain then the overall rating reflects the highest risk of bias. Additionally, studies were rated according to whether they were designed as a psychometric validation paper (awarded ten points) or whether the alpha coefficient was calculated and reported indirectly (awarded zero points). Hence, the maximum score a study could receive was 24 points. The quality index for each study is expressed as a percentage of the maximum score.

Table 4: Summary of Applied Quality Criteria

Study Author	Selection Bias	Performance bias	Treatment fidelity	Detection bias	Statistical bias	Reporting bias	Generalisability bias	Quality Index
Ankri, Bachar & Shalev, 2010	High risk	Unclear risk	Unclear risk	Low risk	Low risk	Unclear risk	High risk	29%
Artime & Peterson, 2015	Unclear risk	High risk	Low risk	Low risk	Low risk	Low risk	Low risk	46%
Banerjee, Ironson, Fitch, Boroughs, Safren, Powell & O'Cleirigh, 2018	Low risk	Unclear risk	Low risk	Low risk	Low risk	Low risk	Low risk	54%
Barton, Boals & Knowles (Undergraduate), 2013	Unclear risk	High risk	Low risk	Low risk	Low risk	Unclear risk	Low risk	42%
Barton, Boals & Knowles (Treatment Seeking), 2013	Unclear risk	High risk	Low risk	Low risk	Low risk	Unclear risk	High risk	33%
Beck, Coffey, Palyo, Gudmundsdottir, Miller & Colder, 2004	Unclear risk	Unclear risk	Low risk	Low risk	Low risk	Unclear risk	Low risk	88%
Beck, Tran, Dodson, Henschel, Woodward & Eddinger, 2016	Low risk	Unclear risk	Low risk	Low risk	Low risk	Unclear risk	High risk	42%
Beck, Jones, Reich, Woodward & Cody (MVA Sample), 2015	Unclear risk	Unclear risk	Low risk	Low risk	Low risk	Unclear risk	Low risk	46%
Beck, Jones, Reich, Woodward & Cody (IPV Sample), 2015	Unclear risk	Unclear risk	Low risk	Low risk	Low risk	Unclear risk	Low risk	46%
Beck, Reich, Woodward, Olsen, Jones & Patton, 2015	Low risk	Unclear risk	Low risk	Low risk	Low risk	Unclear risk	Low risk	50%
Bekes, Beaulieu-Prevost, Guay, Belleville & Marchand, 2019	Unclear risk	Low risk	High risk	Low risk	Low risk	Unclear risk	Unclear risk	38%
Belsher, Ruzek, Bongar & Cordova, 2012	Low risk	Unclear risk	Low risk	Low risk	Low risk	Unclear risk	High risk	42%
Bernadi & Jobson (Asian Australian), 2019	High risk	Unclear risk	Low risk	Low risk	Low risk	Unclear risk	Unclear risk	38%
Bernadi & Jobson (European Australian), 2019	High risk	Unclear risk	Low risk	Low risk	Low risk	Unclear risk	Unclear risk	38%
Bhushan, Kumar, Harizuka, 2011	High risk	Low risk	Low risk	Low risk	Low risk	Unclear risk	High risk	38%
Blain, Galovski & Peterson, 2011	High risk	High risk	Low risk	Low risk	Low risk	Low risk	Low risk	42%
Blakey, Kirby, McClure, Elbogen, Beckham, Watkins & Clapp, 2019	High risk	Unclear risk	Low risk	Low risk	Low risk	Unclear risk	Unclear risk	38%
Blayney, Read & Colder, 2016	High risk	High risk	Low risk	Low risk	Low risk	Unclear risk	Low risk	38%
Brondolo, Eftekharzadeh, Clifton, Schwartz & Delahanty, 2018	Unclear risk	Unclear risk	Low risk	High risk	Low risk	Low risk	Low risk	42%
Brown, Clapp, Kemp, Yarvis, Dondanville, Litz, Mintz, Roache, Young-McCaughan, Peterson & Foa, 2019	High risk	Unclear risk	Unclear risk	Low risk	Low risk	Unclear risk	Low risk	38%
Carek, Norman & Barton, 2010	Unclear risk	Unclear risk	Low risk	Low risk	Low risk	Unclear risk	High risk	38%
Carroll et al., 2018	Unclear risk	Low risk	Unclear risk	Low risk	Low risk	Unclear risk	Low risk	46%
Chung & Reed, 2017	Unclear risk	Unclear risk	Low risk	Low risk	Low risk	Unclear risk	High risk	38%
Cieslak, Benight & Lehman (CSA Sample), 2008	Unclear risk	Unclear risk	Low risk	Low risk	Low risk	Low risk	Unclear risk	46%
Cieslak, Benight & Lehman (MVA Sample), 2008	Unclear risk	Unclear risk	Unclear risk	Low risk	Low risk	Low risk	Low risk	46%
Constans, Vasterling, Deitch, Han, Tharp, Davis & Sullivan, 2012	High risk	High risk	High risk	High risk	Low risk	Low risk	Low risk	25%

Study Author	Selection Bias	Performance bias	Treatment fidelity	Detection bias	Statistical bias	Reporting bias	Generalisability bias	Quality Index
Contractor, Banducci, Jin, Keegan & Weiss, 2020	Low risk	High risk	Low risk	Low risk	Low risk	Unclear risk	Unclear risk	42%
Contractor, Banducci, Dolan, Keegan & Weiss, 2019	Unclear risk	High risk	Low risk	Low risk	Low risk	Unclear risk	Low risk	42%
Cooper, Zoellner, Roy-Byrne, Mavissakalian & Feeny, 2017	High risk	Unclear risk	Low risk	Low risk	Low risk	Unclear risk	Low risk	42%
Cromer & Smyth, 2010	Unclear risk	High risk	Low risk	Low risk	Low risk	Unclear risk	Low risk	42%
Curry, Malaktaris, Lyons, Herbert & Norman, 2019	High risk	Unclear risk	Low risk	Low risk	Low risk	Unclear risk	Low risk	42%
Dodson & Beck (IPVA/CA+ Sample), 2019	Unclear risk	Unclear risk	Low risk	Low risk	Low risk	Low risk	Unclear risk	46%
Dodson & Beck (IPVA/CA- Sample), 2019	Unclear risk	Unclear risk	Low risk	Low risk	Low risk	Low risk	Low risk	50%
Dworkin, Gilmore, Bedard-Gilligan, Lehavot, Guttmannova & Kaysen, 2018	Unclear risk	High risk	Low risk	Low risk	Low risk	Unclear risk	Low risk	42%
Ehlers, Suendermann & Glucksman, 2010	High risk	Unclear risk	Unclear risk	High risk	Low risk	Low risk	Low risk	33%
Ehring, Ehlers & Glucksman, 2006	Unclear risk	High risk	Unclear risk	Low risk	Low risk	Low risk	Unclear risk	38%
Ehring, Ehlers & Glucksman, 2008	Unclear risk	Unclear risk	Unclear risk	Low risk	Low risk	Low risk	Low risk	46%
Engelbrecht & Jobson, 2014	High risk	High risk	Unclear risk	Low risk	Low risk	Low risk	Unclear risk	33%
Fang, Chung & Watson, 2018	High risk	Low risk	Low risk	Low risk	Low risk	Unclear risk	Unclear risk	42%
Fergus & Bardeen, 2017	Unclear risk	High risk	Low risk	Low risk	Low risk	Unclear risk	Low risk	42%
Field, Norman & Barton, 2008	Unclear risk	Unclear risk	Low risk	High risk	Low risk	Unclear risk	Unclear risk	33%
Foa, Ehlers, Clark, Tolin & Osillo, 1999	Unclear risk	Unclear risk	Unclear risk	Low risk	Low risk	Low risk	Low risk	88%
Ford, Grasso, Greene, Slivinsky & DeViva, 2018	Low risk	Unclear risk	Unclear risk	Low risk	Low risk	Unclear risk	High risk	38%
Ford, Steinberg & Zhang, 2011	Low risk	High risk	Low risk	Low risk	Low risk	Low risk	Low risk	50%
Gluck, Tran, Raninger & Lueger-Schuster, 2016	Unclear risk	Unclear risk	High risk	Low risk	Low risk	Unclear risk	Unclear risk	33%
Gonzalo, Kleim, Donaldson, Moorey & Ehlers, 2012	High risk	Unclear risk	Low risk	High risk	Low risk	Unclear risk	Low risk	33%
Harned, Wilks, Schmidt & Coyle, 2018	Unclear risk	Unclear risk	Unclear risk	Low risk	Low risk	Unclear risk	High risk	33%
Held et al, 2017	Unclear risk	Low risk	Unclear risk	Low risk	Low risk	Unclear risk	Low risk	46%
Holliday, Smith & Monteith, 2018	Unclear risk	High risk	Unclear risk	Low risk	Low risk	Unclear risk	Unclear risk	33%
Horwitz, Held, Klassen, Karnik, Pollack & Zalta, 2018	Unclear risk	Low risk	Unclear risk	Low risk	Low risk	Unclear risk	Low risk	46%
Ironson, Fitch, Banerjee, Hylton, Ivardic, Safren & O'Cleirigh, 2019	Unclear risk	Unclear risk	Low risk	Low risk	Low risk	Low risk	Low risk	50%
Kaczkurkin et al., 2017	Unclear risk	Unclear risk	Unclear risk	Low risk	Low risk	Unclear risk	Low risk	42%
Karatzia et al., 2018	Unclear risk	Unclear risk	High risk	Low risk	Low risk	High risk	Low risk	33%
Kaufman, Allbaugh & O'Dougherty Wright, 2018	High risk	High risk	Low risk	Low risk	Low risk	Unclear risk	Low risk	38%
Kern & Peterson, 2020	Unclear risk	High risk	Low risk	Low risk	Low risk	Low risk	Low risk	46%
Kichline, Kassam-Adams, Weiss, Herbers & Marsac, 2017	Unclear risk	Unclear risk	Low risk	Low risk	Low risk	Low risk	Unclear risk	46%
Kleim, Ehlers & Glucksman, 2007	Unclear risk	High risk	Unclear risk	Low risk	Low risk	Low risk	Low risk	42%
Kleim, Horn, Kraehenmann, Mehl & Ehlers, 2018	High risk	Unclear risk	Low risk	Low risk	Low risk	Low risk	Low risk	46%
Kleim, Grey, Wild, Nussbeck, Stott, Hackmann, Clark & Ehlers, 2013	Unclear risk	Unclear risk	Unclear risk	High risk	Low risk	Low risk	Low risk	38%
Kleim, Graham, Fihosy, Stott & Ehlers, 2014	Unclear risk	Unclear risk	Low risk	High risk	Low risk	Low risk	High risk	33%
Koo, Nguyen, Gilmore, Blayney & Kaysen, 2014	Unclear risk	High risk	Low risk	Low risk	Low risk	Unclear risk	Low risk	42%
Lancaster, Kloep, Rodriguez & Weston, 2013	Unclear risk	High risk	Low risk	Low risk	Low risk	Unclear risk	Low risk	42%
Lancaster, Klein, Nadia, Szabo & Mogerman, 2015	Unclear risk	High risk	Low risk	Low risk	Low risk	Low risk	Low risk	46%
Lancaster & Larsen, 2016	Unclear risk	High risk	Low risk				Low risk	42%

Study Author	Selection Bias	Performance bias	Treatment fidelity	Detection bias	Statistical bias	Reporting bias	Generalisability bias	Quality Index
				Low risk	Low risk	Unclear risk		
Laposa & Alden, 2003	Low risk	High risk	Low risk	Low risk	Low risk	Unclear risk	High risk	38%
Listwan, Colvin, Hanley & Flannery, 2010	Unclear risk	High risk	Unclear risk	Low risk	Low risk	Unclear risk	Low risk	38%
Litz et al., 2018	Unclear risk	Low risk	Low risk	Low risk	Low risk	Unclear risk	Low risk	50%
Lyons, Haller, Curry & Norman, 2020	Unclear risk	Unclear risk	Low risk	Low risk	Low risk	Low risk	Low risk	50%
Maccallum & Bryant, 2019	Unclear risk	Unclear risk	Low risk	Low risk	Low risk	Low risk	Low risk	50%
Marshall & Leifker, 2014	Unclear risk	Unclear risk	High risk	Low risk	Low risk	Unclear risk	Unclear risk	33%
Marshall, Robinson & Azar, 2011	Unclear risk	Unclear risk	High risk	Low risk	Low risk	Unclear risk	Low risk	38%
Massa, Eckhardt, Parrott, Subramani & Sprunger, 2019	Unclear risk	Unclear risk	Unclear risk	Low risk	Low risk	Low risk	Low risk	46%
McLean, Zang, Gallagher et al., 2019	Unclear risk	Unclear risk	Low risk	Low risk	Low risk	Unclear risk	Low risk	46%
McLean, Zang, Zandberg et al., 2017	Unclear risk	Unclear risk	Low risk	Low risk	Low risk	Unclear risk	Low risk	46%
Meades, Pond, Ayres & Warren, 2011	High risk	Unclear risk	Low risk	Low risk	Low risk	Unclear risk	High risk	33%
Miller, Handley, Markman & Miller, 2010	Unclear risk	High risk	Low risk	Low risk	Low risk	Unclear risk	Low risk	42%
Monteith, Holliday, Schneider, Forster & Bahraini, 2019	Unclear risk	High risk	Unclear risk	Low risk	Low risk	Unclear risk	Low risk	38%
Mu, Narine, Farris, Lieblich, Zang, Bredemeier, Brown & Foa, 2020	High risk	Unclear risk	High risk	Low risk	Low risk	Low risk	Low risk	38%
Nahleen, Nixon & Takarangi, 2019	High risk	High risk	Unclear risk	Low risk	Low risk	Unclear risk	Low risk	33%
Nanney, Constans, Kimbrell, Kramer & Pyne, 2015	Unclear risk	Unclear risk	Unclear risk	High risk	Low risk	Low risk	Low risk	38%
Nanney, Wamser-Nanney, Linke, Constans & Pyne, 2018	Unclear risk	Unclear risk	Unclear risk	High risk	Low risk	Low risk	Low risk	38%
Nixon & Nishith, 2005	Unclear risk	High risk	Low risk	Low risk	Low risk	Unclear risk	Low risk	42%
Oh, Muzik, McGinnis, Hamilton, Menke & Rosenblum, 2016	Unclear risk	Unclear risk	Unclear risk	Low risk	Low risk	Unclear risk	Low risk	42%
Olatunji, Elwood, Williams & Lohr, 2008	Unclear risk	High risk	Unclear risk	Low risk	Low risk	Unclear risk	High risk	29%
O'Donnell, Elliott, Wolfgang & Creamer, 2007	High risk	Unclear risk	Unclear risk	Low risk	Low risk	Unclear risk	Low risk	38%
Pacella, Armelie, Boarts, Wagner, Jones, Feeny & Delahanty, 2012	Unclear risk	High risk	Unclear risk	Low risk	Low risk	Unclear risk	Unclear risk	33%
Park, Mills & Edmondson, 2012	Unclear risk	High risk	Low risk	Low risk	Low risk	Low risk	Low risk	46%
Raab, Mackintosh, Gros & Morland, 2015	Unclear risk	High risk	Low risk	Low risk	Low risk	Unclear risk	Low risk	42%
Ready, Mascaro, Wattenberg, Sylvers, Worley & Bradley-Davino, 2018	High risk	High risk	Unclear risk	Low risk	Low risk	Unclear risk	Unclear risk	29%
Reich, Jones, Woodward, Blackwell, Lindsey & Beck, 2015	Unclear risk	Unclear risk	Low risk	Low risk	Low risk	Low risk	Unclear risk	46%
Renaud, 2008	Low risk	High risk	Unclear risk	Low risk	Low risk	Unclear risk	High risk	33%
Robinaugh, Marques, Traeger, Harks, Sung, Beck, Pollack & Simon, 2011	Unclear risk	High risk	Low risk	Low risk	Low risk	Unclear risk	Low risk	42%
Samuelson, Bartel, Jordan & Valadez, 2017	Unclear risk	Unclear risk	Low risk	Low risk	Low risk	Unclear risk	Low risk	46%
Scher & Ellwanger, 2009	Unclear risk	Unclear risk	Low risk	Low risk	Low risk	Unclear risk	Low risk	46%
Sexton, Davis, Bennett, Morris & Rauch, 2018	Unclear risk	Unclear risk	Unclear risk	Low risk	Low risk	Low risk	Low risk	88%
Sheerin et al., 2018	High risk	Unclear risk	High risk	Low risk	Low risk	Unclear risk	Low risk	33%
Startup, Makgekgene & Webster, 2007	Unclear risk	Unclear risk	Low risk	Low risk	Low risk	Low risk	Unclear risk	46%
Strasshofer, Pacella, Palmieri, Johnson & Delahanty, 2017	Unclear risk	High risk	Unclear risk	Low risk	Low risk	Unclear risk	Unclear risk	33%
Takarangi, Smith, Strange & Flowe, 2017	Unclear risk	High risk	Low risk	Low risk	Low risk	Unclear risk	Low risk	42%
Thompson-Hollands, Jun & Sloan, 2017	Unclear risk	Unclear risk	Low risk	Low risk	Low risk	Unclear risk	Low risk	46%
Thompson & Kingree, 2010	Unclear risk	High risk	Low risk				Low risk	42%

Study Author	Selection Bias	Performance bias	Treatment fidelity	Detection bias	Statistical bias	Reporting bias	Generalisability bias	Quality Index
				Low risk	Low risk	Unclear risk		
Toussaint, Barry, Angus, Bornfriend & Markman, 2017	Unclear risk	High risk	Low risk	Low risk	Low risk	Low risk	Unclear risk	42%
Tran & Beck, 2018	Unclear risk	Unclear risk	Unclear risk	Low risk	Low risk	Low risk	Low risk	46%
Wells, Morland, Torres, Kloezeman, Mackintosh & Aarons, 2019	Unclear risk	Unclear risk	Unclear risk	Low risk	Low risk	Unclear risk	Low risk	83%
Williams, Holliday, Clem, Anderson, Morris & Suris, 2017	Unclear risk	Unclear risk	High risk	Low risk	Low risk	Unclear risk	Unclear risk	33%
Williams, Jayawickreme, Sosato & Foa, 2017	Unclear risk	Unclear risk	Unclear risk	Low risk	Low risk	Unclear risk	Low risk	42%
Woodward, Eddinger, Henschel, Dodson, Tran & Beck (MVA Sample), 2015	Unclear risk	Unclear risk	Low risk	Low risk	Low risk	Unclear risk	Low risk	46%
Woodward, Eddinger, Henschel, Dodson, Tran & Beck (IPV Sample), 2015	Unclear risk	Unclear risk	Low risk	Low risk	Low risk	Unclear risk	Low risk	46%
Zalta et al., 2018	Low risk	Unclear risk	Low risk	Low risk	Low risk	Unclear risk	Low risk	50%
Zang, Gallagher, McLean, Tannahill, Yarvis & Foa, 2017	Unclear risk	Unclear risk	Unclear risk	Low risk	Low risk	Unclear risk	Low risk	42%
Elwood & Williams, 2007	Unclear risk	Unclear risk	Unclear risk	Low risk	Low risk	Low risk	Low risk	46%
Tran et al (EPP Sample), 2019	High risk	Unclear risk	Unclear risk	Low risk	Low risk	Low risk	Unclear risk	38%
Tran et al (CPP Sample), 2019	High risk	Unclear risk	Unclear risk	Low risk	Low risk	Low risk	Low risk	42%
Hiller et al., 2016	High risk	Unclear risk	Unclear risk	High risk	Low risk	Low risk	Unclear risk	29%
Cieslak, Shoki, Luszczynska, Taylor, Rogala, Benight, 2013	Unclear risk	Unclear risk	Low risk	High risk	Low risk	Low risk	Low risk	42%
Peck, Coffey, McGuire, Voluse & Connolly, 2018	Unclear risk	Unclear risk	Low risk	Low risk	Low risk	Unclear risk	Unclear risk	42%

Selection bias

This represented one of the largest areas of bias, mostly resulting from the omission of information regarding the characteristics of the sample. Twenty-seven studies showed high -risk rating of bias and 80 studies were scored as unclear risk. Studies were often deemed high-risk when no details were provided on demographics (n 5) or when several characteristics, such as ethnicity, age, or relationship status were missing. Studies were rated as unclear risk when the method of recruitment was unclear (n 21) or when characteristics of the sample were unclear or not fully reported. For example, not reporting the age range (n 55) or only providing data regarding the prevalence of Caucasian participants rather than the prevalence of all ethnicities in the sample (n 17).

Performance bias

Thirty-nine studies were rated as high-risk of performance bias due to participants receiving financial compensation (n 26) or course credit (n 13) for participating in the study. Additionally, 71 studies were rated as unclear risk as it was not clearly stated whether participants received any type of compensation for participating in the research.

Treatment fidelity

Overall, 39 studies were given a rating of unclear risk – this was often because it was unclear if the PTCI was administered verbally or whether participants were provided with a written copy to complete individually. Nine studies were rated as high-risk - two studies stated that the PTCI was administered verbally, and seven studies did not provide any information about how or where the PTCI was administered.

Reporting bias

Under this criterion, 76 studies were rated as unclear risk of bias and 1 study was rated as high risk of bias. For the unclear-risk ratings, 42 studies reported the alpha value for the PTCI-Total but did not report the subscale alphas, whilst 34 studies reported the alpha value for the subscales and did not include the total alpha. For the high-risk rating, one study was deemed to selectively report the alpha rating for only two of the three subscales used.

Detection bias

Under this criterion, there was minimal risk of bias as most studies did not make any substantive modifications to the PTCI, such as the rephrasing of existing items or the addition of new items. However, 11 studies were rated as high-risk due to omitting items from the PTCI.

Statistical bias

All studies were rated as a low risk of bias; this was because all studies reported the alpha value for the reliability of the PTCI and did not utilise any alternative measures of reliability that would require conversion or estimation, to be included in this review.

Generalisability

In summary, 25 studies were rated as demonstrating an unclear risk of bias and 14 studies were rated as showing a high risk of bias due to small sample sizes. Adequate sample size was based upon sample sizes utilised for assessing the psychometric properties of the PTCI in previous psychometric validation studies.

Summary

In conclusion, levels of bias varied across studies. Often studies scored lower overall quality index, as alpha tended to be reported indirectly as opposed to the research being a psychometric validation paper (n 4). Many studies received an unclear risk of bias rating, as often detail was missing from the write-up; for example, how the PTCI was administered, whether participants were compensated for their participation or sample demographics. Minimal studies demonstrated a high risk of bias across multiple domains.

RESULTS

This review aimed to explore and report upon the internal consistency/reliability of the PTCI and the accompanying subscales which form it. Accordingly, this review first assesses the internal consistency of the Total scale (PTCI-Total) and then examines the internal consistency of each subscale – negative beliefs about self (NBS), negative thoughts about the world (NBW) and self-blame (SB).

Out of the 117 primary studies, there were several studies that reported alpha values for different sub-samples within the study. These have been recorded as separate alpha values. Within the 117 primary studies, participants were selected from a variety of settings, including the military, forensic settings, clinical mental health, clinical physical health, and the general community. There was variation within participant age, sex, and country of origin.

PTCI-Total Results

There were 58 primary studies, involving a total of 12,332 participants with 62 alpha coefficients reported for the PTCI-Total.

Selection of the meta-analytic model

The distribution of primary study effects is shown in Figure 2. The variance of the true effect (tau^2) was calculated using the DerSimonian & Laird method. As shown below in Figure 2, the fixed effects model showed marked non-normality in the distribution of alpha

coefficients, whereas the random effects model showed an appropriate fit for the distribution of alpha coefficients.

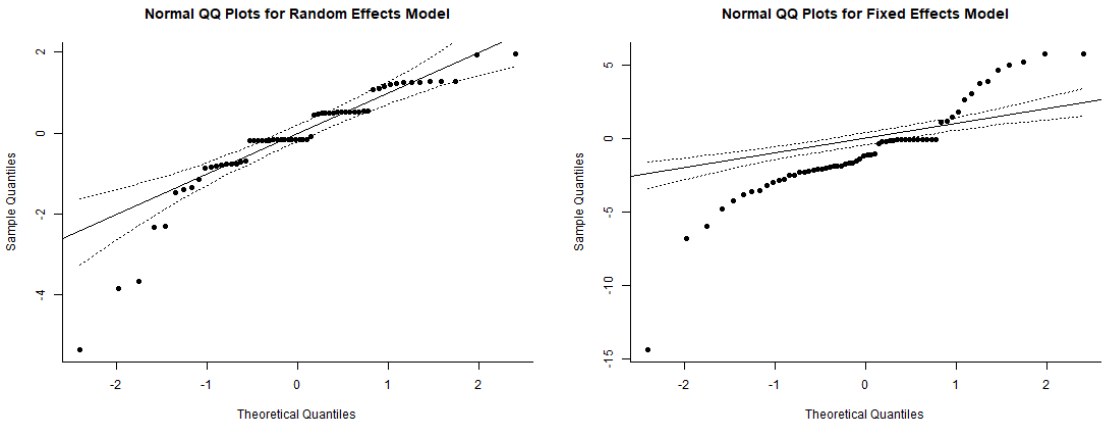


Figure 2: QQ plot of the distribution of the raw alpha within the primary studies using the random effects model and fixed effects model

As can be seen from Figure 2, the random effects model showed some evidence of non-normality within the distribution of alpha coefficients. However, most of the alpha coefficients fall within the 95% confidence interval for the expected normal values. This suggested that the use of the use of the DerSimonian & Laird estimate was an appropriate method for the calculation of the variation of the meta-analytic synthesis.

The omnibus test

The generic inverse variance method was used to calculate a random effects model based on the 62 alpha coefficients included. The random effects model suggested a weighted average alpha of 0.9525 (z 481.51, *p* <0.01) with a 95% confidence interval of between 0.9486 and 0.9564. An effect of this magnitude was considered acceptable, as it was greater than an internal reliability of 0.70. See Figure 3 for the alpha values and confidence interval for each individual study.

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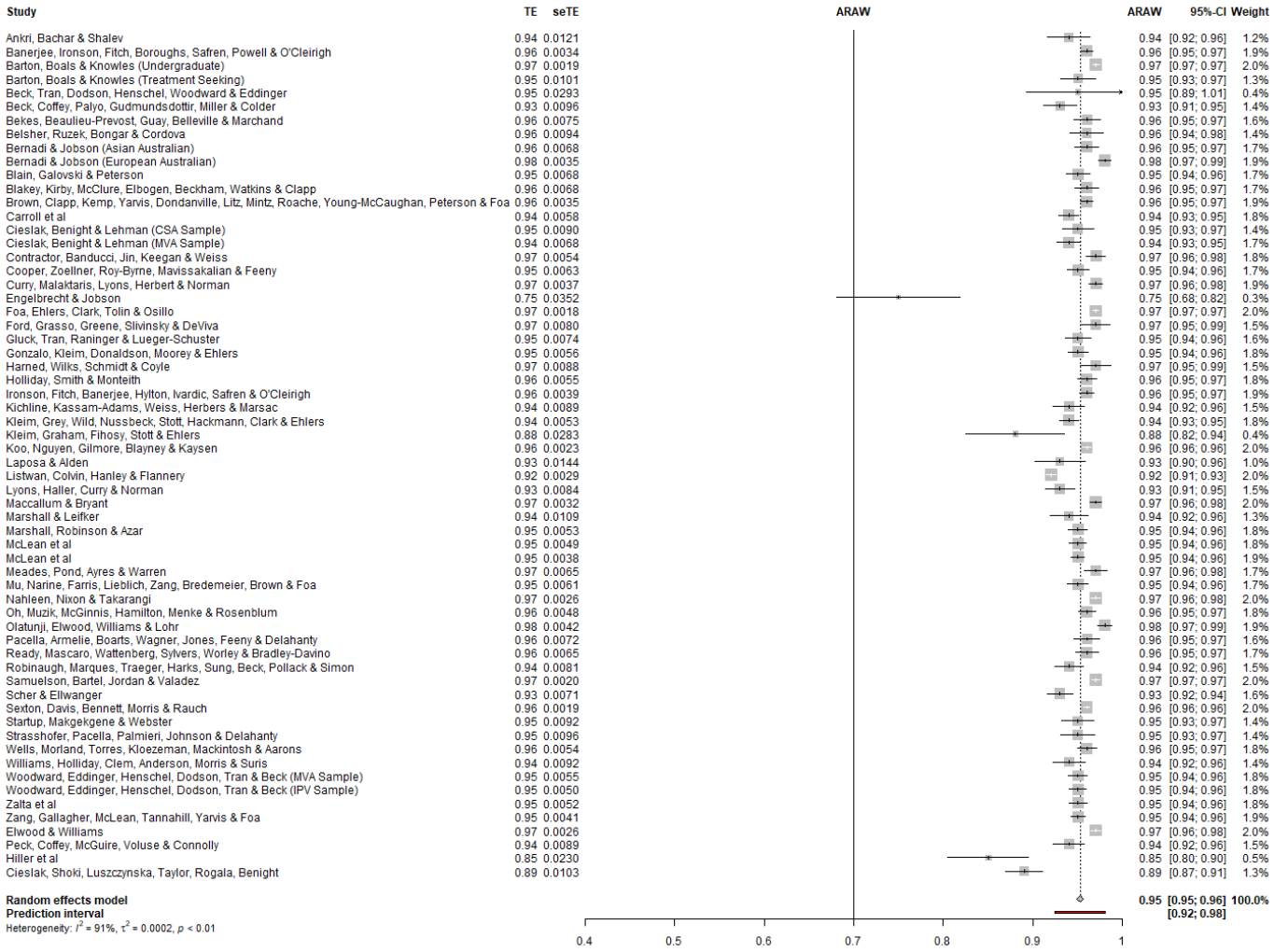


Figure 3: Forest Plot of the Cronbach's Alpha coefficients of the PTCI Total score

Level of Heterogeneity

A substantive level of heterogeneity in the alpha coefficients was observed (tau^2 0.0002, Higgin's I^2 90.7%, p < 0.01), therefore suggesting that estimates of alpha may have been biased by the presence of uncontrolled or confounding factors. Consequently, the focus of the following analyses will be upon the identification of the sources of heterogeneity within this group of studies.

The impact of influential primary studies

The impact of influential primary studies was assessed using a "leave-one-out" analysis. A "leave-one-out" analysis is where the random effects model is calculated with each of the primary studies removed, thus calculating any changes in weighted average effect size (i.e., influence) and heterogeneity (i.e., discrepancy). The results of the "leave-one-out" analysis is presented on the Baujat

plot (Baujat, Mahe & Pignon, 2002) - (see Figure 4).

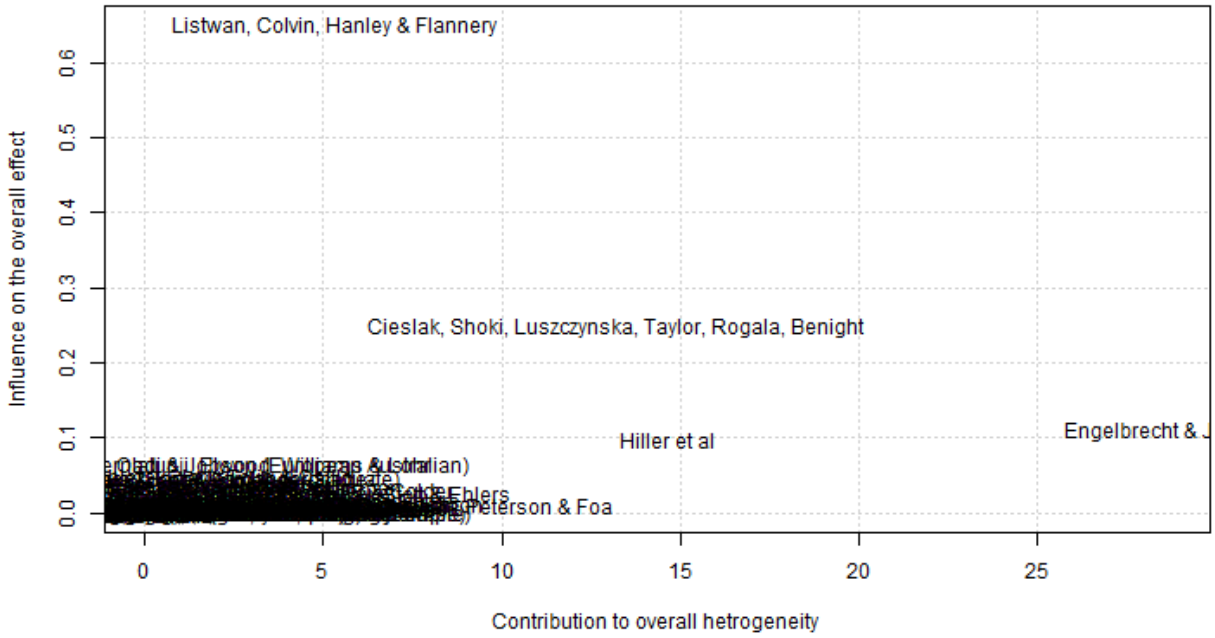


Figure 4: Baujat scatterplot exploring heterogeneity for the PTCI Total Cronbach's alpha

Four studies were identified as being either disproportionately influential or heterogeneous in comparison to the others. These four studies were re-reviewed regarding appropriateness of inclusion. Englebrecht & Jobson (2014) was reviewed and there was no clear reason for exclusion. The recalculated random effects model showed that if Engelbrech & Jobson (2014) was removed, Higgin's I^2 would show little variation from the uncorrected estimate with a 0.3% change from 90.7% to 90.4%. This supports that there was no clear reason for exclusion.

Listwan et al (2010) was reviewed and it was established that the study was influential due to the large sample size (n 1616); however, alpha was consistent with the literature and therefore there was no clear reason for exclusion.

The other two studies (Hiller et al, 2016 & Cieslak, Shoki, Luszcynska, Taylor, Rogala, Benight, 2013) were reviewed and it was found that one potential reason for the studies being disproportionately influential and/or heterogeneous was due to modifications to the PTCI. To elaborate, Hiller et al (2016) modified the PTCI to a 12-item scale and Cieslak et al (2013) modified the PTCI to a 14-item scale. As the analysis included other studies that had

modified the scale, it was not appropriate to exclude these two studies for this reason alone. Instead, the impact of modification of the PTCI-Total Scale was assessed empirically.

Sub-group Analysis of modified and unmodified alpha coefficients

A sub-group analysis was conducted comparing studies that utilised a modified PTCI-Total Scale and those that did not modify the scale. For example, Hiller et al (2016) who utilised a modified scale reported an alpha coefficient of 0.85, whereas Olatunji, Elwood, Williams & Lohr (2008) who did not modify the scale reported an alpha coefficient of 0.98. As can be seen in Figure 5, results showed that studies that utilised a modified PTCI demonstrated a significantly lower estimate of the alpha compared to studies that utilised a non-modified scale. (X^2 9.69, p <0.01), suggesting that modification of the calculation of the total score or of the items that contribute to it has a detrimental effect upon the internal consistency of the scale. Such modifications should not be considered to possess the same level of internal consistency as the original measure. Therefore, all studies (k 5) that utilised a modified version of the PTCI-Total were removed from subsequent analyses.

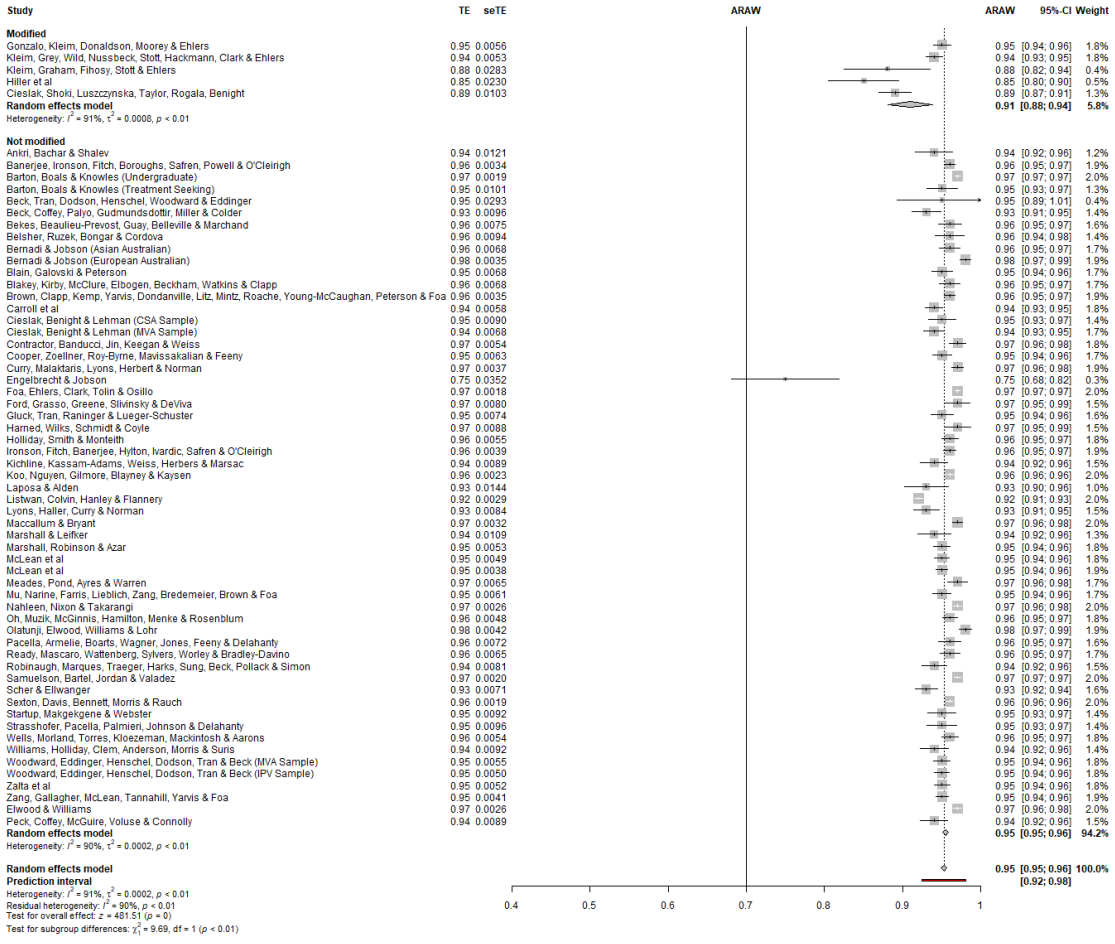


Figure 5: Sub group analysis forest plot comparing modified and unmodified PTCI total Cronbach's alpha

The random effects model was recalculated with the five studies removed (k 57) The corrected random effects model reported a synthesis of alpha 0.9547 (z 496.53, *p* <0.01) with a 95% confidence interval between 0.9510 and 0.9585. Higgins I^2 evidenced a 0.7% reduction from 90.7% to 90%.

The effect of risk of bias in the alpha coefficients

To assess the impact of risk of bias upon heterogeneity, a series of subgroup analyses were conducted for each type of methodological bias (see Table 5). As all the studies which reported modified versions of the total score had been removed from subsequent analyses, there were no high-risk studies for detection bias. Furthermore, as all studies reported an exact reliability coefficient (Cronbach's alpha), there were no high-risk studies for statistical bias. Similarly, as all studies reported Cronbach's alpha, there were no high-risk studies for reporting bias. Therefore, these domains of bias were not examined for subgroup differences.

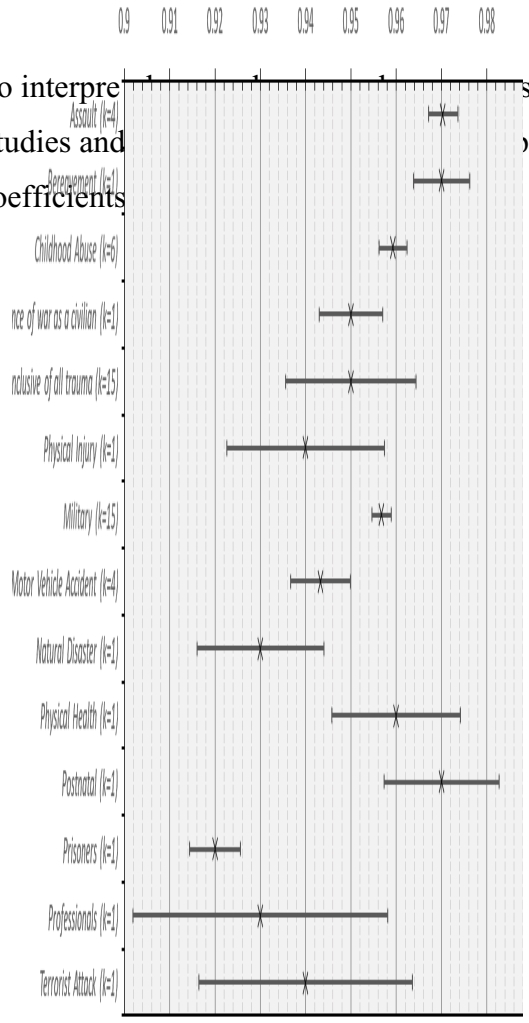
Table 5: Subgroup analyses for methodological bias for PTCI Total Cronbach's Alpha

	Low Risk			High Risk				
	ARAW	**95% CI**	**K**	**ARAW**	**95% CI**	**k**	**X^2**	**P**
Selection bias	0.96	0.95-0.97	7	0.96	0.95-0.97	13	0.01	0.92
Performance bias	0.95	0.93-0.97	2	0.95	0.94-0.96	16	0.12	0.73
Treatment Fidelity	0.95	0.95-0.96	32	0.95	0.94-0.96	6	1.89	0.17
Detection bias	0.95	0.95-0.96	57					
Statistical bias	0.95	0.95-0.96	57					
Reporting bias	0.95	0.95-0.96	14					
Generalisability bias	0.95	0.95-0.96	30	0.96	0.95-0.97	9	1.44	0.22

There were no statistically significant differences in the estimate of alpha between high and low risk biases in any of the methodological biases reported. This suggested that methodological risk of biases was not associated with heterogeneity between studies.

Comparison of alpha synthesis by clinical population

The different clinical populations were compared. The clinical population was defined according to the type of traumatic event experienced. It was identified that, across the primary studies, samples were drawn from 15 different clinical populations. A significant difference was reported for population sample (X^2 236.14, *p* <0.01) – (see Figure 6).



However, it is important to interpre s several of the subgroups had a limited number of studies and opulations reported weighted average alpha coefficients

Figure 6: Forest plot of studies by population sample type with 95% confidence intervals for PTCI Total

Comparison of alpha synthesis by country of study

A subgroup analysis was also conducted based on the country where each study was conducted. Seven countries were identified, each producing a different number of studies. Results illustrated that there was a significant difference in the alpha value reported dependent on the country in which the study took place (X^2 47.62, p <0.01) – (see Figure 7). It is important to interpret this conclusion with caution, as several subgroups had a limited

number of studies and thus results are likely to change with the publication of new literature. Nevertheless, all the countries repor fficients that were greater than 0.9.

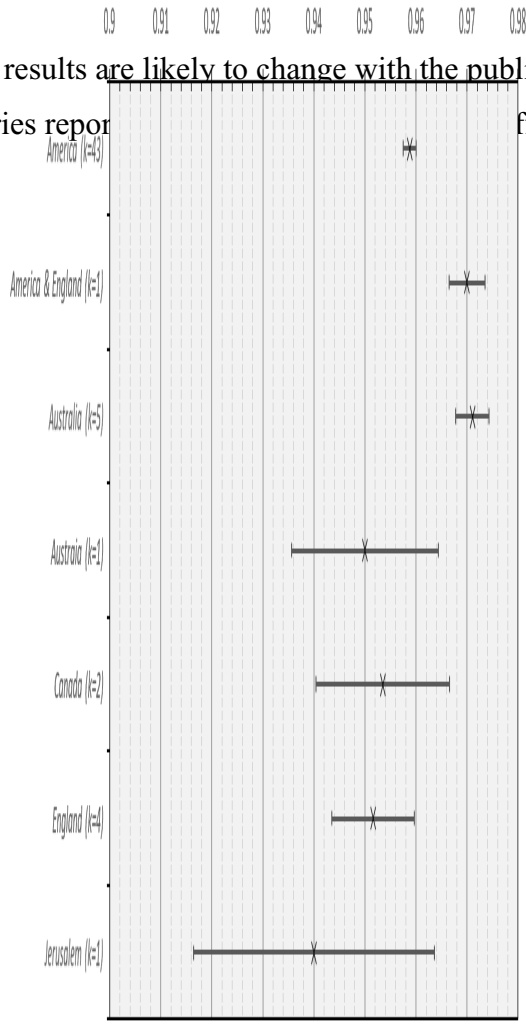


Figure 7: Forest plot of studies by country with 95% confidence intervals for PTCI Total

The impact of publication and small study biases

Publication bias is caused by the tendency for statistically significant results to be published and the reticence to publish papers with non-significant results. Small study bias is the tendency for studies with smaller sample sizes to show greater variability in their measurement of alpha. To assess for publication bias, Orwin's fail safe number (Orwin, 1983) was used to calculate the number of studies averaging null results, that would be

required to be added to the current meta-analysis to reduce the average Cronbach's alpha to a value below the minimum acceptable value of α 0.70. If the average null result was taken to be α 0.65 then 233 studies would have to be lost to publication bias to reduce the meta-analytic average to below the minimum acceptable alpha coefficient. In an extreme example, if the average null result were taken to be α 0.45 then 54 studies would have to be lost to publication bias. It is highly unlikely that this number of studies were lost to publication bias and therefore the conclusions of this analysis should be considered robust to bias related to the publication of null results.

Negative Beliefs about Self Subscale Results

For the NBS subscale, there were 65 primary studies, involving a total of 16,473 participants, with 69 alpha coefficients reported.

Selection of the meta-analytic model

The distribution of alpha coefficient is shown in Figure 8. When the variance of the true effect (tau^2) was calculated using the DerSimonian & Laird estimator there was clear and marked evidence of non-normality in the distribution of the alpha coefficients (see Figure 9 – left). This non-normality was noticeably improved using the Restricted Maximum Likelihood estimator.

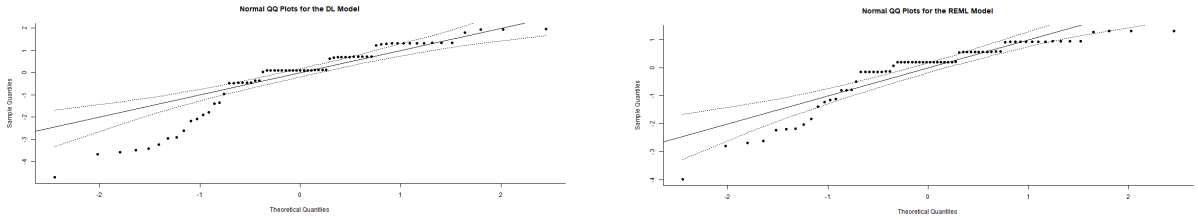
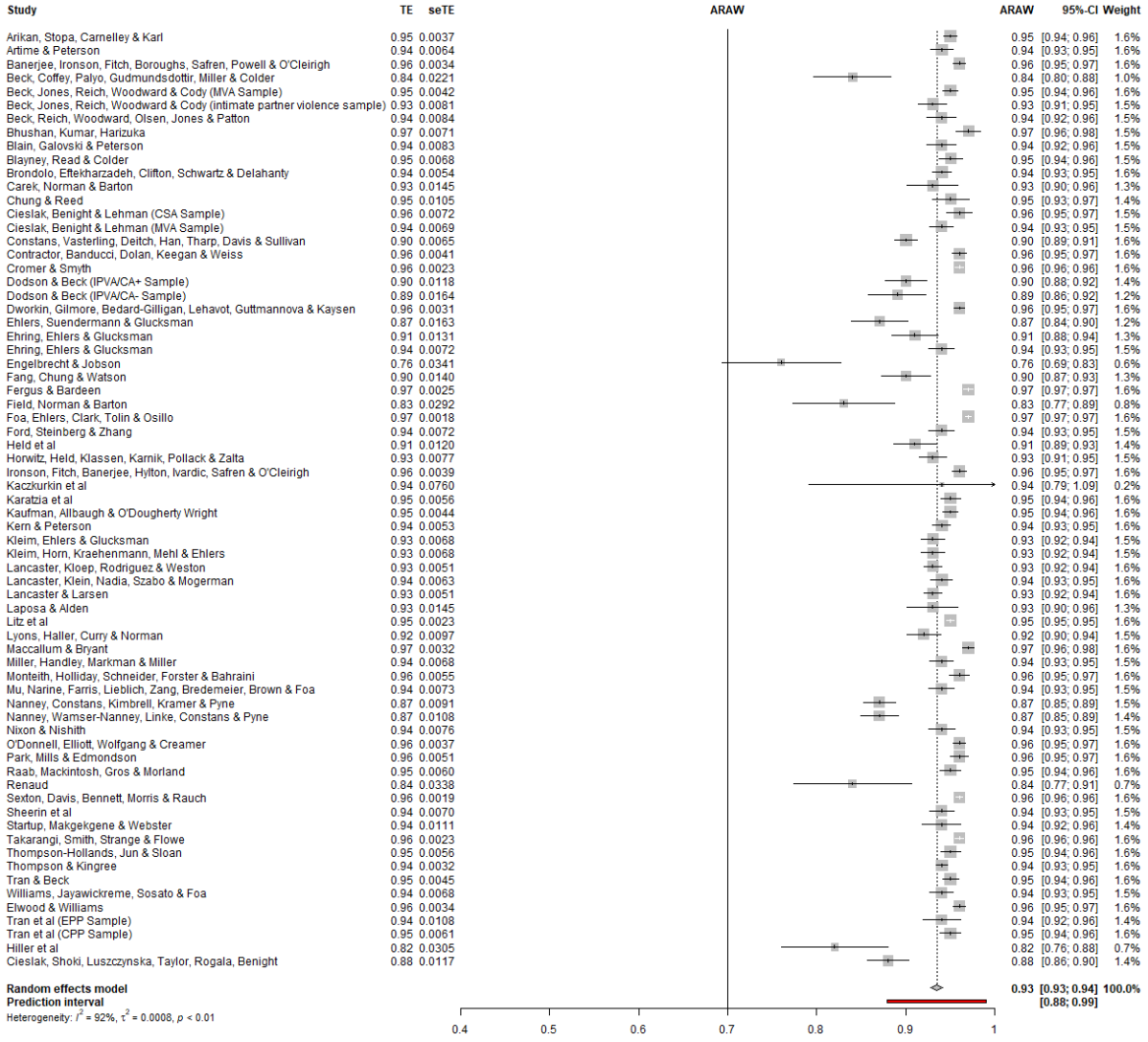


Figure 8: QQ plot of the distribution of the raw alpha within the primary studies of the NBS subscale using the random effects DL model (left) and random effects REML model (right)

This indicates the use of the Restricted Maximum Likelihood estimator as the appropriate method for the calculation of the variation of the true effect, as this estimator has been shown to be more robust to deviations from normality (Banks, Mao, & Walters, 1985).

The omnibus test

The generic inverse variance method was used to calculate a random effects model based on the 69 alpha coefficient values. The random effects model suggested a weighted average alpha of 0.9346 (z 265.07, p <0.01) with a 95% confidence interval between 0.9277 and 0.9416. An effect of this magnitude was considered acceptable, as it was greater than an internal reliability of 0.70. See Figure 9 for the alpha values and confidence interval for each individual study.



Level of Heterogeneity

A substantive level of heterogeneity in the primary studies was observed (tau^2 0.0008, Higgin's I^2 92.1%, p < 0.01), therefore suggesting that estimates of alpha in the primary studies may have been biased by the presence of uncontrolled or confounding factors. Henceforth, the focus of the following analyses will be upon the identification of the sources of heterogeneity within this group of studies.

The impact of influential primary studies

Figure 10 depicts the results of the "leave-one-out" analysis in the form of a Baujat plot (Baujat, Mahe & Pignon, 2002).

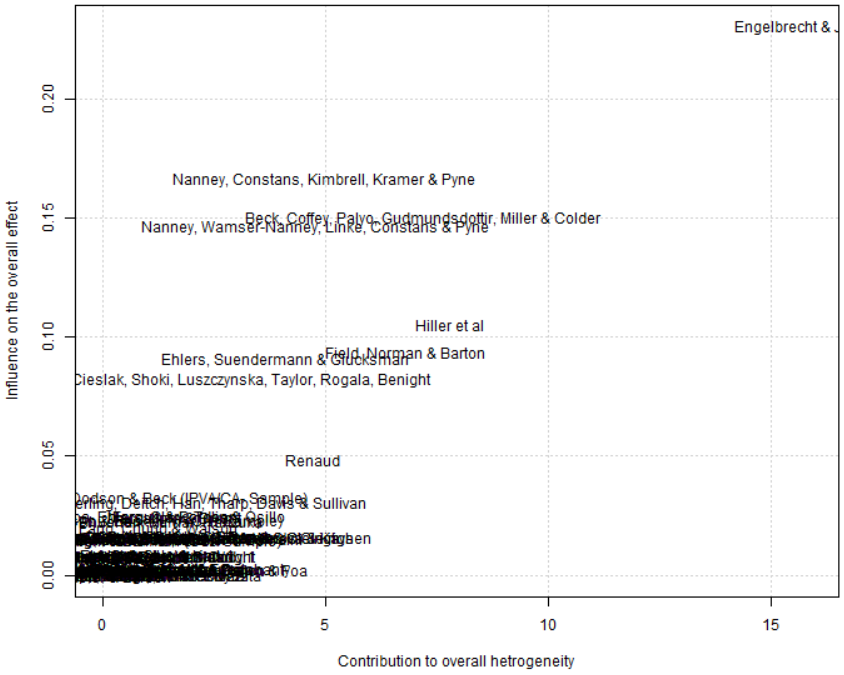


Figure 10: Baujat scatterplot exploring heterogeneity for the NBS subscale Cronbach's alpha

Four studies were identified as being either disproportionately influential or heterogeneous in comparison to the others. These four studies were re-reviewed regarding appropriateness of inclusion. Similar to results for the PTCI-Total, two of the four studies identified had modified the NBS subscale and thus a sub-group analysis was conducted comparing modified and unmodified studies. The other two studies (Beck, Coffey, Palyo, Gudmundsdottir, Miller & Colder, 2004; Englebrecht & Jobson, 2014) were re-reviewed. No reason for exclusion was identified.

Sub-group Analysis of modified and unmodified studies

A sub-group analysis was conducted comparing studies that utilised a modified NBS Scale and those that did not modify the scale. As can be seen in Figure 11, results showed that studies that utilised a modified NBS demonstrated a significantly lower estimate of the

alpha compared to non-modified studies (X^2 25.30, p <0.01). For example, Constans, Vasterling, Deitch, Han, Tharp, Davis & Sullivan (2012) utilised a modified 15-item sub-scale and reported alpha coefficient of 0.9; whereas Bhushan, Kumar, Harizuka (2011) did not modify the scale and reported an alpha coefficient of 0.97. As a result, all studies (k 8) that utilised a modified version of the NBS were removed from subsequent analyses.

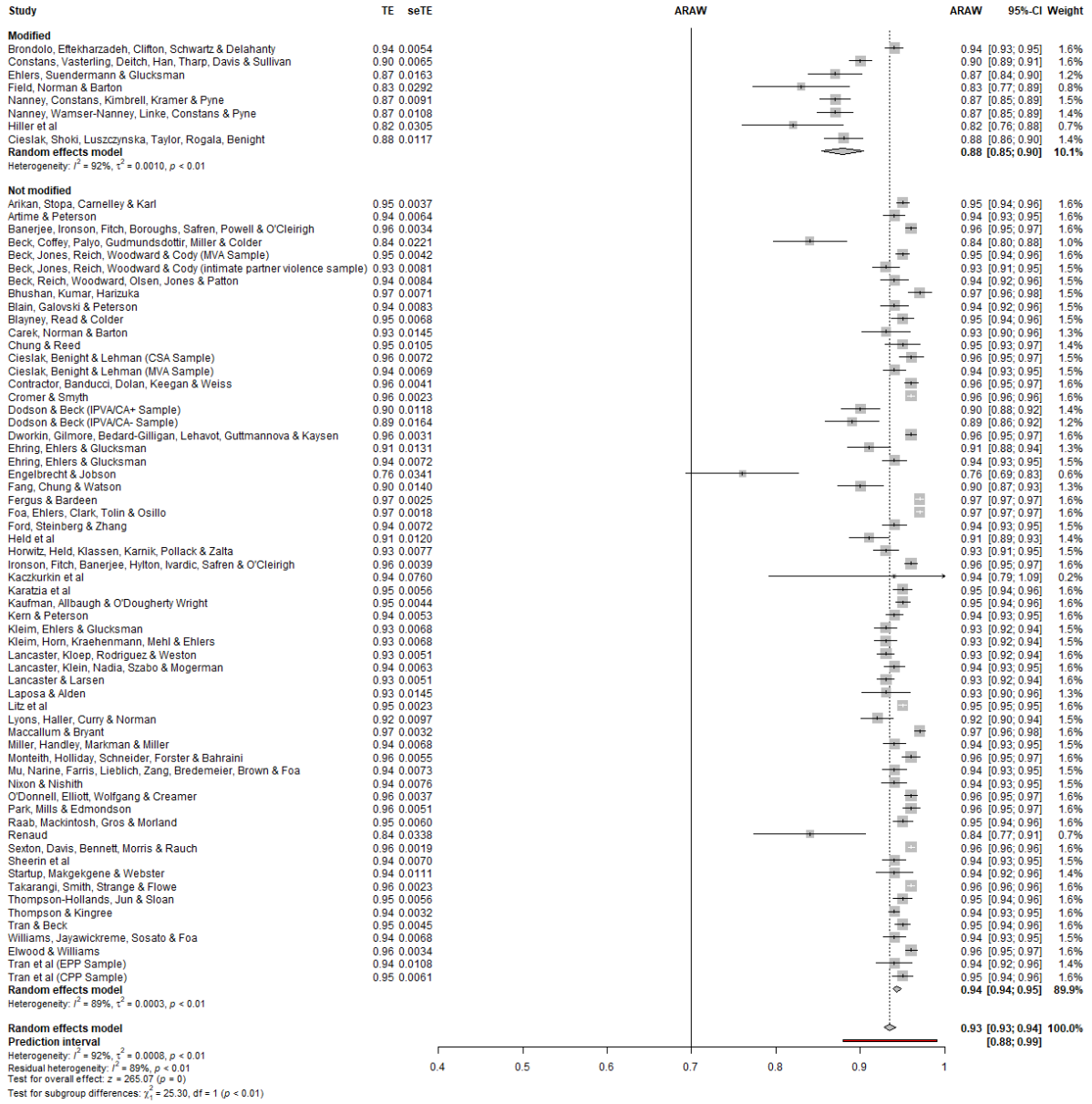


Figure 11: Sub group analysis forest plot comparing modified and unmodified NBS subscale Cronbach's alpha

The random effects model was recalculated with the nine modified alpha coefficients removed (k 61) The corrected random effects model reported a synthesis of alpha 0.9431

(z 393.39, p <0.01) with a 95% confidence interval between 0.9384 and 0.9478. Higgins I^2 showed a 3.4% decrease from 92.1% to 88.7%.

The effect of risk of bias in the alpha coefficients

To assess the impact of risk of bias upon heterogeneity, a series of subgroup analyses were conducted for each type of methodological bias – see Table 6. As all the studies which reported modified versions of the NBS subscale had been removed from subsequent analyses, there were no high-risk studies for detection bias. Furthermore, as all studies reported an exact reliability coefficient (Cronbach's alpha), there were no high-risk studies for statistical bias. Consequently, these domains of bias were not examined for subgroup differences.

Table 6: Subgroup analyses for methodological bias for NBS Cronbach's Alpha

	Low Risk			High Risk				
	ARAW	**95% CI**	**K**	**ARAW**	**95% CI**	**K**	**X^2**	**P**
Selection bias	0.93	0.91-0.96	5	0.94	0.92-0.95	13	0.05	0.82
Performance bias	0.93	0.91-0.96	5	0.94	0.94-0.95	25	0.57	0.45
Treatment fidelity	0.94	0.94-0.95	42	0.94	0.94-0.95	3	0.10	0.75
Detection bias	0.94	0.94-0.95	61					
Statistical bias	0.94	0.94-0.95	61					
Reporting bias	0.94	0.93-0.95	27	0.95	0.94-0.96	1	1.52	0.22
Generalisability bias	0.95	0.94-0.95	49	0.93	0.90-0.97	5	0.64	0.42

There were no statistically significant differences in the estimate of alpha between high and low risk biases in any of the methodological biases reported. This suggested that methodological risk of biases was not associated with heterogeneity between studies.

Comparison of weighted alpha coefficients by clinical population

It was identified that, across the primary studies, samples were drawn from 13 different clinical populations. A significant difference was reported for different populations (X^2 107.63, p <0.01); therefore, suggesting that the type of trauma experienced is likely to influence alpha - (see Figure 12). However, it is important to interpret this conclusion with caution as several of the subgroups had a limited number of studies and it should be noted that all the populations reported weighted average alpha coefficients greater than 0.85.

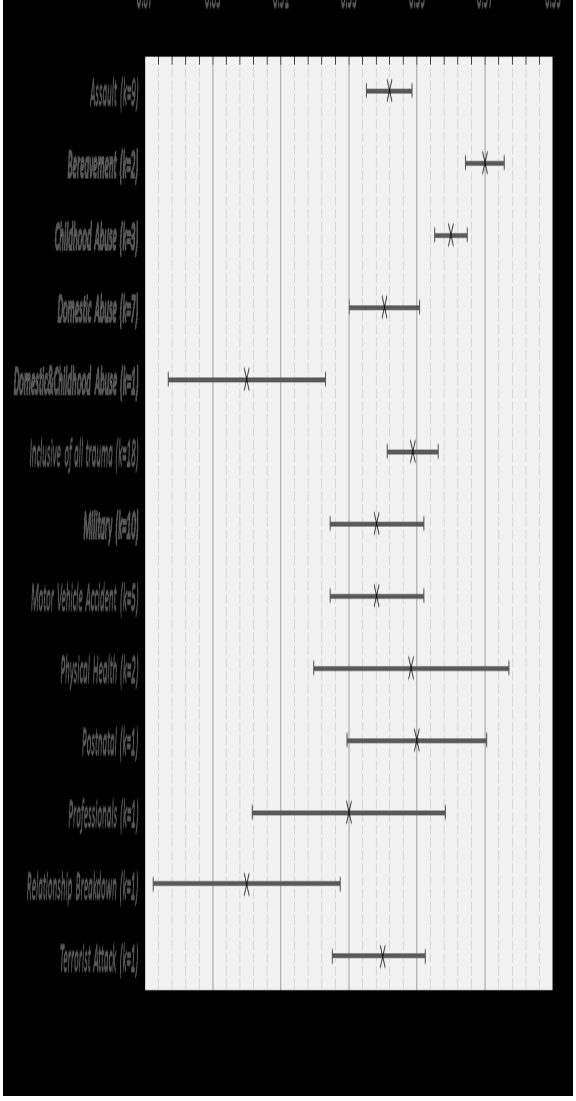


Figure 12: Forest plot of studies by population sample type with 95% confidence intervals for NBS subscale

Comparison of alpha synthesis by country of study

A subgroup analysis was also conducted based on the country where each study was conducted. Eight countries reported alpha coefficients. There was a significant difference in the weighted alpha coefficient reported dependent on the country in which the study took place (X^2 93.57, p <0.01) – (see Figure 13).

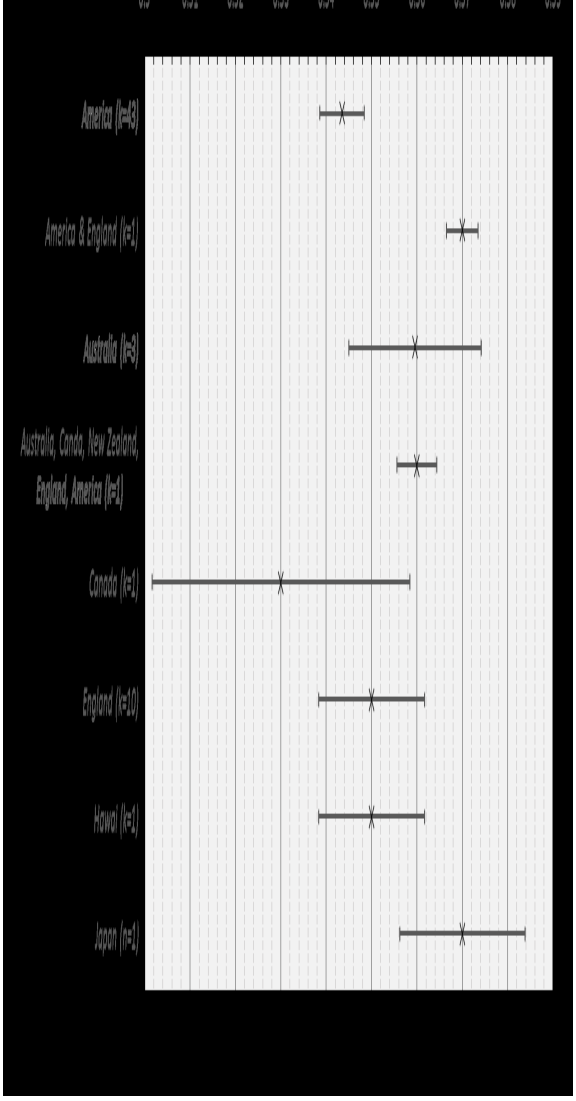


Figure 13: Forest plot of studies by country with 95% confidence intervals for NBS subscale

The impact of publication and small study biases

To assess the potential impact of publication and small study biases, Orwin's failsafe number (Orwin, 1983) was used to calculate the number of studies averaging null results, that would be required to be added to the existing number of studies in the review, to reduce the average Cronbach's alpha to a value below the minimally acceptable value of 0.70.

If the average null result were taken to be α 0.65 then 237 studies would have to be lost due to publication bias to reduce the meta-analytic average below the minimum acceptable alpha

coefficient. Even in an extreme example where the average null result were taken to be α 0.45 then 55 studies would have to be lost due to publication bias. It is highly unlikely that this number of studies have been lost to publication bias and therefore the conclusions of this analysis should be considered robust to bias related to the publication of null results.

Negative Beliefs about the World subscale results

For the NBW subscale, there were 58 primary studies, involving a total of 14,342 participants with 61 alpha coefficients reported.

Selection of the meta-analytic model

The distribution of primary study effects is shown in Figure 15. The variance of the true effect (tau^2) was calculated using the DerSimonian & Laird method. As shown below in Figure 14, the random effects model was the most appropriate fit for the data with minimal non-normality in the distribution of the alpha coefficients.

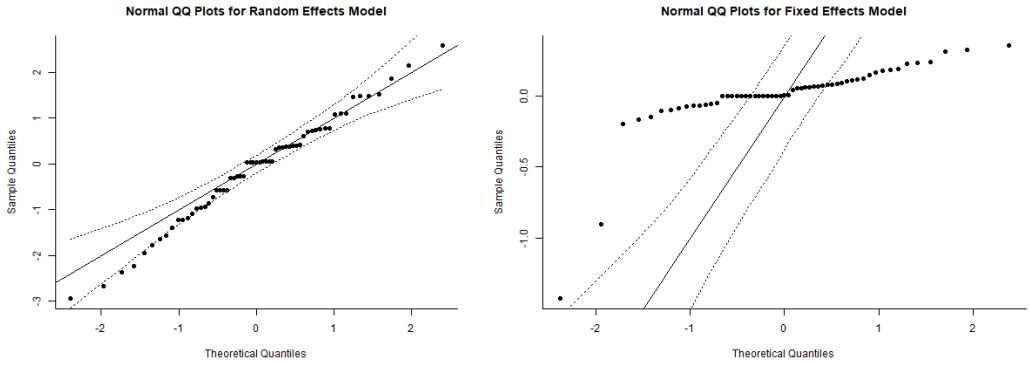


Figure 14: QQ plot of the distribution of the raw alpha within the NBW subscale using the random effects model and fixed effects model

The omnibus test

The generic inverse variance method was used to calculate a random effects model based on the 61 studies included. The random effects model suggested a weighted average alpha of 0.8786 (z 217.05, p <0.01) with a 95% confidence interval of between 0.8707 and 0.8866. An effect of this magnitude would be considered acceptable, as it is greater than an internal reliability of 0.70. Please Figure 15 for the alpha values and confidence interval for each individual study.

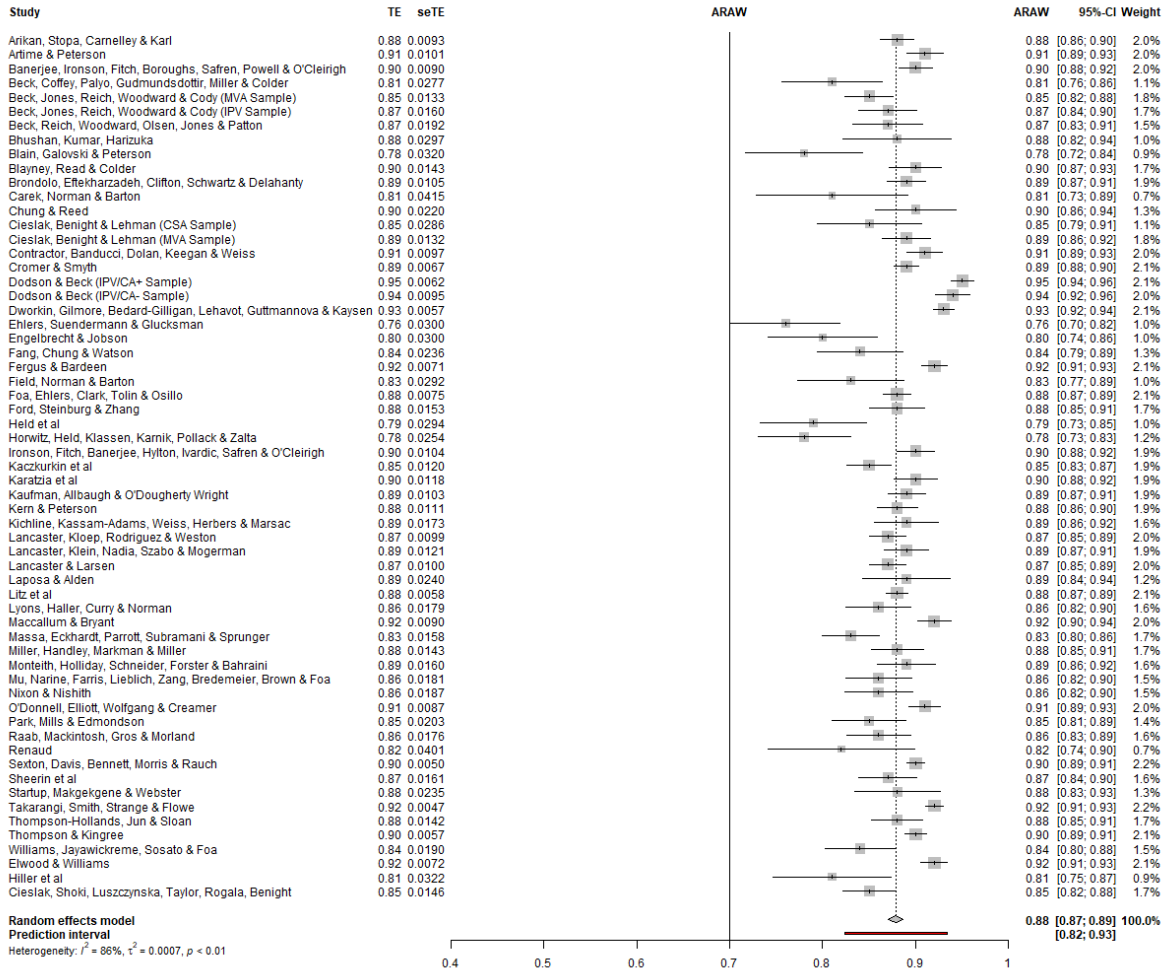


Figure 15: Forest Plot of the Omnibus test for the Cronbach's Alpha of the NBS subscale

Level of Heterogeneity

A substantive level of heterogeneity in the primary studies was observed (tau^2 0.0007, Higgin's I^2 86.3%, p < 0.01), therefore suggesting that estimates of alpha in the primary studies may have been biased by the presence of uncontrolled or confounding factors. Henceforth, subsequent analyses were focused on identifying the sources of heterogeneity.

The impact of influential primary studies

Figure 16 depicts the results of the “leave-one-out” analysis in the form of a Baujat plot (Baujat, Mahe & Pignon, 2002).

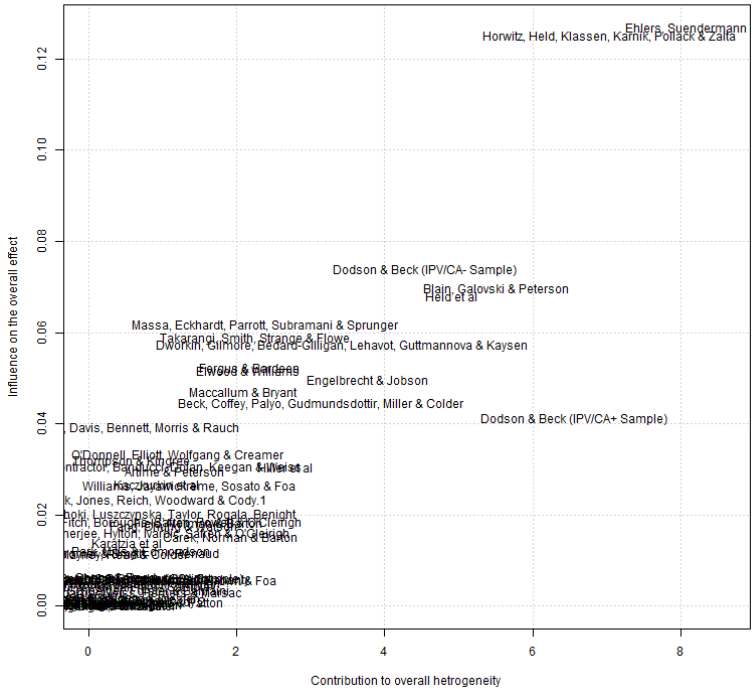


Figure 16: Baujat scatterplot exploring heterogeneity for the NBW subscale Cronbach’s alpha

Two studies were identified as being disproportionately influential and discrepant from the other reported alpha coefficients. These two studies were re-reviewed regarding appropriateness of inclusion. Like the other analyses, one of these studies (Ehlers, Suendermann & Glucksmann, 2010) utilised a modified version of the analysis and thus a sub -group analysis was conducted comparing modified and unmodified studies. The other study (Horwitz et al, 2018) was re-reviewed and there was no clear reason identified for exclusion.

Sub-group Analysis of modified and unmodified alpha coefficients

As mentioned, a sub-group analysis was conducted comparing studies that utilised a modified NBW subscale and those that did not modify the scale. As can be seen in Figure 17, results showed that studies that utilised a modified NBW subscale demonstrated a significantly lower estimate of the alpha compared to non-modified studies. (X^2 14.76, p < 0.01). For example, Ehlers, Suendermann & Glucksman (2010) utilised a 5-item scale and reported an alpha coefficient of 0.76; whereas Fergus & Bardeen (2017) did not modify the scale and reported an alpha coefficient of 0.92. As a result, all studies (k 2) that utilised a

modified version of the NBW subscale were removed from subsequent analyses.

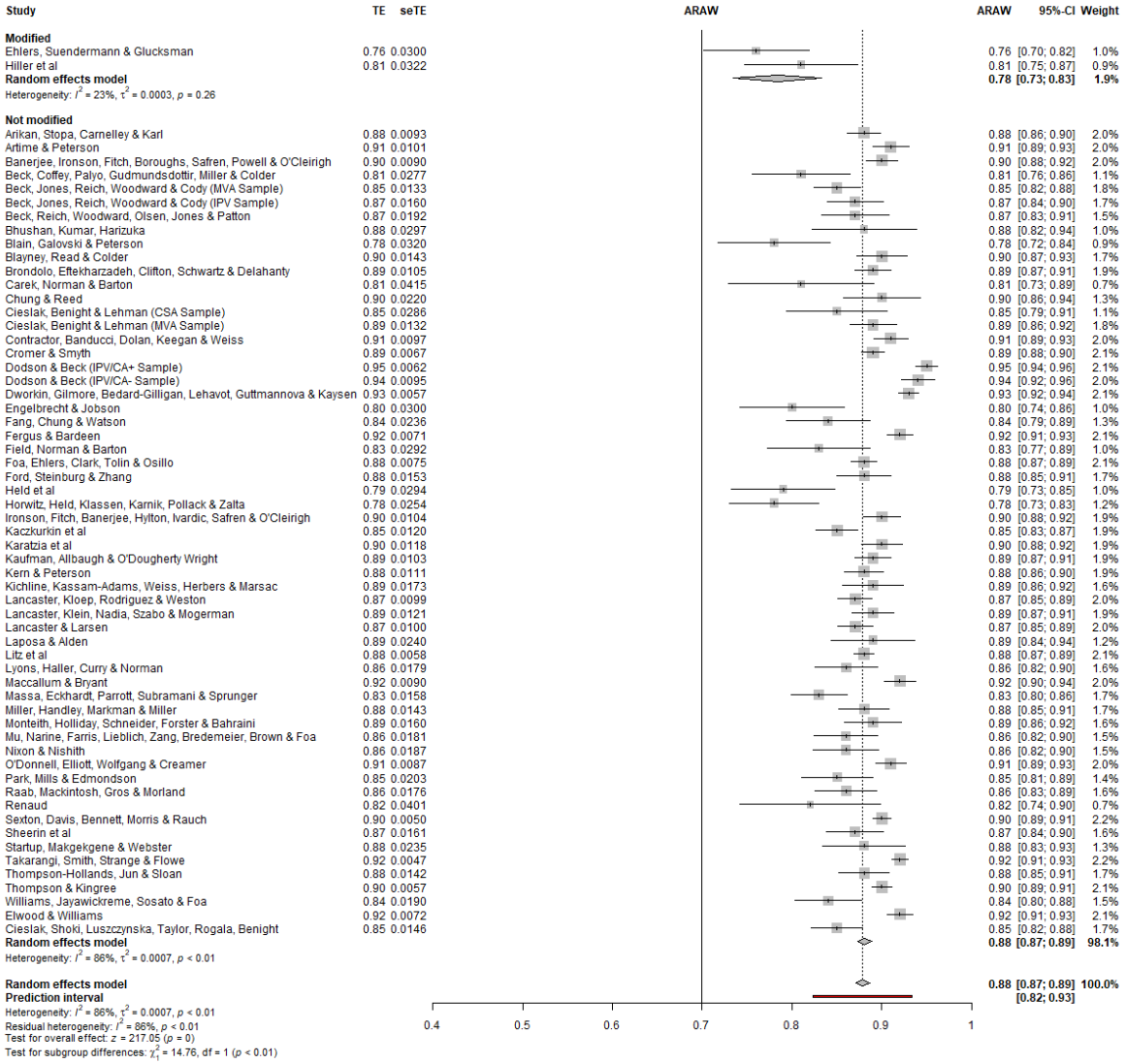


Figure 17: Sub group analysis forest plot comparing modified and unmodified NBW subscale Cronbach's alpha

The random effects model was recalculated with the two studies removed (k 59) The corrected random effects model reported a synthesis of alpha 0.88 (z 221.29, p <0.01) with a 95% confidence interval of between 0.8730 and 0.8886. Higgins I^2 showed a 0.4% decrease from 86.3% to 85.9%.

The effect of risk of bias in the alpha coefficients

To assess the impact of risk of bias upon heterogeneity, a series of subgroup analyses were conducted for each type of methodological bias – see Table 7. As all the studies which

reported modified versions of the total score had been removed from subsequent analyses, there were no high-risk studies for detection bias. Furthermore, as all studies reported an exact reliability coefficient (Cronbach's alpha), there were no high-risk studies for statistical bias. Therefore, these domains of bias were not examined for subgroup differences.

Table 7: Subgroup analyses for methodological bias for NBW subscale Cronbach's Alpha

	Low Risk			High Risk				
	ARAW	**95% CI**	**K**	**ARAW**	**95% CI**	**K**	**X^2**	**P**
Selection bias	0.88	0.87-0.90	5	0.87	0.84-0.89	9	1.69	0.19
Performance bias	0.84	0.79-0.88	5	0.89	0.88-0.90	23	4.59	0.03
Treatment fidelity	0.88	0.87-0.89	45	0.88	0.85-0.90	3	0.10	0.75
Detection bias	0.88	0.87-0.89	59					
Statistical bias	0.88	0.87-0.89	59					
Reporting bias	0.89	0.87-0.9	24	0.90	0.88-0.92	1	1.18	0.28
Generalisability bias	0.88	0.87-0.89	47	0.87	0.84-0.90	5	0.40	0.53

Results demonstrated that performance bias evidenced a statistically significant difference in estimates of alpha, with lower levels of bias being associated with lower estimates of alpha compared to higher risk of bias.

Comparison of alpha synthesis by clinical population

It was identified that, across the primary studies, samples were drawn from 14 different populations. A significant difference was reported for population sample (X^2 109.11, p <0.01); however, as previously discussed this conclusion needs to be interpreted with caution due to the small number of studies within sub-groups. See Figure 18 for the aggregated alpha value for each population sample type.

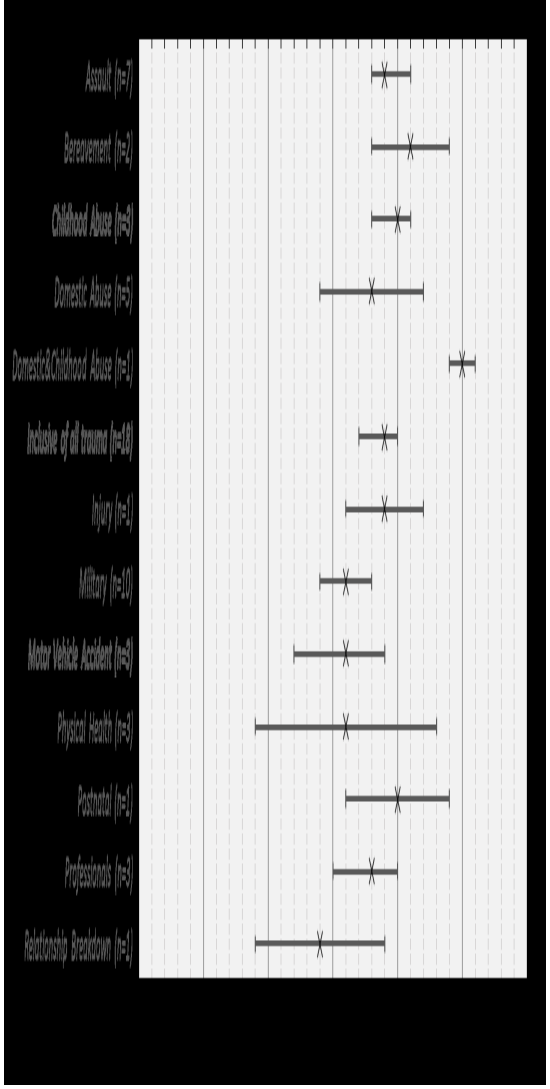


Figure 18: Forest plot of studies by population sample type with 95% confidence intervals for NBW subscale

Comparison of alpha synthesis by country of study

Eight countries were identified, each producing a different number of studies. Results illustrated that there was a significant difference in the alpha value reported dependent on the country in which the study took place (X^2 57.67, p <0.01). As previously discussed, this conclusion needs to be interpreted with caution due to the small number of studies within sub -groups Please see Figure 19 for the aggregated alpha value for each country of residence.

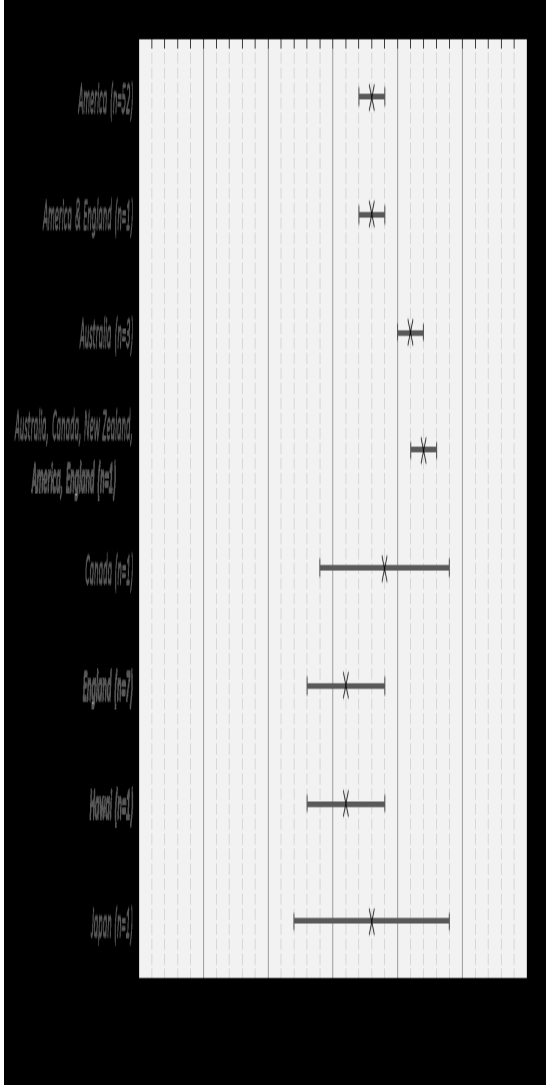


Figure 19: Forest plot of studies by country with 95% confidence intervals for NBW subscale

The impact of publication and small study biases

To assess the potential impact of publication and small study biases, Orwin's failsafe number (Orwin, 1983) was used to calculate the number of studies averaging null results, that would be required to be added to the existing number of studies in the review, to reduce the average Cronbach's alpha to a value below the minimally acceptable value of 0.70.

If the average null result were taken to be α 0.65 then 168 studies would have to be lost due to publication bias to reduce the meta-analytic average below the minimum acceptable alpha

coefficient. Even in an extreme example where the average null result were taken to be α 0.45 then 39 studies would have to be lost due to publication bias. It is highly unlikely that this number of studies have been lost to publication bias and therefore the conclusions of this analysis should be considered robust to bias related to the publication of null results.

Self-Blame subscale results

For the SB subscale, there were 49 primary studies, involving a total of 12,190 participants with 52 alpha coefficients reported.

Selection of the meta-analytic model

The variance of the true effect (tau^2) was calculated using the DerSimonian & Laird method. As shown below in Figure 20, the fixed effects model showed marked non-normality in the distribution of alpha coefficients, whereas the random effects model showed an appropriate fit for the distribution of output coefficients.

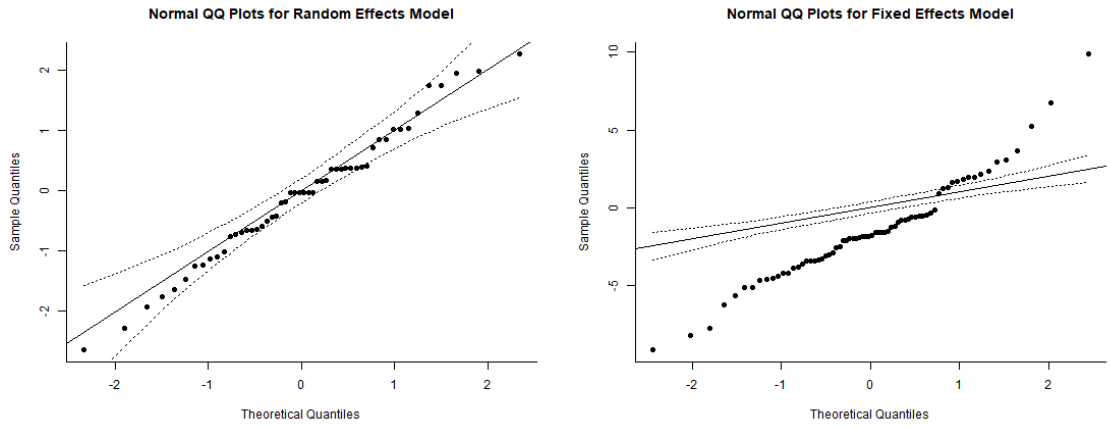


Figure 20: QQ plot of the distribution of the raw alpha within the SB subscale using the random effects model and fixed effects model

The omnibus test

The generic inverse variance method was used to calculate a random effects model based on the 52 alpha coefficients included. The random effects model suggested a weighted average alpha of 0.8016 (z 109.91, *p* <0.01) with a 95% confidence interval of 0.7874 and 0.8159. An effect of this magnitude was considered acceptable, as it was greater than an internal reliability of 0.70. Please Figure 21 for the alpha values and confidence interval for each individual study.

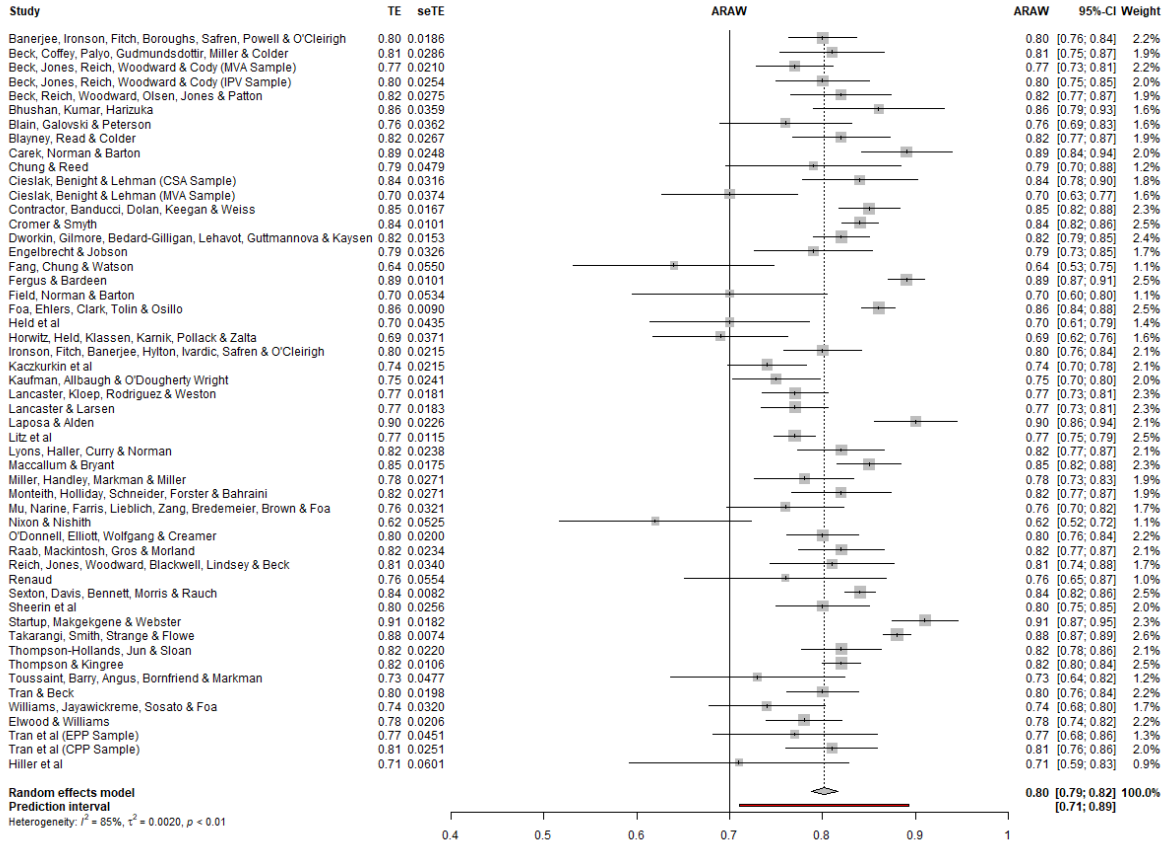


Figure 21: Forest Plot of the Omnibus test for the Cronbach's Alpha of the SB subscale

Level of Heterogeneity

A substantive level of heterogeneity in the primary studies was observed (tau^2 0.0020, Higgin's I^2 85.1%, p < 0.01), therefore suggesting that estimates of alpha in the primary studies may have been biased by the presence of uncontrolled or confounding factors. Henceforth, subsequent analyses were focused on identifying the sources of heterogeneity.

The impact of i

Figure 22 m of a Baujat plot (Baujat, Ma nge from least to most influenti tartup, Makgekgene & W tionately influential or het fied for exclusion.

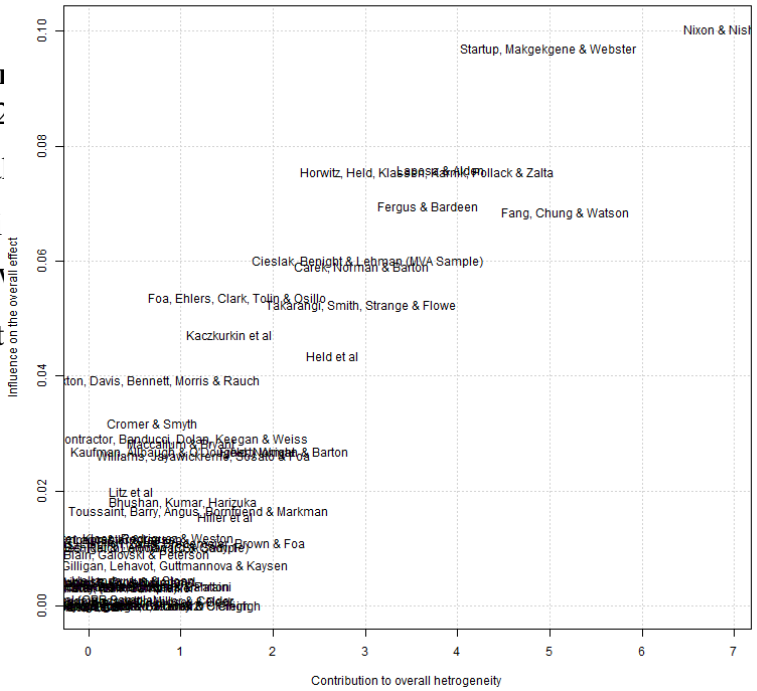


Figure 22: Baujat scatterplot exploring heterogeneity for the SB subscale Cronbach's alpha

Sub-group Analysis of modified and unmodified alpha coefficients

Unlike the previous analyses, within the PTCI-SB analysis there was only one study which utilised a modified scale. As this study was not seen as disproportionately influential or heterogenous it was not identified as a possible exclusion. Furthermore, as there was only one study that utilised a modified scale it was not appropriate to conduct a sub-group analysis.

The effect of risk of bias in the alpha coefficients

To assess the impact of risk of bias upon heterogeneity, a series of subgroup analyses were conducted for each type of methodological bias – see Table 8. As all studies reported an exact reliability coefficient (Cronbach's alpha), there were no high-risk studies for statistical bias. Similarly, as all studies reported Cronbach's alpha, there were no high-risk studies for reporting bias. Hence, these domains were not assessed.

Table 8: Subgroup analyses for methodological bias for SB subscale Cronbach's Alpha

	Low Risk			High Risk				
	ARAW	**95% CI**	**K**	**ARAW**	**95% CI**	**k**	**X^2**	**P**
Selection bias	0.83	0.77-0.88	4	0.78	0.75-0.81	11	2.23	0.14
Performance bias	0.74	0.68-0.80	5	0.81	0.78-0.83	18	4.09	0.04
Treatment fidelity	0.81	0.79-0.82	36	0.78	0.75-0.82	2	1.00	0.32
Detection bias	0.80	0.79-0.82	51	0.71	0.59-0.83	1	2.33	0.13

	Low Risk			High Risk				
	ARAW	**95% CI**	**K**	**ARAW**	**95% CI**	**k**	**X^2**	**P**
Statistical bias	0.80	0.79-0.82	52					
Reporting bias	0.81	0.79-0.83	19					
Generalisability bias	0.80	0.78-0.81	37	0.86	0.81-0.90	5	5.70	0.02

Results illustrated that both performance bias and generalisability bias evidenced a statistically significant difference in estimates of alpha, with lower levels of bias being associated with lower estimates of alpha.

Comparison of alpha synthesis by clinical population

It was identified that, across the primary studies, samples were drawn from 12 different clinical populations. A significant difference was reported for population sample (X^2 58.38, p <0.01); however, this conclusion needs to be interpreted with caution due to the limited number of studies within sub-groups - (see Figure 23).

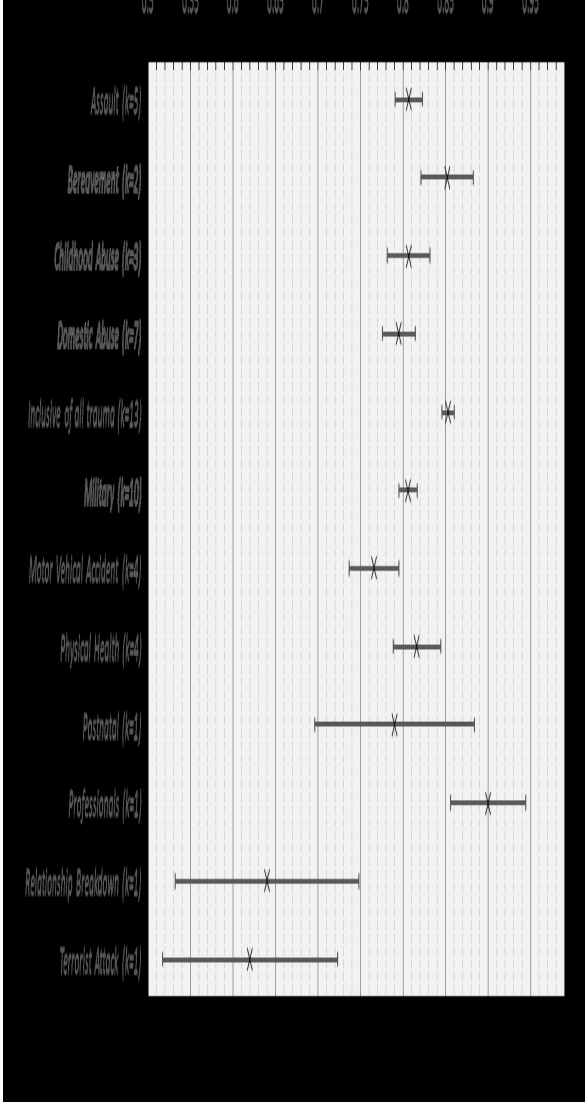


Figure 23: Forest plot of studies by population sample type with 95% confidence intervals for SB subscale

Comparison of alpha synthesis by country of study

Eight countries were identified, each producing a different number of studies. Results illustrated that there was a significant difference in the alpha value reported dependent on the country in which the study took place (X^2 84.20, p <0.01). As previously discussed, this conclusion needs to be interpreted with caution due to the small number of studies within sub

-groups. See Figure 24 fo y of residence.

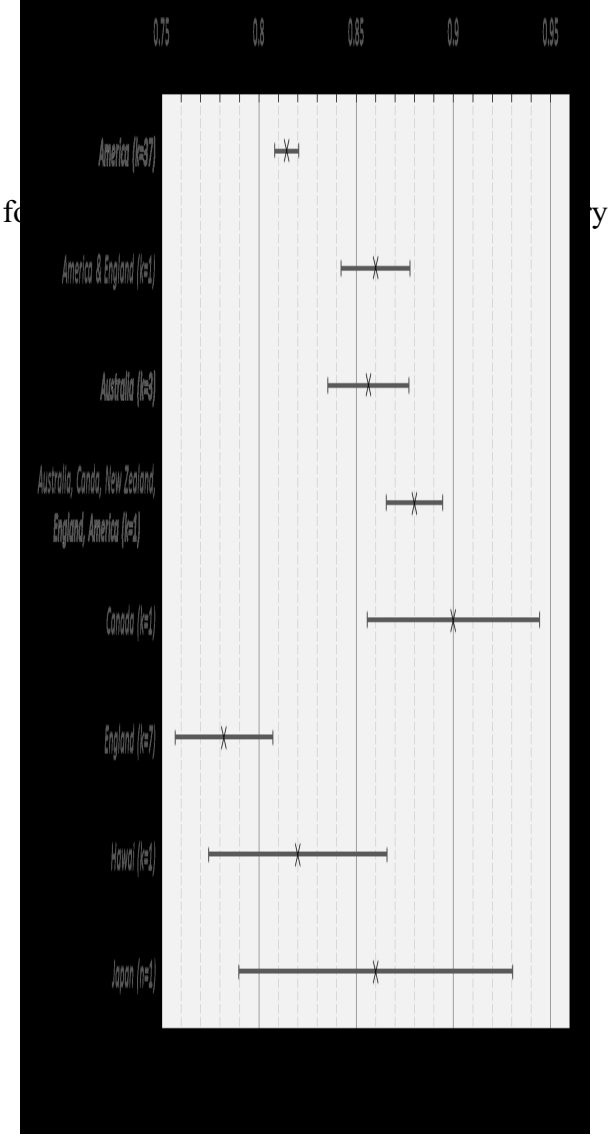


Figure 24: Forest plot of studies by country with 95% confidence intervals for SB subscale

The impact of publication and small study biases

To assess the potential impact of publication and small study biases, Orwin's failsafe number (Orwin, 1983) was used to calculate the number of studies averaging null results, that would be required to be added to the existing number of studies in the review, to reduce the average Cronbach's alpha to a value below the minimally acceptable value of 0.70.

If the average null result were taken to be α 0.65 then 79 studies would have to be lost due to publication bias to reduce the meta-analytic average below the minimum acceptable alpha coefficient. Even in an extreme example where the average null result was taken to be α 0.45

then 23 studies would have to be lost due to publication bias. In comparison to the other subscales, fewer studies were needed to reduce Cronbach's alpha to a value below 0.70; however, this was relative to the number of studies included in the analysis and thus it was suggested that the observed alpha was robust to studies missing due to publication bias.

DISCUSSION

This review aimed to explore and report upon the internal consistency/reliability of the PTCI and the accompanying subscales which form it. The review included 117 primary studies; however, several studies reported alpha values for different sub-samples and thus a greater number of alpha coefficients were reported.

Results indicated that the aggregated alpha value for the PTCI-Total and its subscales were good to excellent, with a reported alpha value of 0.95 (95% CI – 0.948-0.956) for the PTCI-Total and 0.93 (95% CI – 0.927-0.941), 0.87 (95% CI – 0.87-0.886), and 0.8 (95% CI – 0.787 -0.815) for the subscales, NBS, NBW and SB. Estimates of the alpha may have been influenced by the significant level of heterogeneity observed, although this was expected due to the large parameters of included studies. It was considered that conclusions of the analysis were robust to bias related to the publication of null results.

Results showed that clinical population, i.e., type of trauma experienced was an important predictor of the alpha value. This is important as the PTCI aims to be generalisable to victims from a wide range of different traumas (Foa, 1999) compared to measures that have been developed for specific clinical populations, such as the PBRS (Resick, Schnicke & Markway, 1991). Due to the small number of alpha coefficients collected for each clinical population sub-group, this analysis was unable to determine why the clinical population acts as a moderator; however, it was hypothesised that self-blame appraisals were influential. Clinical population had the greatest effect on the SB subscale, where the alpha fell as low as 0.62. The literature argues that self-blame is a central cognitive appraisal in some traumas, but is less influential in others; for example, self-blame is often more prominent in sexual assault traumas (Koss et al., 2002) - this was representative in this analysis. To further determine why the clinical population acts as a moderator, it would be helpful for future research to compare the cognitive features of PTSD in different clinical populations to help

determine which appraisals are most important.

Furthermore, results illustrated that country of residence was also an important predictor of the alpha value. Again, this review highlighted that the alpha value for the self-blame subscale was most influenced by country of residence, with the alpha value falling as low as 0.78. It was hypothesised that self-blame appraisals may be influenced by cultural differences in casual attribution. For example, it is considered that individualistic cultures, such as Westernised countries, often emphasise the independent self, whereas collectivist cultures, such as East Asian countries tend to emphasise interdependence (Bernadi & Jobson, 2019). Consequently, collectivist cultures tend to attribute causality to interactions between objects and the world and are thus more likely to be aware of situational factors contributing to a trauma incident rather than resorting to self-blame (Choi, Nisbett & Norenzayan, 1999; Bernadi & Jobson, 2019). Due to limited resources, studies were excluded from the analysis if the paper was not available in English, therefore it would be beneficial for future research to include foreign language papers to gather more studies for country of residence. Furthermore, countries could be categorised into individualistic and collectivist cultures to further explore these hypotheses. Regarding clinical applications, this highlights that appraisals related to self-blame may not be as potent in collectivist cultures.

Lower reliability coefficients were also associated with studies that utilised a modified version of the PTCI. This highlights the importance of administering all items on the PTCI to reliably measure trauma-focused appraisals.

When accounting for methodological variation in studies, the PTCI-Total and NBS sub-scale showed no significant difference in alpha values. For the NBW sub-scale higher levels of performance bias were associated with higher estimates of the alpha, thus implying that offering an incentive to participate in studies may influence how participants score themselves on the NBW sub-scale. It could be hypothesised that participants may have been more engaged or motivated to consistently score themselves when an incentive was offered. This was similar for the SB sub-scale that showed variation in relation to performance bias and generalisability bias.

Clinical Implications

According to the cognitive model of PTSD proposed by Ehlers & Clark (2000), an individual's appraisal of the trauma and its sequelae are important mechanisms which may

lead to processing traumatic information in a way that produces a current sense of threat. The findings of this review suggest that the PTCI-Total consistently measures trauma-focused appraisals which is considered helpful in identifying those at risk of developing PTSD following a trauma.

Given the importance of cognitive content in PTSD development and maintenance, targeting trauma-focused appraisals is a common intervention focus and this review has shown that the PTCI is also a reliable measure which can be used to monitor progress during trauma-focused treatment. When utilising the PTCI in clinical practice, it is important to consider how feelings of self-blame and shame may influence scoring on the questionnaire if completed with others present. For example, clients may score themselves lower due to feelings of shame and self-blame, therefore clinicians need to consider how to sensitively discuss scores on the PTCI with clients and allow them time to complete the questionnaire by themselves.

Strengths & Limitations

A significant strength of this review is that it is considered to be the first attempt to meta-analyse PTCI alpha values. By utilising a meta-analytic approach, this review was able to synthesise reliability across different studies, whilst accounting for a range of issues, such as publication bias and exploring potential moderators, thus increasing statistical power, and providing a more precise estimate of the underlying effect (Lee, 2019).

A weakness of this review is that a substantial proportion of studies received a low score on the quality rating scale with many falling below 50% – this was largely influenced by studies reporting the alpha coefficient indirectly rather than the research being a psychometric validation paper. Nonetheless, the sub-group analyses illustrated that variation in most of the quality variables did not have a significant impact on the alpha value.

Conclusion

Overall, the PTCI-Total and its accompanying subscales show good internal reliability, with all scales showing an aggregated alpha value greater than or equal to 0.8. In particular, the PTCI-Total reported an alpha value of 0.95 and thus it can be argued that the PTCI-Total is a reliable way to help identify those at risk of developing PTSD following a traumatic incident, to monitor progress in treatment and to help identify what differentiates those who develop PTSD compared to those who recover naturally.

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Chapter 2: An exploration of how Dyadic Developmental Psychotherapy group interventions shape foster carers parenting practice and their relationship with their foster child

ABSTRACT

Background

Placement breakdown remains a common experience for foster children, with many experiencing unplanned endings and multiple placements (Department for Education, 2019; Ofsted, 2020). Unfortunately, repeated placement breakdowns continue to re-traumatise foster children and impact their physical, emotional, social, and intellectual development (Staines, Golding & Selywn, 2019). Dyadic Developmental Psychotherapy (DDP) is an intervention designed to help support foster carers with understanding and knowing how to respond to their foster child, to reduce the risk of placement breakdown and to maximise attachment security (Fisher, 2014).

Method

Eleven foster carers participated in 1:1 interviews regarding how their parenting practice and relationship with their foster child had changed since attending the 'Foundations

for Attachment' (FFA) group, a DDP-based intervention. Interviews were analysed using Template Analysis.

Results

Results illustrated seven first level themes, 14 second level themes and six third level themes with one theme, PACE, as an overall integrative theme throughout the template.

Conclusion

Overall, this research supports the idea that DDP-based interventions, such as the FFA group shape foster carers parenting practice in line with the theoretical principles of DDP, as the themes that emerged represent key aspects of DDP, such as emotion regulation, reflective parenting, and empathetic behavioural support. Further implications for clinical and research practice are also discussed.

INTRODUCTION

As of 31st March 2020, there were 80,080 looked after children in England, representing an increase of two percent from the previous year (Gov, 2021). Looked after children are defined as any children in public care for more than 24 hours, who are placed with foster carers, in residential homes or with relatives (Royal College of Nursing, 2021). There are several reasons why a child may be looked after, with the most common reason being at risk of or having experienced abuse or neglect (Gov, 2021). For example, data from 2020 indicates that out of 80, 080 children, 51, 780 children were identified as having experienced or been at risk of abuse or neglect – this continues to increase each year (Gov, 2021). Most looked after children are placed into foster placements (72%) (Gov, 2021). Over the past year, there has been a 2% increase in the number of fostering households; however, the number of children entering foster care has increased at a faster pace (3%) (Ofsted, 2020). This means that there are fewer available placements for foster children.

Due to the in-proportionate ratio between available foster placements and children who need fostering, it is imperative for foster placements to remain stable. Despite this need, placement breakdown remains common for foster children. For example, evidence has shown that between 2018-2019 only 68% of foster children had the same placement for the year, whilst at least 10% of foster children had three or more placements (Department for Education, 2019). Similarly, 5800 foster children experienced unplanned endings with 31% of foster children being moved in 24 hours; this reflects an increase of 6% compared to the previous year and 10% from 2016-2017 data (Ofsted, 2020). Unfortunately, children have no way of appreciating the complexities of the foster care system and thus repeated placement breakdowns often influence their emotion regulation skills (Tarabulsy et al., 2008), cognitive representations of self, others, and the world and their ability to form secure attachments (Hewitt, Gurney-Smith & Golding, 2018; Ibrahim, Cosgrave & Woolgar, 2018). These effects are thought to increase a child's vulnerability to poor physical, emotional, social, and intellectual development (Staines, Golding & Selwyn, 2019).

Placement breakdown can happen for various reasons. As mentioned, foster children often come from chaotic family homes, where they may have been abused or neglected; therefore, foster children often present with feelings of low self-worth, a reduced capacity to regulate their emotions and an incoherent sense of self (Redfern et al., 2018; Becker-Weidman, 2006). For example, a large percentage of foster children describe themselves as unimportant, they may blame themselves for their abuse and often demonstrate impulsive, violent, or explosive behaviours (Younges & Harp, 2007). These challenging behaviours can be difficult for foster carers to manage, as they often struggle to consider how behaviour may be a result of trauma rather than in response to immediate external circumstances (Bunday, Dallos, Morgan & McKenzie, 2015). Differentiating between behaviours that indicate a traumatic state and typical challenging behaviour can make it difficult for foster carers to implement clear boundaries and consequences (Bunday et al., 2015). Hence, this lack of knowledge can make it difficult for foster carers to understand a child's behaviour and they may struggle to feel competent in sensitively responding to their foster child's needs.

Furthermore, research has shown that the experience of childhood adversity is often a motivation for fostering and thus many foster carers have experienced their own childhood trauma and may have insecure attachment strategies (Caltabiano & Thorpe, 2007). This is significant as a child's challenging behaviour or feelings may activate unresolved feelings for

the foster carer regarding their own parenting experience (Bunday et al., 2015) When this happens, a foster carer is likely to be limited in their ability to self-reflect and sensitively respond to the child's needs. For example, research has shown that foster carers often indicate a need to experience mutual attachment and to receive love or recognition from their child and this tends to be heightened in foster carers who exhibit insecure attachment strategies (Bunday et al., 2015). If a foster carer has unresolved feelings from their own parenting, these experiences may induce feelings of hurt; for instance, evidence illustrates that foster carers may feel that their child's behaviour is personal against them rather than a representation of how the child has learnt to cope (Laybourne, Andersen & Sands, 2008). Ultimately this can affect how consistently and sensitively a foster carer can respond to the child's needs and may lead to placement breakdown.

Placement breakdown can also occur due to the complex relationship between foster children and foster parents. Sometimes in foster care, the child must negotiate living with the foster family whilst also retaining their birth family membership – this has been termed the "loyalty conflict" (Dansey, John & Shbero, 2018). There is conflicting evidence within the literature which debates whether contact with the birth family is beneficial or detrimental to placement stability and success, with a consensus that the strength of the child's pre-existing attachment to their birth family is a key influential factor (Boyle, 2017; Atwool, 2013). On the one hand, research argues that contact with the birth family can help foster children form new attachments with their foster carers, as contact is thought to alleviate feelings of anxiety and guilt about the safety and wellbeing of the birth family (Boyle, 2017; Atwool, 2013). In comparison, it is also thought that contact with the birth family can exacerbate attachment difficulties if the child continues to experience parental rejection. Research has illustrated that contact with the birth family can prompt ambivalent feelings towards foster carers if a child sees that contact has undermined their view of the foster carer holding a protective role (Boyle, 2017; Atwool, 2013). Hence, contact with the birth family can lead to placement breakdown, as foster carers may struggle to manage the complex relationship with the birth family and behaviours of the child following contact. Similarly, both foster carers and children may avoid feelings of dependency and attachment, as there is a continuous degree of uncertainty about the foster child returning to their birth family (Waterman, 2001; Dansey et al., 2018).

Lastly, placement breakdown can happen when foster carers feel that they do not have the right support from other professionals. Research has illustrated that when a foster carer feels able to contact their social worker and views their social worker as responsive, they often feel more competent in their parenting practice (Samrai, Beinart & Harper, 2011; Beecham & Sinclair, 2007; Sinclair, Wilson & Gibbs, 2005). Whereas evidence suggests that placement breakdown is more likely when foster carers are given mixed messages from social workers, feel that there is poor communication, or that the social worker is more concerned with representing the needs of the birth family (Samrai et al, 2011). Similarly, research has shown that as foster carers progress in their experiences and resources they often begin to grow more assertive and willing to challenge social workers (Maclay, Bunce & Purves, 2006). This can sometimes further exacerbate a difficult working relationship, as the social worker and foster carer engage in an embattled relationship, where both may have differing views about the placement and management of the foster child (Maclay et al., 2006). Hence, it is vital for foster carers and social workers to work together to enable placement success.

As a result, there has been extensive work on creating interventions that support foster carers with the pressures of their role, to reduce the risk of placement breakdown and to maximise attachment security (Fisher, 2014). The National Institute for Health and Care Excellence (NICE) has recommended several interventions thought to be useful for foster carers supporting children with complex attachment difficulties (NICE, 2015). One intervention specifically noted by NICE is Dyadic Developmental Psychotherapy (DDP) (NICE, 2015). DDP is an intervention designed to facilitate attachment security between the child and carer; it specifically works with complex trauma experienced early in life by children at the hands of his/her caregivers (Hughes, 2014). DDP utilises "here and now" intersubjective experiences to help foster carers develop emotional connectedness with their child, to facilitate new understandings of their child's distrustful or destructive behaviour and to learn how to respond to challenging behaviour alongside building new connections (Casswell, Golding, Grand, Hudson and Tower, 2014). It is hypothesised that this will improve parental commitment, sensitivity, and nurture; all of which are thought to be the important elements that increase a child's security of attachment (Dance & Rushton, 2005). DDP has largely been implemented in the United States, Canada and the UK, as well as on a smaller scale in other countries.

One of the more recent DDP-based interventions is the Foundations for Attachment (FFA) group, which is a six-week group that runs for foster carers based upon the DDP-model. Within the intervention foster parents are supported to develop their DDP skills by being introduced to the concepts of parental mentalisation, emotion regulation, PACE and empathic behavioural support (Staines, Golding & Selwyn, 2019).

Parental mentalisation refers to a parent's capacity to think about their child's inner state of mind and can be referred to as reflective functioning, mind-mindedness and insightfulness (Fonagy & Allison, 2011). Mentalisation involves the parent being able to self-reflect and differentiate between their own feelings and the child's inner experience, recognising that the child has their own mind which is separate to theirs (Fonagy, Gergely, Jurist & Target, 2002). It is thought that if a foster carer can hold in mind a representation of their child's internal experience, this will help them perceive and interpret overt behaviour in terms of internal mental states rather than due to immediate external circumstances (Meins, Fernyhough, de Rosnay, Arnott & Leekham, 2012). In turn it is suggested that this will support the child in exploring and noticing their own feelings (Fonagy et al., 2002). For example, a recent meta-analysis indicated that appropriate mind-mindedness comments were positively correlated with parental sensitivity and that both were significantly correlated with attachment security after controlling for the effect of each other (Zeegers, Colonnesi, Stams & Meins, 2017).

Emotion regulation represents the processes by which an individual consciously or unconsciously modifies the intensity of an emotion or a behavioural response to an emotion (Gross & Thompson, 2007). It is thought that a foster carer's ability to recognise and modify their emotions influences their ability to respond in an emotionally contingent way to a child's behaviour (Carreras, Carter, Heberle, Forbes & Gray, 2019). For example, research has shown that difficulties with emotion regulation can often lead to greater psychological distress for parents, which in turn can lead to more punitive parenting (Deater-Deckard, Li & Bell, 2015; Maughan, Cicchetti, Toth & Rogosch, 2007). Furthermore, it is considered that, in addition to sensitive parenting, the foster child also learns how to regulate their emotions through parental modelling (Morris, Silk, Steinberg, Myers & Robinson, 2007). Hence, emotion regulation represents a foster carers ability to self-regulate and in turn develop their child's emotion regulation skills.

Within FFA foster carers also learn how to respond to distrustful or destructive behaviours whilst maintaining an emotional connection and feelings of security – this is termed

"Connection with Correction" (Staines, Golding & Selwyn, 2019). Connection with correction is thought to be a way to facilitate a more open and engaged emotional connection with the child, helping the child discover that their internal emotional experiences are accepted without judgement (Staines, Golding & Selwyn, 2019). It is hypothesised that this will, in turn, facilitate increased feelings of security and contribute to placement success.

Lastly, within FFA, foster carers are introduced to the PACE attitude. This represents a way of parenting which demonstrates playful joy (P), curiosity about the child's internal world (C), understanding through acceptance (A) and empathy (E) (Hughes, Golding & Hudson, 2019). Within PACE, foster carers are encouraged to notice and repair any ruptures in the relationship with their foster child, with the hope that this will help the child recognise that the relationship is valued even during times of distress (Staines, Golding & Selwyn, 2019).

The FFA group was adapted from the 18-week Nurturing Attachments (NA) programme which was initially developed for adoptive parents. Small-scale studies evaluating the NA group have illustrated that the intervention has led to consistent positive changes in a care-giver's understanding of their child and improved levels of confidence (Laybourne, Andersen & Sands, 2008; Gurney-Smith, Granger, Randle & Fletcher, 2010; Green, 2011). More recently, a qualitative exploration focusing on the experiences of adoptive parents attending the NA programme was completed. This research noted the importance of relationships between group members and with the facilitator, the atmosphere of the group, participant's improved ability to regulate their emotions and an increased understanding of their child (Hewitt, Gurney-Smith & Golding, 2018). Although there has been research investigating the NA programme, to date, there has been no research on the FFA group. It is important to remember that foster carers are likely to face different obstacles in their parenting practice and relationship with the child, compared to biological infant-parent dyads and adoptive infant-parent dyads. Consequently, it is imperative to understand how foster carers implements skills from DDP-based interventions, such as FFA as this may differ from adoptive parents. Additionally, NICE has recommended that more qualitative research needs to be conducted into caregiver's experience of these therapies (NICE, 2015).

Overall, the need for placement stability and success for foster children continues to be of great importance. Research has shown that there are various challenges that may lead to placement breakdown and thus several interventions, such as DDP have been developed to support foster carers in their understanding and parenting of foster children. This research

aims to explore how DDP-based interventions shape foster carer's parenting practice and their relationship with their foster child, by interviewing participants who have attended the FFA intervention.

METHOD

Design

This research aimed to explore how DDP group interventions shape foster carers parenting practice and their relationship with their foster child. This was achieved through 1:1 interviews that were analysed using Template Analysis (TA).

Participants/Sample Description

Foster carers who had attended the FFA Group at the Therapeutic Emotional Support Service (TESS) were eligible to participate in this research. A total of 11 participants were recruited (Table 10). All participants met the inclusion criteria (see Table 9). As shown in Table 10, most participants were White and aged 45-64 years old. This is reflective of the foster carer population, as data from 2019-2020 showed that the largest group of foster carers were in their 50's (41%) and were White (82%) (Ofsted, 2020).

Table 9: Inclusion Criteria

* Adult (over 18 years of age), who have attended the Foundations for Attachment Group at the TESS in Birmingham
* Able to provide informed consent to participate in the study
* Medically and psychologically stable enough to engage in the research

Table 10: Participant Demographics

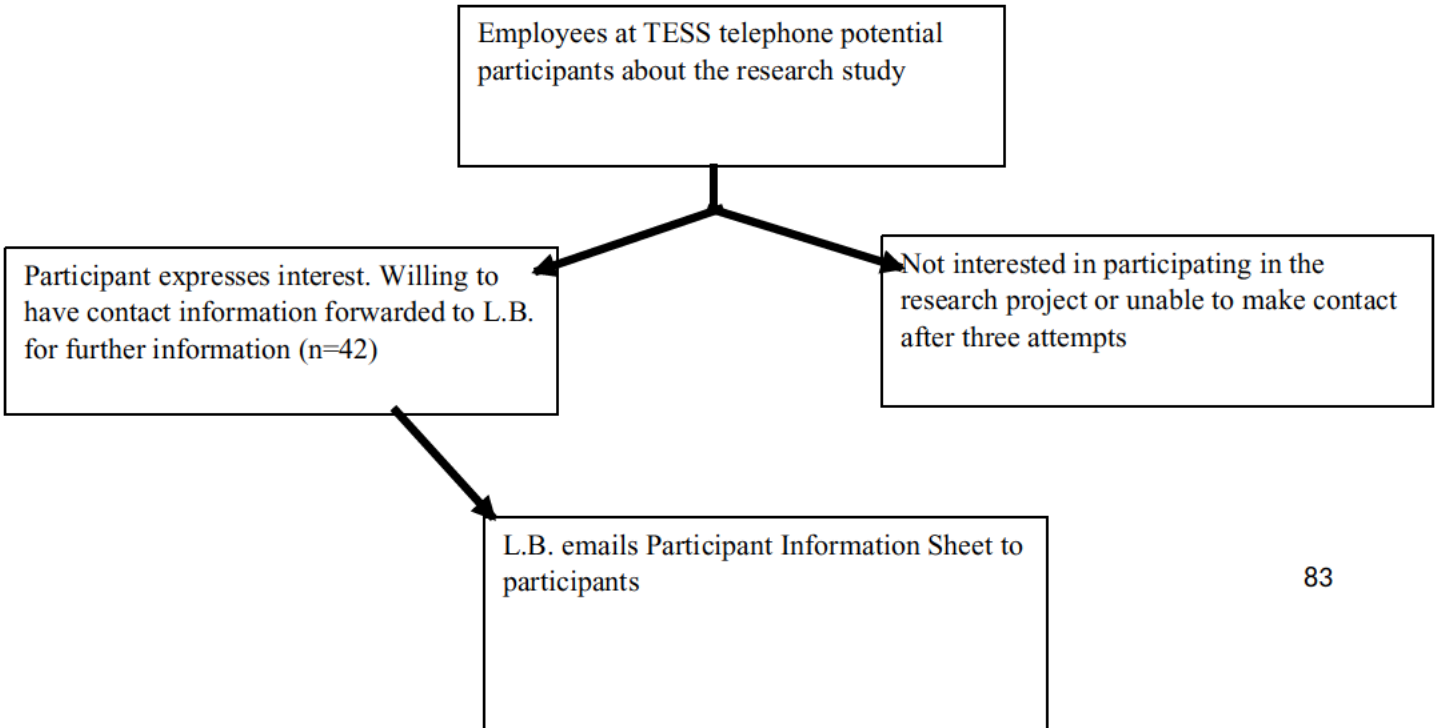
Gender	Ethnicity	Age	Number of children currently fostering	Ages of children currently fostering	Relationship Status	Partner attended group?
Female	White British/Welsh/Scottish/Irish	25-44	1	14	Married	No
Female	White British/Welsh/Scottish/Irish	25-44	2	18 months x2	Married	No
Female	White British/Welsh/Scottish/Irish	45-64	2	4 & 6	Married	No
Female	Pakistani	45-64	3	15,13, 5	Married	No
Female	White British/Welsh/Scottish/Irish	45-64	1	13	Married	No
Female	White British/Welsh/Scottish/Irish	45-64	3	8, 7, 5	Married	No
Female	White British/Welsh/Scottish/Irish	45-64	2	3 & 6	Married	No

Female	White British/Welsh/Scottish/Irish	45-64	4	6, 10, 14, 17	Co-habiting	Yes
Female	Caribbean	45-64	1	17	Single	N/A
Female	Indian	45-64	4	9, 11, 12, 13	Married	No
Female	White British/Welsh/Scottish/Irish	25-44	1	14	Single	N/A

Procedure

Participant Recruitment

Staff at TESS contacted potential participants about the research study. If participants were interested in taking part, they provided their contact email address, which was passed onto the chief investigator (L.B). Following this, the chief investigator emailed potential participants with the information sheet (Appendix 1). If a participant was interested in taking part in the research they replied to the email and a suitable time/date was arranged for the 1:1 interview. All interviews were conducted following the completion of the group. Participants did not receive any compensation for participating in the study. See Figure 1 for further details.



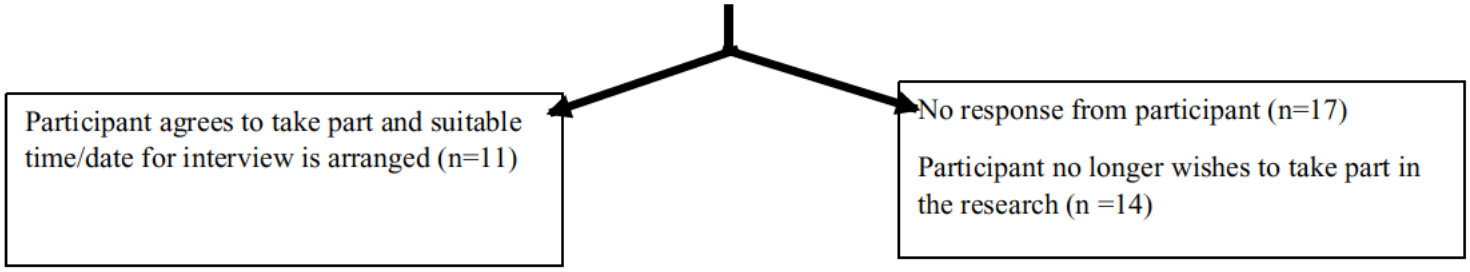


Figure 25. Participant Recruitment Procedure

Data Collection

In accordance with the British Psychological Society Code of Ethics and Conduct (2018), participants were asked to provide written consent prior to participating in the study (Appendix 2).

Due to COVID-19 restrictions, data were gathered through semi-structured, audio recorded virtual interviews. See Appendix 3 for interview schedule. Interviews were conducted by the researcher (L.B) between July 2020 and March 2021. Interview length ranged from 30 minutes to one hour 20 minutes. After the interviews, data were transcribed verbatim and analysed using TA. Participants had a right to withdraw from the research without explanation, any time up to the point of data analysis.

If there were any concerns regarding the participants' well-being throughout the study, these were flagged up to the Clinical Psychologist involved in the research, who works at TESS. Through the information sheet participants were made aware that their information would be treated as confidential, unless safeguarding or risk issues were disclosed during the interview.

Approach to Data Analysis

TA is a form of thematic analysis, that centres on developing a coding template (Brooks, McCluskey, Turley & King, 2015). This coding template emphasises the use of hierarchical codes, which are initially developed from a-priori themes identified from the literature (Brooks et al., 2015).

TA was chosen, as the research was leaning towards model building. To elaborate, there was already meaning coming from the background literature on attachment, foster children and DDP interventions, which shaped what to expect from the interviews. By incorporating a-priori codes, knowledge from the literature provided some structure to the analysis, whilst also allowing the analysis to maintain an inductive approach.

TA is not inextricably bound to one epistemology (Braun & Clarke, 2020) and thus the technique was adapted to the needs of the research and its philosophical underpinning. This research adopted a critical realist stance, as there was an expectation that individuals both experience their relationship with their foster child and their parenting practice and that this could become knowable with a degree of accuracy and reliability through the research process. However, this position also acknowledges that this could not be regarded as 'de-contextualised' knowledge, as an individual's ability to communicate their inner world with accuracy and reliability is influenced by the social context of the interview and by the researcher's own ability to truly stand outside of their position in the social world. However, it is argued that the research would not fit a radical relativist epistemology, as it did not consider, for example, how language constructs social reality through interaction, but rather assumed that there was a shared reality between foster carers that could be inferred through the research.

Following the protocol for TA (Brooks et al., 2015), five a-priori codes were identified based on the academic literature and the research team's clinical experience (Appendix 4). These codes helped shape the interview guide and initial coding template. Subsequently, the initial template was revised according to a subset of the transcript data (three interviews). It is important to note that, according to the literature, there is no exact time point at which it is appropriate to refine the template; rather a decision is made once the researcher is convinced that the subset selected captures a good cross-section of the issues and experiences covered in the data (Brooks et al., 2015). This initial template was then applied to further transcripts. The coding template continued to be refined and revised; for example, new themes were added, existing themes were re-defined, and themes were removed.

The template was finalised and applied to the full data set. In total seven versions of the template were developed (see Appendix 5). Version seven was considered as the final template, because all sections of the data relevant to the research question were coded and well defined by a minimum of three participants.

Rigour of Analysis

To ensure that the analysis was not distorted by the researcher's own preconceptions and assumptions, quality control measures were utilised.

Firstly, independent scrutiny of the data was completed at each stage of the analysis. Each version of the template was evaluated by the supervisor, as they were asked to code sub-sections of the text using the current version of the template. This promoted a collaborative process, in which the supervisor could note themes that they found difficult to employ, identify aspects of the text that were not covered by the template or any other issues. Discussions of these observations allowed the template to be modified accordingly.

Additionally, a reflective diary and 'audit trail' were kept throughout the research. This helped the researcher maintain a record of the steps taken in carrying out the analysis; for example, notes were kept on reflections following interviews and when changes were made to the template. Both methods encouraged reflexivity within the analysis. Reflexivity was particularly important, as the research adopted a "critical realistic" stance and therefore there was recognition of how the researcher's own assumptions about the phenomenon may have influenced the analysis. The techniques for quality checking encouraged reflexivity, as the researcher was assisted in questioning any assumptions made about the data and encouraged to be explicit about how they coded the data and the reasons behind this.

Reflections about my positionality in the research

This was a new area of research for myself, as I had not previously worked with looked after children. As a result, I did not have pre-conceptions about themes that I wanted to find in the interviews apart from those identified as a-priori themes from the literature. This helped me to remain curious in my interviews with participants, minimising the risk of unintentionally prompting clients into discussing particular elements of DDP. I utilised the interview guide as a method to help me structure my conversation with participants.

Whilst I felt my minimal knowledge and experience in looked after children was a positive, I also found it helpful to utilise the knowledge of other researchers in the team who had more specialist knowledge regarding DDP-based interventions. Their specialist knowledge supported me in making sense of techniques that participants were referring to, therefore situating participant's implementation of skills in the theory of DDP.

Ethical Approval

Ethical approval was gained from the University of Birmingham Ethics Department (see Appendix 5) and the Research and Development Service for TESS.

RESULTS

Integrative Theme: PACE

PACE parenting reflects a way of being with a child that demonstrates playful joy (P), understanding through acceptance (A), curiosity about the child's internal world (C) and expressing empathy (E). This theme is integrative throughout the template and will be discussed individually within each theme.

Higher order theme one: Regulation before reflection

This "first level" theme encapsulates how foster carers manage and respond to emotional distress which may present in behaviour that challenges. This includes foster carers spending time stopping, reflecting, and regulating themselves before responding, being curious and reflecting on whether the foster child is in the right frame of mind to talk about their behaviour, and accepting that challenging behaviour and emotional distress do not need to be resolved straight away.

1.1. Foster carer stopping, reflecting, regulating self

When discussing significant changes to their parenting practice since the group, foster carers often reflected on how they now tend to stop, reflect, and regulate themselves before responding to episodes of behaviour that challenges or emotional distress.

> Chloe: I think my main thing was how how I would react to the situation sort of thing. I sort of. like I previously said instead of diving in and sort of trying to fix it straight away. I'd stand back. (mhm) and think about what my next move would be or my next thing that I would say

> Amaya: why am I reacting to those. more than I usually would like some days. they'll do the same things and it doesn't bother you at all some days it's a little extra and you might just be having a bad day

Here Chloe reflects on how previously she would have been "diving in" and "trying to fix" behaviour "straight away", whereas since the group she has learnt to "stand back" and think

about what to do next. This represents her ability to stop and reflect prior to responding to behaviour or distress. Similarly, Amaya comments on how she thinks about "why" she might be reacting to behaviours "more" than she usually would, thus representing her increased capacity to be reflective of her own reaction before responding.

> Sharon: I think it was more about [sigh] just just stopping before you react just stopping and just. stepping back. and looking and sort of seeing it and thinking what's happening here before you react because sometimes it's quite easy sometimes to sort of. when you're in that moment and you've you're faced with such a melt-down it's really easy to sort of. you try and tackle it straight away whereas we were taught. to sort of. take a step back

Similarly, Sharon uses words, such as "stopping", "stepping back" and "looking" to describe her actions before responding to behaviour. She speaks about how it is "quite easy" when she is in the "moment" and "faced" with a "melt-down" to attempt to "tackle it straight away"; whereas through the group she has learnt to "take a step back" first. Like Chloe, it seems that previously foster carers were keen to respond to behaviour and emotional distress quickly, whereas since the group they have learnt the importance of reflecting and regulating themselves first.

> Georgina: because then you know what is too much for you (mhm) and where you need to take a step back and where actually me going into that room to try and help him wasn't going to help whether I however much I tried (mhm) I wasn't in the right place. sometimes I just needed to walk away. and take a few deep breaths have a cup of tea

Georgina reflects on the importance of knowing "what is too much" for herself and when as a foster carer she needs to "take a step back". Georgina utilises the principles of curiosity and empathy from PACE, as she is curious about her own emotional reaction and can be empathic towards herself, by giving herself time out.

1.2. Emotional mind vs rational mind

Before responding to episodes of high emotional distress, a part of foster carer's reflections was to be curious about whether the child was in an emotional vs a rational mindset.

> Shireen: when [group facilitator] taught us that [mimicking "flipping your lid" hand gesture] (mhm) and that. that made it easier to think that. I can't talk to her at that stage. or I can't talk to him at that stage because. the rational brains not at play here

Shireen reports that through the group she learnt about "flipping your lid" which is a model used to describe what happens when a traumatised child experiences a negative emotion based upon their brain structure (Siegel, 2010). This model argues that using language is not an effective way to calm down and regulate the child (Siegel, 2010). Shireen speaks about how this knowledge helps her to recognise that she "can't talk to" her foster child about their behaviour when they are in an emotional mindset. It appears that Shireen is utilising the components of acceptance and curiosity from PACE, as she is curious about her child's needs, accepting that they need space to express their emotions before jointly making meaning from their behaviour.

> Katie: so later on he'll have calmed down thought about it. (mm) and then that's the ideal time to talk to him

> Hannah: it just needed me to step back let him deal with that emotion and then move forward from it um and I think it's just giving that space and time

Similarly, both Katie and Hannah speak about the importance of letting their foster child "deal with that emotion" and only approaching conversations about their behaviour once they have "calmed down" and been given that "space and time". This represents their knowledge and acceptance regarding providing time and space for their foster child to express and regulate their emotions, before attempting to collaboratively make sense of their behaviour.

1.3. Acceptance that behaviour and distress do not need to be resolved straight away

One of the mechanisms which supported foster carers in giving themselves time to stop, reflect and regulate prior to responding was a newly found acceptance that behaviour and distress do not need to be resolved straight away. This is reflective of the acceptance component in PACE parenting.

> Shireen: so since I've been on the course. I remember bits of [group facilitator's] narrative that makes me feel [breathes out] I don't need to do this now (mm) (1) I don't need to deal with this now nothing I can do now will fix this situation so I can leave it

Shireen speaks about how since going on the group, she realises that she does not "need to deal" with behaviour or distress immediately, as she recognises that sometimes there is "nothing" she can do in that moment to "fix" the situation. It seems as if that acceptance allows Shireen to "leave it" until later.

> Sharon: the only thing I could do is just sit on the bed (mm) and wait for her to calm down. um and again that that's perhaps the acceptance bit it's just to sit there and just let that behaviour because nothing nothing would have got. you know (mm) would have helped with that at that time

Similarly, Sharon reflects on an incident of high distress where she was able to recognise that "nothing" would have "helped" and rather there was an "acceptance" about sitting with the foster child's distress rather than attempting to manage the behaviour.

Many participants also spoke about how their newly found acceptance came from having a new perspective about the consequences of their foster child acting out.

> Shireen: she'd be hitting things against the window and I'd be saying stop doing that because it'll break the window now I'm like. the windows going to take an awful lot it's double glazed. it'll take an awful lot to break it. (mhm) and it doesn't really matter … so I guess I'm not going up. and I'm letting it play out

Shireen reflects on how previously she would have attempted to discipline her child's challenging behaviour, whereas since the group she has accepted that behaviour may result in property damage; however, this does not mean that she must respond immediately, as it may be

more important for the child to have that space to express and regulate their emotions first.

> Georgina: with Josh we ended up doing the school run in his pyjamas every day. every single day we did it in his pyjamas and at first I was like a coiled spring ready to explode… but by the end of it it was just like oh well your feet are getting wet come on then off we go (1) (yeah) just getting on with it

Similarly, Georgina describes how when she took her foster child to school in his pyjamas she was "like a coiled spring ready to explode", indicating tension and anxiety. Whereas after the group, she speaks about how she was "just getting on with it", suggesting an acceptance rather than a need to fix his behaviour.

Higher order theme two: Parental Mentalisation

This "first level" theme reflects foster carers understanding that their child has a separate mind to theirs and thus may react differently in response to everyday circumstances. With this understanding, foster carers describe being more curious about their child's behaviour, often recognising that their behaviour is unlikely to be personally driven towards them, but rather representative of the child's developmental age or a result of internal states.

2.1. Recognition that the child's mind is different to the foster carer's mind

Foster carers describe recognising how their mind is different to their foster child's mind, due to the child's previous traumatic experiences.

> Chloe: they might hear a noise. and and it will really startle them whereas you or I it's just somebody knocking on the door … but to them. it could trigger something

Chloe speaks about how she recognises that her foster children may react startled in response to a "noise" that she would identify as "just somebody knocking on the door". Chloe describes an awareness that everyday events could "trigger something" for her foster children based on their previous experiences.

> Lisa: so I'm like. you look really wobbly. and we've just baked a cake and so I think that you think. I might be wrong but maybe you think you're not gonna get any cake

Similarly, Lisa describes understanding how baking a cake could be a trigger for her foster child, based on her previous experiences surrounding food and hunger. Lisa implements the principles of curiosity and empathy from PACE, as she was curious about why her foster child was appearing "really wobbly" and was empathetic in her response to this.

> Hannah: I have a real. passion for seeing young people as individuals. (mhm) with their own mind their own thoughts their own. in their own entity and I think again this is partly from not being a parent I don't see a child as an extension of me that should. think like that me and behave like me

Hannah describes seeing her foster children as "individuals with their own mind" and their own thoughts". She recognises that her foster child is not an "extension" of herself that "should think" or "behave" like her, therefore representing her knowledge that her foster child's mind is separate to hers.

2.2. Curiosity about what is driving the foster child's behaviour

As foster carers understand that their child's mind is different to theirs, they begin to describe a curiosity about understanding what is driving their child's behaviour.

2.21. Understanding that behaviours are driven by underlying internal mental states

Part of this curiosity reflects a newfound understanding that their foster child's behaviour is likely to be in response to underlying internal states rather than immediate external circumstances.

> Chloe: he was. really. reaching out to say that you know. I'm not really sure on where I'm going and what I'm doing and the only thing that he could do. to sort of say this because he couldn't. you know vocally he couldn't tell you. is react and play up sort of thing

Chloe describes recognising how her foster child's external behaviour was a result of his internal anxieties about not understanding what was happening. She identifies that as he was unable to "vocally" express this, his behaviour was an expression of his emotions.

> Alisha: I realised that um. there was a lot going on and there's a lot still going on in her life that she doesn't understand. that she's trying to find ways round. but she doesn't know how to navigate it so. she. falls back. into being um. very defensive

Similarly, Alisha speaks about understanding how her foster child's "defensive" behaviour is reflective of her internal anxieties about trying to navigate her experiences.

> Georgina: they're so scared to do anything to risk anything that they just robot and do what they think they should do

In comparison to disruptive or defensive behaviour, Georgina reflects on understanding how compliant behaviour can also be a result of internal states. She describes how at the beginning of the placement her foster child was "so scared to do anything to risk" the placement breaking down that he began to "robot" and do what he thought he "should do". This represents Georgina's understanding that compliant behaviour can be reflective of the child feeling anxious and scared.

2.22. Being attuned to the foster child's developmental age

Part of the foster carers curiosity about their child's behaviour involved being attuned to how their developmental age may be influencing their overt behaviours.

> Sally: I have to approach Luke in the. six traumatised six year old mind. rather than the thirteen year old (mm) (1) boy you know that's. becoming a man

Sally describes the importance of differentiating between the child's biological age and their developmental age. Below Sally describes an example of attunement to her foster child's developmental age.

> Sally: when we had the baby (1) he came over to me and. he said um. would it look funny if I had a dummy (1) (mm). so I said no I said I have a clean brand new dummy here if you want that. I said you come up and sit up here. he sat in one arm. and the baby was in the other. (mm) and he sucked his dummy (1) it he only done it the once but. it was like that. moment I need to be back

Utilising first person language, "I need to be back", represents Sally's ability to be attuned to her child's needs, recognising that that moment where she was caring for a new-born baby was a key foundation experience that her foster child had missed out on. Sally responds to the child's developmental age by offering him the opportunity to also have a "dummy" and be cuddled in a similar way to the new-born baby, rather than responding to his biological age. Sally is utilising curiosity and empathy from PACE parenting, as she is curious about her foster child's reaction and expresses empathy to him in her reaction.

> Chloe: he used to sort of like. regress um to a baby sort of thing. (mm) as such and initially well you know you're sort of there and you know at first I'd sort of say. grow up you know how old are you and blah blah and you know stop acting like a baby and blah blah and everything and then from going on the course and sort of listening to [group facilitator] and and everything it. it made me sort of think more. (mhm) and sort of put myself in his. sort of position and think well that's his way of coping with how his feelings are he can't. he can't sort of. um. describe or explain why he's feeling or reacting that way

Similarly, Chloe also describes how her foster child used to "regress" in his behaviours. Chloe identifies that previously she responded to the child's biological age, as she would make comments, such as "grow up", "how old are you" and "stop acting like a baby". In comparison, since attending the group Chloe describes how the group helped her become more attuned to her foster child's developmental age, by helping her "think more" and put herself in his "position". Through this attunement, Chloe speaks about recognising how her foster child may regress to a baby-like state, as he cannot describe or explain his internal world.

2.3. Recognising that the foster child's behaviour is not personal

As part of parental mentalisation, foster carers described being able to differentiate between their own anxieties about the child's behaviour being personally driven by a dislike of the foster carer, with what is going on in the child's inner emotional world.

> Alisha: I think some of the things she's doing is testing. how much (1) (mm) I will take before I push her away like everyone else has done to her (yeah) in the past. (yeah) and then that's where the the knowledge comes from the course to realise that. don't take it personally

Alisha discusses how a lot of her foster child's behaviour is a way for her to test how much Alisha "will take" before she pushes her "away". Alisha demonstrates an awareness that her foster child has experienced rejection in the past and thus sees her defensive behaviour as a protection mechanism against experiencing further rejection. Alisha describes how the "knowledge" from the group helps her to not take the behaviour "personally", but rather see it is a way for her foster child to test whether their relationship is unconditional.

> Georgina: taking things a lot less personally for myself (mm) and rather than thinking they're doing that to me (1) wondering well why are they like that today

> Katie: the biggest thing it did for me it was it reminded you that um. not to take it personally

Here both Georgina and Katie speak about how one of the biggest changes from the group is that they now take "things a lot less personally". This is representative in Georgina's ability to be curious about "why" the children are "like that today" compared to thinking that their behaviour is personally driven.

Higher order theme three: Shame

This "first level" theme reflects foster carers understanding about how children can feel shame in response to their behaviours and how a foster carer can respond to that behaviour to further elicit or regulate shame.

3.1. Recognising how behaviour can be a result of shame

When discussing their understanding of behaviours, foster carers spoke about how they learnt that their child's overt behaviour can often be in response to feeling shame.

> Georgina: it was always shame for him. (mhm) he could um. so he was a smearer he would wee he'd poo (mhm) he'd smear anywhere everywhere. he could. be. kicking off and blowing up. because he knew he'd smeared all over the bathroom. (mm) I hadn't found it. I hadn't seen it I didn't know it had happened. but he already obviously he knew

Georgina speaks about how shame was the biggest barrier for her foster child. She describes how when her foster child was "kicking off and blowing up", it was often a result of him experiencing shame in response to smearing.

> Hannah: it turned into I'm a bad person I don't deserve to be here um it'd be better if I was dead I hate my life I hate me (mhm) it all came out and it was all based on the fact that he felt shame that he'd been rude to me

Similarly, Hannah speaks about an incident where her foster child had been "rude" to her. She describes how her foster child spoke about seeing himself as a "bad person" who didn't "deserve to be here" due to this behaviour.

> Hannah: I don't believe he can separate guilt and shame (mhm) he if something bad happens to him it's because he's a bad person if he does something bad it's because he's a bad person it all comes back to him being a bad person

Later, Hannah reflects on how she believes that her foster child cannot "separate guilt and shame" and thus if something bad happens, it is because "he's a bad person".

> Lisa: I think that's something we. we've seen in Jenny is her ability to. to feel like oh I regret that. (mhm) or I feel guilty about that without it spiralling

In comparison, Lisa speaks about how her foster child has begun to start to feel guilt rather than shame. It is important to note that Lisa completed the group longer ago than some of the other foster carers and therefore it can be suggested that as she has implemented DDP principles for longer her child has consistently experienced regulated shame, which has now helped her move from seeing shame as part of her core identity to experiencing guilt.

3.2. Foster carer recognising how their own reaction to behaviour can elicit shame

As foster carers began to understand how their child could experience shame in response to behaviours, they speak about recognising how their own reactions can elicit or minimise shame.

> Shireen: social workers shame her (1) I shame her (1) when she does something we all shame each other don't think of the consequences of shame. so that was like wow. so that made me stop and think. (mm) so we make sure now that we don't. we make a point of making sure that we don't let a hint of shame come into the equation

Shireen reflects on how through the group she learnt how potent shame was for her foster child, by recognising that previously "social workers" and herself would shame her foster child. Shireen describes how prior to the group she did not consider the "consequences of shame", but how learning about shame made her "stop and think". Shireen explains that nowadays the family "make a point of making sure" that they do not let a "hint of shame come into the equation" when responding to behaviour.

> Chloe: you wanna react and be angry and say what have you done that for and everything but there's a reason why she's done it. (mhm) so. you know you have to. sort of step back a little bit. and not sort of tell her oh well you're a smelly girl now (mhm) that you've done that and you're this you're that and you're the other. you don't point the finger do you you sort of say well come on. let's sort this out together

Whilst speaking about an incident of soiling behaviour, Chloe reflects on how she wanted to "react and be angry". However, by being curious about the "reason" behind the behaviour,

Chloe was able to "step back a little bit" and reflect on how to respond to minimise shame. She describes how rather than pointing the finger and making comments such as "you're a smelly girl", she re-attunes to the child and repairs the relationship by saying that that they will "sort this out together". This expresses to the child that they are cared for unconditionally. This reflects curiosity and empathy from PACE parenting.

> Amaya: the youngest of them has definitely got you know the shame blame thing if you tell her off in the wrong way she'll she'll. get really upset with herself (mhm) which is why we developed that little symbol. and we just gotta be careful even if I've said it wrong the first way then I'll kind of reword it and it calms her down a lot more

Similarly, Amaya recognises that her foster child often experiences "shame" if she is told off "in the wrong way". Amaya speaks about how they have developed a "little symbol" that represents love and utilise this when responding to behaviour, thus showing the child that they are loved unconditionally. Additionally, Amaya describes how she will "reword" her response to behaviour, thus representing her ability to recognise how her response can elicit or minimise shame. Amaya's rewording also demonstrates to the child that she has recognised the break in their attunement and that their relationship can always be repaired.

> Georgina: he'd always want a cuddle but. he was so violent it was really tough to get close enough. (mhm) and I couldn't say to him. are you going to hurt me if I cuddle you because that was shaming him. (mhm) um so we ended up buying um. a Josh's cuddle monster so then what I'd do is when I thought we were kind of calming (mhm) is I'd cuddle the monster and put it next to him and say if you're ready my hugs on there when you want it so then once he'd hugged that. (mhm) I knew I was safe to then approach.

Here Georgina identifies how she attempted to minimise shame when her foster child was becoming "violent" in response to cuddling him. Georgina speaks about how she recognises that directly asking her foster child if he were going to hurt her would be "shaming". Instead, Georgina utilises the playfulness principle from PACE to create a "cuddle monster" where she is able to "cuddle the monster and put it next" to her foster child. This gives her foster child choice and control by allowing him to indicate when he is ready for a cuddle; therefore,

reducing the child's need to utilise violent behaviour which would previously be associated with feelings of shame.

Higher order theme four: Connection before Correction

This theme represents foster carer's ability to connect with their foster child's emotional experience and to support them in co-creating a narrative to help them make sense of their experience.

4.1. Connecting with the foster child's emotional experience

This theme reflects foster carers connecting with and regulating their child's emotional experience prior to being curious about the reasons behind their behaviour and putting in boundaries to 'correct' the behaviour.

> Hannah: I realised that I do go for the curiosity first too often I go for the well I wonder why that and I wonder why you did that rather than just sitting with them going oh god yeah I can see that upset you I'd have been really annoyed too that's just not fair is it

Hannah speaks about how previously she would focus on making sense of her child's behaviour, before connecting with the emotion. This is represented in her comments to her foster child, such as "I wonder why you did" that, whereas since the group she focuses on attuning to her child's emotional experience first through comments, such as "I can see that upset you" or "I'd have been really annoyed too".

> Tracey: I acknowledge the thing that is making him feel sad and tell him how I understand how that why that's making him feel sad and it's just being more aware of it than I was before

> Sharon: we were going in. and sort of (1) trying to catch it before it all explodes (mm) and saying all those it must be it must feel. or you know or I can see why why you might be angry

> Shireen: just learning to say I understand how you're feeling

Similarly, all three foster carers above speak about the importance of acknowledging their foster child's emotion by "learning" how to use phrases such as "I understand how you're feeling" or "I can see why" you might be experiencing this emotion; this helps show the foster child that they are connecting to their emotional experience. These phrases help the foster child see that their experiences are accepted without judgement.

4.2. Co-creating a narrative

Following connection to the child's emotional experience, foster carers speak about the process of co-creating a narrative to help them and the child make sense of their experience.

4.21. Recognition that the foster child does not understand their own behaviour

Through co-creating this narrative, foster carers reflected on how through the group they learnt that their foster child often does not understand their behaviour and does not tend to enact behaviour on purpose. Foster carers descriptions of this strongly reflect the characteristic of acceptance from PACE parenting.

> Georgina: I used to get myself so angry with asking why and he'd say I don't know and my answer was always but you must know (mm) you do know because you did it and it was kind of as things went on and I had more to do with [group]. and they said no he doesn't know why

Georgina describes how previously she would feel angry in response to her foster child not being able to explain his behaviour, as she "always" thought that he "must know" the reasons behind his behaviour. Through the group, Georgina describes how she learnt that her foster child did not understand his behaviour and thus it was important for them to co-create meaning together.

> Katie: I mean the main word I think really is acceptance. (mm) accepting. you know that. this child. can't. help the way that they are

Similarly, Katie describes experiencing "acceptance", whereby she has learnt to accept that her foster children "can't help the way that they are".

4.22. Curiously wondering aloud with the child

In co-creating a narrative, foster carers spoke about learning how to wonder aloud curiously and sensitively with the child, framing hypotheses about their experiences in a non-threatening manner - often utilising the aspects of curiosity and empathy from PACE.

> Shireen: as a lawyer I'm very. defined and precise. and not necessarily. soft (1) (mhm) so um. it's learning to say things a bit more feely feely

Shireen identifies that as a "lawyer" her way of speaking is very "defined and precise", thus when she is attempting to co-create a narrative with her foster child, she uses more emotionally labelled language.

> Amaya: I've done a lot of you know I wonder why. you behave like that. I wonder why you do this (mhm) you know a lot of that. (yeah) trying to get her to think about it

Amaya describes some of the phrases she uses to curiously wonder aloud with her foster child, such as "I wonder why you behave like that", "I wonder why you do this". Amaya identifies that the aim of offering these hypotheses is to support her foster child to develop her own curiosity.

> Lisa: and I think being on the course would have. really helped him with almost some of those like learnt phrases of. tell me if I'm wrong or. I'm just wondering if or. I guess it's. I guess it's just a wobbly day

Similarly, Lisa describes some of the "learnt phrases" from the group, which she thinks her husband would have benefited from learning. These phrases represent how Lisa wonders aloud sensitively and curiously with her foster child.

Higher order theme five: Awareness and understanding of own needs

In this higher order theme, foster carers speak about changes in their awareness and understanding of their own needs. This includes changes in their level of self-care and understanding the impact of their own attachment style on their parenting practice.

5.1. Self-care

Foster carers spoke about how self-care was one of the biggest changes that they noticed in themselves since attending the group.

> Alisha: and that I should um give myself space. for myself. (mhm) and that was one of the biggest things about. and not feeling guilty and giving space for myself to um to look after myself

Alisha speaks about the importance of giving herself "space" to "look after" herself and that she should not feel "guilty" for this. PACE is reflected through Alisha's increased empathy towards herself, as she recognises and accepts the importance of self-care.

> Georgina: I knew kind of to put more time in for me and. how to sort of stop it getting to the point. (mhm) where it was completely blocked care

Similarly, Georgina speaks about the importance of putting in "more time" for her and this helps prevent her from experiencing "blocked care."

> Amaya: if I'm ever getting to the stage where I'm starting to get annoyed I'll put my favourite music on I know how to kind of get myself out of it

Amaya also reflects on how she utilises self-care by putting on her "favourite music" and this helps her when she is starting to feel "annoyed".

5.2. Recognising the impact of own attachment style on parenting

Foster carers reflected on the experience of learning about the impact of their own attachment style on their parenting practice.

> Georgina: I think we do carry a lot of baggage (1) which although we can sit there and say you know oh my childhood was great (mhm) it was this it was that you do carry baggage from things whether you know it or not. (mhm) um and I think that instantly is put into your parenting

Georgina speaks about how as foster carers they "carry a lot of baggage" from experiences within their childhood, and the importance of understanding how this impacts their parenting practice.

> Amaya: your own background. (mhm) was a big you know difference in your patience levels with certain things. (mhm) and that some things might trigger you more

Here Amaya is reflecting on some of the biggest things that she learnt from the group. She speaks about how learning how her "own background" may influence her "patience levels" regarding different behaviours or how certain things "might trigger" her more due to her background. This reflects the curiosity component of PACE as Amaya is curious about how her own parenting experience may influence her parenting practice.

> Lisa: I suppose the kind of maybe twelve months after the course. was like a. real healing time for me. (mhm) in terms of. thinking yeah yeah I shouldn't have been treated like that (1) (mhm) actually and. that's ok and I can move on from that

Similarly, Lisa describes the "twelve months after the course" as a "real healing time" for her, as she had space to further reflect on her own childhood experiences. Lisa describes recognising that she "shouldn't have been treated like that" in her childhood, but by addressing these experiences she is able to "move on" from it.

Higher order theme six: Identity as a foster carer

In this higher order theme, foster carers describe differences in their identity as a foster carer. This includes changes in their confidence levels, due to increased knowledge and affirmation from the group that they are parenting in a helpful manner and changes in their

confidence when dealing with other professionals. Within this theme, foster carers also reflect on adopting a more flexible and fluid parenting identity.

6.1. Increased confidence

6.11. Increased confidence in parenting due to knowledge/affirmation from the group

Foster carers spoke about how attending the group made them feel more confident in their parenting practice, due to increased knowledge and affirmation that they were doing the right thing.

> Alisha: the group gave me back that confidence. (mhm yeah) and I can say yes yes I'm doing the right thing

> Katie: the course itself I think has been really useful because (1) you know it did boost our confidence actually you know we're not failing

Both Alisha and Katie describe how attending the group improved their "confidence", as they were able to recognise that they were doing the "right thing" and were not "failing" in their parenting practice.

> Lisa: I'd say (1) probably. 70% of it I knew and I was already doing. (mhm) but I didn't know that that was. good or right. and you know everybody says oh there's not a good way of doing it and it's not about being right or wrong. no but it's really helpful when you think I do that. (yeah) great this is ok this is going to heal her trauma

Similarly, Lisa reflects on how although she knew and was already implementing a lot of strategies from the group, she "didn't know that that was good or right" and therefore attending the group re-affirmed to her that her parenting practice was helping "heal" her foster child's trauma.

6.12. Increased confidence to recognise when the recommendations provided by other professionals are not helpful ways of responding to the child's behaviour

Foster carer's increased confidence was also reflected in their ability to recognise when behaviour from other professionals may not be helpful for their foster child.

> Sharon: we were constantly being told by the social workers we need to encourage contact…but. we saw it more from the girl's eyes when we actually did the course and having spoken to [group facilitator] actually. um for us being their safe people (1) and then us saying. go go on see your mummy and daddy (mm) the people that have caused them the most you know the trauma and everything else that they've experienced and for us to be it's almost like we're colluding with parents. (mm) um and so. we've had to sort of (1) take a step back from that

Sharon speaks about her experience of managing contact between her foster children and their birth parents. Sharon describes how they were "constantly being told by the social workers" to "encourage contact"; however, after attending the group, they were able to recognise the impact on the foster child of being involved in encouraging contact. Sharon reflects on how knowledge from the group has helped her to "take a step back" from being involved with arranging contact with the birth parents, despite it being encouraged by social workers.

> Shireen: my social worker rang (1) just so happened to ring. at that time (mm) and I said oh she's having a meltdown. so she said um. put me on speaker. so I put her on speaker and. my brainsets still in the modules of the foundation course (mhm) and she's on the speaker…and the social worker says. you this will stop you will be put into respite I'll send you to respite tomorrow you need to move and basically she's (1) punishing her (mm) and shouting at her whilst she's having a meltdown and I quickly put it off speaker and I said yeah she's quiet now and I moved away thinking. this behaviour this is not helping the situation

Similarly, Shireen speaks about an experience of her social worker responding to her foster child's "meltdown" on the phone. Shireen describes how she was able to identify that her social workers response to her foster child's meltdown was "punishing" and "not helping the situation". Shireen had the confidence to recognise this unhelpful response and stopped it from

continuing by taking her social worker off speaker phone.

> Georgina: and then when I speak to my social workers they're like well you need to do this and you need to do that. and it's like that's not what I should be doing and I know it's not what I should be doing.

Georgina also reflects on her experience of working with social workers. Georgina describes recognising that sometimes recommendations offered by her social workers are not reflective of what she thinks she "should be doing" based upon her knowledge from the group.

6.2. Flexible parenting

As part of changes in their identity, foster carers spoke about the realisation that they will experience good and bad days in their parenting and that it is not bad parenting for things to go wrong, but rather it is important to adopt a flexible parenting style.

> Amaya: the thing that probably (2) was a bit of a lightbulb moment you know just accepting that. you're gonna have good days you're gonna have bad days

Amaya describes how a "lightbulb moment" from the group was "accepting" that there will be "good days" and "bad days" in her parenting – acceptance is a key part of PACE parenting.

> Chloe: it taught me to sort of you've just gotta sort of go with the flow and go with the situation because. you know. and and I almost the thing I've like you know he starts school at quarter to nine and he's got to be at school at quarter to nine. and. and I and I used to sort of think that's what it's gotta be that's what it's gotta be. and then from going on the course and listening and thinking and doing and everything. so what. (mhm) what if he gets to school at eleven o'clock what does it matter. at least we've achieved. the goal that we wanted. (mm) he's he's in school. sort of thing and and it's acceptance

Similarly, Chloe speaks about the importance of "acceptance" and learning to "go with the flow" in her parenting style. She describes an example of where previously she was very structured with timings on the school-run, which is likely to have increased her own stress

levels and in turn, those of the child. Whereas after "going on the course", she describes accepting that it does not matter if things do not go to plan.

> Georgina: I think my thing of like wanting everything to be done at the right time (mhm) in the right way. I've had to kind of acknowledge that that can't always be. the case

This is also reflective in Georgina's account, as she describes acknowledging that "wanting everything to be done at the right time" "can't always be the case".

> Tracey: fluid and more it's got to be more flexible and you've got to um listen to the child and understand where they're at (mm) um and I think I think what [group facilitator] was really good at was um you know you can't get it right all the time

Lastly, Tracey describes how her parenting practice has changed to become more "fluid" and "flexible", whereby she listens to the child and attempts to "understand where they're at". She reflects on how the group helped her realise that she "can't get it right all the time".

Higher order theme seven: Foster child's response to changes in parenting style

This "first level" theme encapsulates foster carers descriptions of how they felt their foster child responded to changes in their parenting style following the group.

> Georgina: I think once I put lots of strategies in. (mhm) I think he was a bit more lost. I think the changes that I put in for him (1) made it harder for him to know where he'd been. (mhm) I think had I of done the foundations for attachment before he came to me or right at the beginning. (mhm) and that had been my parenting style the whole time. I think he would have been able to cope with that. (mm) er because that would have been me. whereas I think all the changes that I put in. even though they were positive and I saw positives (1) (mm) it almost scared him (1) (mm) so yes what I did will help him in the future. but I think some of it became almost a bit of rejection.

Georgina uses words such as “rejection”, “lost” and “scared” to describe how her foster child responded to changes in her parenting practice. Georgina identifies that changes in her parenting practice made it hard for her foster child to “know where he’d been”, as the strategies implemented represented a change. She reflects on how if she had done the group at the beginning of her foster child’s placement, she feels that he “would have been able to cope” with that style of parenting, as it would have been less of a change. PACE is reflective through Georgina’s curiosity about her child’s reaction to her parenting style and understanding that changes to her parenting practice must be difficult for her foster child, as it represents something new and unexpected.

> Shireen: I say they’ve got worse but they haven’t got worse um. the younger ones. other things have been happening. so I’m not sure if he’s got worse because other things are happening (1) (mm) or because he’s got worse because he feels like I’m different

When speaking about changes that she has noticed in her foster children since attending the group, Shireen describes how she feels that they have “got worse” but also “haven’t got worse.” Shireen’s comments on her anxieties that her foster children feel like she is “different”.

> Sharon: why are you being so different and she didn’t like it and I think it was that was a change because we’d gone from sort of and I’m not saying we’re strict because we’re not (mm) but we come from one approach to something totally different that she. that she’d never. experienced before if you like um and she wasn’t (mhm) comfortable with it

Similarly, Sharon describes how her foster child commented on why she was “being so different” after altering her parenting practice. Sharon echoes how it was difficult for her foster child to adapt to the new parenting style, as it represented a “change” from “one approach to something totally different” that “she’d never experienced before”. Sharon identifies that her foster children felt “uncomfortable” with this change.

DISCUSSION

Summary of findings

This research aimed to explore how DDP-based interventions, in particular the FFA group, shape foster carer's parenting practice and their relationship with their foster child. The research recruited 11 foster carers who took part in 1:1 interviews that were analysed using TA. Results indicated seven first level themes, 14 second level themes and six third level themes with one theme, PACE, as an overall integrative theme throughout the template.

PACE

Results illustrated that PACE was an integrative theme that was present throughout foster carers descriptions of how their parenting practice and relationship with their foster child had changed since attending the FFA group. It was expected that PACE would be present throughout foster carers descriptions, as PACE parenting reflects a way of being with the foster child, rather than a strategy or technique. PACE was reflected through foster carers curiosity about understanding the internal experiences of their child and how to sensitively co -create a narrative with them about their experiences. There was a curiosity about the foster carer's own emotions and attachment style and how this influenced their parenting practice. Acceptance was reflected through foster carer's recognition that it is important to sit with and co-regulate emotional distress rather than aim to fix behaviour immediately. Foster carers expressed empathy in their attunement to the child's needs and emotions, recognising when there had been ruptures in the relationship and repairing these. Fosters carers often utilised elements of playfulness to help bring a lightness to their relationship, to repair breaks to attunement and to help minimise experiences of shame.

Regulation before reflection

Results showed that since attending the group foster carers developed a new-found ability to stop, reflect and regulate themselves before responding to their child's behaviour. By regulating and reflecting before responding, foster carers became more attuned to their child's needs, and accepted that challenging behaviour and emotional distress do not need to be fixed or resolved. Rather foster carers learnt to consider whether their foster children needed support with regulating their own emotions before jointly making meaning from their experience. Hence, if foster carers developed the ability to regulate themselves first their capacity to be curious and reflective about their child's experience increased. This is supported by the literature, which argues that when foster carers stress levels rise, their capacity to provide empathic attuned caregiving decreases (Casswell et al., 2014). The theme regulation before reflection is reflective of the emotion regulation component of the FFA

group and is closely linked to polyvagal theory (Porges, 2011). Polyvagal theory suggests that by regulating their own emotions carers can operate from a social engagement system rather than a fight/flight or freeze system (Porges, 2011). Operating from the social engagement system allows carers to be curious rather than distressed in efforts to meet the child's presenting need (Wagner, 2015).

Parental mentalisation

Results suggested that through the group, foster carers were able to begin to recognise that their child may react differently to themselves in response to everyday circumstances, such as particular noises or activities. Additionally, foster carers described being more curious about their child's behaviour, often recognising that their behaviour was unlikely to be personally driven towards the foster carer, but rather representative of the child's developmental age or a result of internal states. These components are reflective of the theory around mentalisation (Fonagy et al., 2002). The ability to mentalise is important, as research has illustrated that often foster carers tend to struggle to identify how a child's behaviour may be a result of the long-lasting effects of trauma and tend to see the behaviour as being a direct result of external circumstances (Bunday et al., 2015). This lack of knowledge can make it difficult for foster carers to understand a child's behaviour and they can struggle to feel competent in sensitively responding to their foster child's experience, often responding to the child's expressed need rather than the child's hidden need. Consequently, by developing parental mentalisation through the group, foster carers demonstrated a greater understanding of the impact of trauma on a child's behaviour, thus helping foster carers to recognise the child's hidden needs.

Shame

Results illustrated that since attending the group, foster carers began to recognise how potent shame was in their foster child's experience. Foster carers spoke about how they began to recognise that their child's behaviour could be a result of experiencing shame and thus they reflected on different ways to respond to behaviour to regulate the experience of shame. This is linked to the literature on attachment theory and shame. Attachment theory argues that in a secure attachment the child develops the capacity to regulate internal distress through a consistent and predictable process of attunement, mis-attunement and repair by the caregiver (Bowlby, 1978; Schore, 1996). When attunement is unreliable, children develop an internal working model of the self as unworthy and unacceptable (Bowlby, 1978). Consequently, with children who have an insecure attachment style, the caregiver must recognise the break in

attunement and attend to the relationship repair, communicating that the child is unconditionally loved and that their relationship remains strong, thus regulating the child's shame (Golding, 2014).

Connection before correction

Results illustrated that through the group, foster carers learnt the importance of connecting with and attuning to their child's emotional experience, prior to 'co-creating' a narrative to help both them and the child make sense of their behaviour. When co-creating a narrative, foster carers describe recognising how their foster child did not understand their behaviour and thus the importance of wondering aloud sensitively and curiously with the child. Foster carers spoke about phrases that they learnt through the group which help them to offer hypotheses to the child about their behaviour in a non-threatening manner. The concept of connection before correction can be understood in terms of polyvagal theory, as foster carers are attempting to activate the child's social engagement system by connecting with and attuning to their emotional experience (Porges, 2011). Operating from a social engagement system means that foster carers can use their ventral vagal nerve that affects their volume and tone of voice to encourage co-regulation in the child (Wagner, 2015).

Awareness and understanding of own needs

Results illustrated that through attending the group, foster carers developed an increased understanding and awareness of their own needs. This was represented in increased levels of self-care and in reflections and understanding about how their own childhood experiences impact their parenting practice. Within FFA, foster carers are encouraged to consider their childhood experiences and relationship history, as it is suggested that foster carers may unconsciously react to their foster child in line with feelings about their past parenting experiences (Bunday et al., 2015). By understanding their own attachment style, foster carers can identify what behaviours may be triggering for them and recognise when they may need time out to regulate and care for themselves. It is thought that if foster carers are unable to understand their own attachment style and enact self-care regularly, they risk entering blocked care (Hughes, 2015) – this was mentioned by several of the foster carers. Again, this can be linked to polyvagal theory, as research has shown that when connection cannot be established over long periods of time, individuals tend to move from a social engagement system into a freeze response (Wagner, 2015). This can be minimised by ensuring that foster carers are able to seek containment and support for their own needs.

Identity as a foster carer

Results illustrated that through the group foster carers became more flexible in their parenting style, as they were able to accept that their parenting would not always go to plan and that did not mean that they were a bad foster carer. This flexibility in parenting style can be linked to changes in parental mentalisation. Research suggests that parents described as high on self-critical perfectionism tend to struggle with parental mentalisation, as they often treat their children much like they treat themselves. That is, these parents are likely to set unrealistic demands for themselves and evaluate themselves harshly, therefore when evaluating their child's behaviour they are less able to reflect on their child's internal world and rather engage in controlling parenting to impose these high standards (Greblo & Bratko, 2014; Dieleman, Soenens, Pauw, Prinzie, Vansteenkiste & Luyten, 2020). Hence, foster carers acceptance that parenting does not always go to plan continues to support their ability to mentalise about the child's internal world.

Additionally, regarding changes in their identity, foster carers described feeling more confident due to increased knowledge and affirmation from the group that they were parenting in a helpful way. With this knowledge foster carers felt more confident to recognise when the behaviour of other professionals involved within the foster child's care was unhelpful. This increase in confidence in line with an increase in knowledge is reflective of the literature, which suggests that as foster carers progress in their experiences and resources, they begin to grow more assertive and willing to challenge other professionals, such as social workers (Maclay, Bunce & Purves, 2006). It has been shown that this can sometimes exacerbate a difficult working relationship, as often foster carers begin to develop different views about the placement and management of their foster child (Maclay et al., 2006). Research has illustrated that adequate support from professionals is a key factor in placement success and stability (Samrai, Beinart & Harper, 2011; Beecham & Sinclair, 2007; Sinclair, Wilson & Gibbs, 2005); therefore, regarding clinical implications, it may be important to consider whether other professionals would benefit from training on DDP-based interventions, to ensure that all those involved in the foster child's care have a shared language and framework to work from.

Foster child's response to changes in parenting style

Results showed that foster children often initially felt rejected, lost, or scared, when foster carers implemented DDP-based parenting, as this was different and represented a change from their previous way of being. Arguably, it can be expected that foster children

may feel apprehensive in response to a change in parenting style, as due to their insecure attachment style they are likely to interpret change as threatening. As foster children are often operating from a fight, flight or freeze system, they are likely to struggle to identify levels of threat from changes (Wagner, 2015).

Clinical Implications

This research supports the idea that DDP-based interventions, such as the FFA group shape foster carers parenting practice in line with the theoretical principles of DDP, as the themes that emerged represent key aspects of DDP, such as emotion regulation, reflective parenting, and empathetic behavioural support. These results echo other research on DDP-based interventions, such as the Nurturing Attachments group which is employed with adoptive parents and foster carers. Research regarding the Nurturing Attachments group has consistently shown that parents who have attended the group have shown significant improvements in their self-efficacy and reflective functioning, often reframing their child's behaviours as signs of emotional distress (Staines, Golding & Selwyn, 2019). Similarly, this increased understanding has helped support adoptive parents to stop, reflect and regulate themselves, allowing them to be more responsive to their child; for example, learning to validate and regulate their child's emotions rather than jumping in to fix distress (Hewitt, Gurney-Smith & Golding, 2018; Wingfield, Gurney- Smith, 2019). Consequently, although foster carers may face different obstacles in their parenting practice and relationship with their child, compared to adoptive infant-parent dyads, this research illustrates that foster carers often implement similar skills to adoptive parents, such as co-regulation, reflective parenting, and connection before correction. These principles are thought to be effective at supporting foster carers with parenting children who have experienced abuse and/or neglectful early experiences; therefore, illustrating that DDP-based interventions, such as the FFA group should be an accessible option for foster carers.

Future Research

In the reflective diary, it was noted that foster carers who had more than one foster child tended to report more behavioural difficulties and seemed to struggle more with managing these behaviours. It could be suggested that as DDP utilises "here and now" moments to co-create new meaning (Hughes, 2017), having multiple foster children will limit a carer's ability to attune to each child's emotional experience. Statistics illustrated that during 2019-2020, 14 625 carers were approved to have two foster children in their

household (Ofsted, 2020). Similarly, statistics reported that 10 975 siblings were assessed, with 9 890 being placed together (Ofsted, 2020). These statistics demonstrate that there is not only a need for foster carers to care for more than one foster child at once, but also that it is common practice. As a result, it would be helpful for future research to consider how foster carers with multiple children could be supported with implementing DDP-based interventions.

Additionally, most participants in the research came from two carer households - this is representative of the foster carer population, as 82% live in two carer households (Ofsted, 2020). However, many of the participants only had one spouse attend the FFA group; therefore, it would be interesting for future research to investigate how couples navigate implementing DDP-based parenting when only one has been taught the intervention. This would offer further insight into how DDP principles are learnt and transferred between carers in a co-parenting relationship and whether the relationship with the foster child differs at all between the two parents. Similarly, a limitation of this research is that the sample only consisted of female foster carers and thus it is unknown whether a male's parenting practice and their relationship with their foster child would have differed. Research has suggested that often male carers consider their role in fostering to be unique, as they are able to present as a positive male role model for children whose fathers have been absent or abusive (Gilligan, 2000; Wilson, Fyson & Newstone, 2007). Consequently, future research would benefit from investigating how DDP-based interventions operate in co-parenting relationships and male foster carers experience of these interventions.

Strengths and Limitations

A significant strength of this research is that it is understood to be one of the first attempts to explore specifically how the FFA group, may shape foster carers parenting practice and their relationship with their foster children. This is vital, as research has shown that foster children can place significant behavioural and emotional demands on foster carers due to their traumatic upbringing (Bunday et al., 2015; Staines, Golding & Selwyn, 2019) and therefore, it is important for research to understand whether DDP-based interventions, such as the FFA group can support foster carer's parenting practice and their relationship with their foster child to minimise placement breakdown.

However, a weakness of this research is that it cannot explicitly state that placement stability or success was improved in homes where foster carers had attended the FFA group and

engaged in DDP-based parenting. To further support this hypothesis, the research would have benefitted from being supported by assessing long-term outcomes, such as placement stability to provide a comparison to national statistics.

Conclusions

In conclusion, placement breakdown remains a common experience for foster children, with many experiencing unplanned endings and multiple placements (Department for Education, 2019; Ofsted, 2020). Unfortunately, repeated placement breakdowns continue to re-traumatise foster children and impact their physical, emotional, social, and intellectual development (Staines, Golding & Selywn, 2019). As a result, there has been extensive work on creating interventions, such as DDP, that support foster carers with understanding and knowing how to respond to their foster child, to reduce the risk of placement breakdown and to maximise attachment security (Fisher, 2014). This research has shown that the FFA group, a DDP-based intervention designed for foster carers, can help foster carers develop greater understanding, awareness, and curiosity about their child's behaviour, learning how to co-regulate and respond to their behaviour to minimise experiences of shame and to support the foster child in understanding their behaviour.

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Press Release

How reliable is the Post-Traumatic Cognitions Inventory?

Researchers at the University of Birmingham meta-analysed 117 studies to assess the reliability of the Post-Traumatic Cognitions Inventory (PTCI) (Foa, Ehlers, Clark, Tolin & Orsillo, 1999) and its three accompanying sub-scales.

The PTCI is a 33-item self-report scale used to help identify an individual's negative beliefs about themselves, negative beliefs about the world and self-blame following a traumatic incident (Foa et al., 1999). The PTCI was developed, as the cognitive model of PTSD proposed by Ehlers & Clark (2000) suggests that Post-Traumatic Stress Disorder (PTSD) is likely to develop when individuals process a trauma in a way that produces a current sense of threat. This threat may represent an external threat to safety or an internal threat to one's sense of self or future (Ehlers & Clark, 2000). One of the mechanisms responsible for creating a sense of threat is an individual's appraisal of the trauma and its sequelae, such as interpretations about how the individual felt or behaved during the trauma, how others reacted after the trauma or the perceived consequences that the trauma has on an individual's

future (Ehlers & Clark, 2000).

The PTCI is widely used within research and clinical practice and thus it is important that the measure is reliable. Reliability refers to whether a measure is assessing the intended construct in a consistent and accurate way. Many studies report on a measure's reliability by employing a statistical value, known as Cronbach's Alpha (Cronbach, 1951). The higher Cronbach's Alpha is the more reliable the measure is thought to be. Individual studies tend to measure the reliability of the PTCI; however, a weakness of relying purely on individual studies is that sample sizes can be smaller and there can be between study variations. In comparison, a meta -analysis combines data from individual studies, thus increasing statistical power and providing a more precise estimate of reliability (Lee, 2019).

Results illustrated that the alpha value for the PTCI and its subscales were good to excellent, with a reported alpha value of 0.95 for the total, 0.93, 0.87 and 0.8 for the subscales. The reliability of the PTCI was influenced when the measure was modified, i.e., items were removed or altered. Additionally, the reliability of the measure changed dependent on where the individual was from (country of residence) and what type of trauma they had experienced.

For more information, please contact Lucy Bassil, School of Psychology, University of Birmingham

How to shape foster carers parenting practice and their relationship with their foster child

As of 31st March 2020, there were 80,080 looked after children in England, with 72% living in foster care placements (Gov, 2021). Unfortunately, breakdowns in foster care placements are a common experience for looked after children, with many experiencing three or more placements per year (Department for Education, 2019). Placement breakdown can occur as many foster children have experienced complex childhood trauma at the hands of his/her caregiver and thus tend to present with disruptive or destructive behaviours (Redfern et al., 2018).

Interventions have been designed to help minimise placement breakdown, by supporting foster carers in developing new understandings of their child's distrustful or destructive behaviour, to learn how to respond to their child's challenging behaviour and how to develop emotional connectedness with their child. One intervention is Dyadic Developmental Psychotherapy (DDP) which can be delivered in a one-to-one or group-based format. One of the group-based DDP-based interventions is the Foundations for Attachment (FFA) group,

which is a six-week group for foster-carers.

Currently, there is limited research investigating what impact the FFA group has on a foster carer's parenting and therefore researchers at the University of Birmingham aimed to explore how the FFA group shapes foster carer's parenting practice and their relationship with their foster child.

Results showed that since attending the FFA group:

- Foster carers had developed a new-found ability to stop, reflect, and regulate themselves before responding to their child's behaviour, recognising an understanding and awareness of their own needs as well as the child's.
- By regulating and reflecting before responding, foster carers described being more curious about their child's behaviour, often recognising that their behaviour was unlikely to be personally driven towards themselves, but rather representative of the child's developmental age or a result of internal states, such as shame.
- Foster carers described an acceptance that challenging behaviour and emotional distress do not need to be resolved immediately, but rather the importance of connecting with their child's emotional experience before attempting to make sense of their behaviour.
- When making sense of their behaviour, foster carers described understanding how their child may react differently to themselves in response to situations and thus the importance of wondering aloud sensitively and curiously with the child about reasons for their behaviour.
- Foster carers described how they had become more flexible in their parenting style, as they were able to accept that their parenting would not always go to plan but felt confident about their parenting due to increased knowledge and affirmation from the group.
- With this knowledge foster carers felt more confident to recognise when the behaviour of other professionals involved within the foster child's care were unhelpful.

For more information, please contact Lucy Bassil, School of Psychology, University of Birmingham

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Appendix 1: Participant Information Sheet



BIRMINGHAM CHILDREN'S TRUST

Participant Information Sheet

Project Title:

An exploration of how Dyadic Developmental Psychotherapy group interventions shape foster carers parenting practice and their relationship with their foster child

Invitation:

You are being invited to take part in research which aims to explore how foster carers implement skills from the Foundations for Attachment group. Please take time to read the following information carefully and discuss it with others if you wish, before deciding if you would like to participate.

About this research:

This research aims to explore how foster carers implement skills from the Foundations for Attachment group and thus how your parenting practice and relationship with your child may have changed following attendance of the group. As you may know children in care often present with challenging behaviour due to their

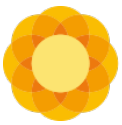
traumatic backgrounds and thus this research will contribute to increased understanding about how interventions, such as the Foundations for Attachment group can help foster carers navigate their relationship with the child. It is important to research this to minimise the risk of placement breakdowns for foster children. This research may be published at conferences and written up in journals in the future.

What will happen if you agree to take part:

It is your decision if you decide whether to take part or not. If you are interested in hearing more about this study or to ask for further information in confidence, with no obligation to participate, you can contact Lauren Good (

or Lucy Bassil (

If you decide to take part in the research, you will be asked to take part in a 1:1 interview discussing how you have implemented skills from the Foundations for Attachment group and how this may have changed your relationship with your foster child and parenting practice. This interview will take place at the Therapeutic Emotional Support Service or via telephone/other electronic software, such as Skype



BIRMINGHAM CHILDREN'S TRUST

and will be recorded using an encrypted Dictaphone. You will be informed of the outcomes of the research at the end of the study.

Time Scale of the Research:

If you wish to take part in the study, please respond to this email. Following, a researcher from the study will contact you and arrange a convenient time and date to conduct the interview.

Participants Rights:

The University of Birmingham is the sponsor for this study. We will be using information from you in order to undertake this study and will act as the data controller for this study. This means that we are responsible for looking after your information and using it properly. The University of Birmingham will keep the data collected for 10 years after the study has finished.

When you agree to take part in a research study, we will use your data in the ways needed to conduct the research study. Your rights to access, change or move your information are limited, as we need to manage your information in specific ways for

the research to be reliable and accurate. As a result you can withdraw from the research without explanation any time up to the point of data analysis. Withdrawal from the research will not impact upon your care with the Therapeutic Emotional Support Service. To safeguard your rights, we will use minimal personally-identifiable information. The data collected will be anonymous and all participants will be given a pseudonym to maintain confidentiality. All anonymised data will be stored on a password protected drive. Confidentiality will only be broken if it is felt that you or your foster child are at risk. Additionally, during the research, you have the right to refuse to respond to any questions. If you have any further questions or wish to find out more about how we use your information, please contact Lucy Bassil (

Benefits and Risks:

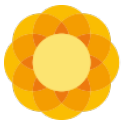
Some individuals may feel distressed answering questions related to their relationship with their foster child and parenting practice. If this is the case, you will have the opportunity to discuss any concerns with the researchers and your allocated worker from the Therapeutic Emotional Support Service. Additionally, if you are feeling distressed and are unable to contact the named people, please seek support from Samaritans at all other times on 116 123.

Whilst there are no direct benefits in taking part in this research, you will have the opportunity to contribute to the development of knowledge regarding interventions designed to support foster carers in their role. Consequently, by participating in this research you will be helping to improve the services offered to foster carers for years to come.

For Further Information:

If you have any questions or concerns about this research at any time, please contact Lauren Good (or Lucy Bassil

Appendix 2: Consent Form



BIRMINGHAM CHILDREN'S TRUST

Participant Consent Form

Project Title:

An exploration of how Dyadic Developmental Psychotherapy group interventions shape foster carers parenting practice and their relationship with their foster child

Please initial all boxes

1. I confirm that I have read and understood the Participant Information Sheet (dated 27/05/2020) for the above study. I have had the opportunity to consider the information, ask questions and had them answered satisfactorily. ☐
2. I understand that my participation is voluntary and that I am free to withdraw at any time up to the point of data analysis, without giving reason, and without my care being affected. ☐
3. I understand that all personal information will remain confidential and that all efforts will be made to ensure that I cannot be identified ☐

4. I agree that data gathered in this study will be stored anonymously and securely.

5. I am not currently involved/recently been involved in other research projects ☐

6. I understand that the data gathered will be published as part of a Clinical Doctorate Thesis and may be published in psychological journals. ☐

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

Name of Person giving consent Date Signature

Name of Person taking consent Date Signature

Appendix 3: Interview Schedule

Before the interview commences:

- Explain the purpose of the interview, how long approximately it will take, how the information will be used and that the interview will be recorded
- Invite questions from participants
- Provide participants with the consent form to read and sign

Start the audio-recording and alert participants that this is occurring

"How has your parenting practice been shaped since attending the group?"

"What changes have you noticed in your relationship with your foster child since attending the group?

"What changes have you and your foster child noticed in you?"

"What changes have you noticed in your foster child?"

"What did you particularly struggle with in regard to parenting your foster child before attending the group and how has this changed?"

"How has attending the group influenced your outlook for the future?"

"What changes have you noticed in your emotional investment of your foster child?"

"What changes have you noticed in your own self-confidence in parenting your foster child?"

Verbal debrief:

- Thank participants for their time completing the interview
- Invite any questions from participants

Appendix 4: Priori-themes

1. "Connection with correction"
   1.1 Understanding boundaries
   1.2 Co-regulation
   1.3 Identifying and labelling emotions

2. Understanding of the child's past
   2.1 Increased empathy for the foster child
   2.2 Tolerance of behaviours that challenge
   2.3 Understanding child's distrustful or destructive behaviour

3. Inter-subjectivity
   3.1 Non-verbal interaction
   3.2 Mind-mindedness

4. Identity as a foster carer
   4.1 Working with the birth family "loyalty conflict"
   4.2 Managing uncertainty around the temporary nature of the foster relationship
   4.3 Increased confidence

5. PACE

Appendix 5: Template revisions

Template 2

1. **Understanding of the child's past**
   - 1.1 Understanding of the child's distrustful or destructive behaviour
   - 1.2 Tolerance of distrustful or destructive behaviours
   - 1.3 Understanding the impact of past trauma on the child's behaviour
     - 1.31 Recognising the child's distrustful or destructive behaviour as a protection mechanism
     - 1.32 Wanting to fix vs. understanding that the recovery from trauma is not a linear process
   - 1.4 The child's understanding of their behaviour
   - 1.5 *Differentiating between biological and psychological influences on behaviour*
   - 1.6 *Identifying triggers*
   - 1.7 *Understanding impact of child's past fostering experiences on their behaviour*
   - 1.8 *Working with shame*

2 **"Connection with Correction"**
   - 2.1 Offering a choice
   - 2.2 Identifying and labelling emotions
   - 2.3 Matching affect
   - 2.4 *Reducing consequences*

2.5 *Understanding boundaries*

3 **Inter-subjectivity**

3.1 Mind-mindedness

4 Identity as a foster carer

4.1 Managing contact with the birth family

4.12 Being a safe person taking the foster child to a place of trauma

4.13 *Managing other professional's views around contact with birth family*

4.2 *Managing uncertainty around the temporary nature of the foster relationship*

4.3 Child's place within the family

4.4 Increased confidence

5 Working with other professionals

5.1 Feeling in the middle

5.2 Feeling more knowledgeable about attachment compared to other professionals

6 Use of PACE

6.1 Playfulness

6.2 Acceptance

6.3 Curiosity

6.4 Empathy

7 Taking care of self

7.1 Regulating self

7.2 Self-reflection

7.3 Self-care

7.4 *Understanding that "it's not you"*

8 Understanding own attachment style

8.1. Recognising the impact of own attachment style on parenting

8.2. *Sharing recovery*

9 Implementing parenting techniques

9.1 Foster child recognising difference in parenting style

9.11 Foster child struggling with change in parenting style

9.2. Implementing parenting techniques based on the child being in the right place

10. Being present

Template 3

1. **Understanding of the child's behaviour in the context of their past**
   1.1. Understanding of the child's distrustful or destructive behaviour
   1.2. Tolerance of distrustful or destructive behaviours
      1.21. Being present with the child in their distress without trying to change it vs wanting to fix
   1.3. Understanding the impact of past trauma on the child's behaviour
      1.31 Recognising the child's distrustful or destructive behaviour as a protection mechanism
      1.32 Working with shame
      1.33. *Knowing that the recovery from trauma is not a linear process*
   1.4. The child's understanding of their behaviour
   1.5. Mind-mindedness

1.6. Differentiating between biological and psychological influences on behaviour
1.7. Identifying triggers
1.8. Understanding impact of child's past fostering experiences on their behaviour

2. "Connection before Correction"

2.1. Offering a choice
2.2. Identifying and labelling emotions aloud to connect with the child's emotional experience
2.3. Matching affect
2.4. *Logical consequences*
2.5. Being present

3. Inter-subjectivity

3.1 Blocked care
3.2 Naming blocked care
3.3 Understanding the impact of blocked care
3.4 Recognising blocked care

4. Identity as a foster carer

4.1 Managing contact with the birth family
4.12 Being a safe person taking the foster child to a place of trauma
4.2 Managing other professional's views around contact with birth family
4.21 Feeling in the middle with other professionals
4.22 Feeling more knowledgeable about attachment compared to other professionals
4.3 *Managing uncertainty around the temporary nature of the foster relationship*
4.4 Child's place within the family
4.5 Increased confidence

5. Use of PACE

5.1 Playfulness
5.2 Acceptance
5.3 Curiosity
5.4 Empathy

6. Taking care of self

6.1 Regulating self
6.2 Self-reflection
6.3 Self-care
6.4 *Understanding that child's behaviour is not personal*

7. Understanding own attachment style

7.1. Recognising the impact of own attachment style on parenting
7.2. *Recovery from own trauma*

8. Learning a new way of being with the foster child

8.1 Foster child recognising difference in parenting style
8.12 Foster child struggling with change in parenting style
8.2. Implementing parenting techniques based on the child being in the right place

Template 4

Integrative Theme that cuts across: PACE

1. "Connection before Correction"
1.1 Connecting with the child's inner experience and recognising why the behaviour may be happening
1.11. Mind-mindedness
1.12. *Understanding the foundation blocks that the child has missed out on ---- responding to the child's trauma age*
1.13. Recognising the child's distrustful or destructive behaviour as a protection mechanism
1.14. Recognising impact of shame/child's view of self
1.11. Understanding how the presenting behaviour may be a result of the child feeling shame
1.12. Recognising how labelling challenging behaviour can elicit shame
1.4 Helping child connect to the emotional experience
1.41. Identifying and labelling emotions aloud to help the child connect to their emotional experience
1.42. Matching affect (used to help child label emotion but also regulate)
1.5. Correct if necessary *logical consequences*

2. Being present with the child in their distress without trying to change it vs wanting to fix
2.11. Recognising whether the child is not in the right emotional head space to discuss it

2.12. Stopping, reflecting, regulating self
2.13. Acceptance that jumping in to fix will not help
2.14. *Something about consequences*
2.15. Accepting that it's ok for things to not go to plan
2.16 Recognising that the child's behaviour is not personal

Where would these go? - *1) Knowing that recovery from trauma is not a linear process* 2) The child's understanding of their behaviour

3. Identity as a foster carer
3.1 Managing contact with the birth family
3.12 Being a safe person taking the foster child to a place of trauma
3.2 Managing other professional's views around contact with birth family
3.21 Feeling in the middle with other professionals
3.22 Feeling more knowledgeable about attachment compared to other professionals
3.3 Increased confidence

4. Taking care of self
4.1 Self-care
4.2 Self-reflection

5. Learning a new way of being with the foster child
5.1 Foster child recognising difference in parenting style
5.12 Foster child struggling with change in parenting style
5.2. Implementing parenting techniques based on the child being in the right place

Template 5

Integrative Theme that cuts across: PACE

1. Connection before Correction

1.1. Co-creating a narrative

1.11. Recognition that the foster child does not understand their behaviour

1.12. Helping the child to recognise and label their experiences *(including how to phrase things, identifying and labelling emotions, matching affect)*

1.2. Helping the child experience being understood

1.3. Consequences revisited *(including logical consequences, consequences less behavioural, based more on what the child needs)*

2. New meanings of behaviour

2.1. Curiosity about what is driving the foster child's behaviour (*including honeymoon period, pushing boundaries)*

2.11. Recognition of the foundation blocks that the foster child has missed out on

2.12. Being attuned to the child's developmental age (*including child having different ages, child regressing and how to respond to that)*

2.3. Mind-mindedness

3. Shame

3.1. Foster carer recognising how their own reaction to behaviour can elicit shame *(including recognition of child's inner working model and not wanting to reinforce that)*

3.2. Address and regulate shame vs. avoid

4. Regulation before Reflection

4.1. Emotional mind vs rational mind

4.2. Foster carer stopping, reflecting, regulating self

4.3. Acceptance that behaviour does not need to be resolved straight away

5. Identity as a foster carer

5.1. Increased confidence

5.11. Increased confidence in parenting due to knowledge/affirmation from the group that doing the right thing

5.12. Increased confidence when working with other professionals *(including noticing when other professionals are wrong, but also leads to a conflict sometimes of feeling in the middle)*

5.2. Flexible parenting

5.21. Trying things out

5.21. Acceptance that it's ok for things to not go to plan/it's not bad parenting

5.3. Recognising that the foster child's behaviour is not personal

6. Awareness and understanding of own needs

6.1 Self-care

6.2. Recognising the impact of own attachment style on parenting

Template 6

Integrative Theme that cuts across: PACE

1. Connection before Correction

1.1. Connecting with the foster child's emotional experience (n 4)

1.2. Co-creating a narrative

1.21. Recognition that the foster child does not understand their behaviour (n 3)

1.22. Helping the foster child to recognise and label their experiences *(including how to phrase things, identifying and labelling emotions, matching affect) - whether to break this down into sub-themes? An idea could be to split it into non verbal (n 3) (tone of voice, facial expressions) and verbal communication (particular phrases, verbally labelling)* (n 6)

1.3. Consequences revisited *(including logical consequences, consequences less behavioural, based more on what the child needs)* (n 2)

2. Parental Mentalisation

2.1 Something about just having a better understanding of behaviour in general (n 4)

2.2. Curiosity about what is driving the foster child's behaviour

2.21. Understanding that behaviours are driven by underlying internal mental states (n 7)

2.21. Recognition of the foundation blocks that the foster child has missed out on (n 2)

2.22. Being attuned to the foster child's developmental age (*including child having different ages, child regressing and how to respond to that)* (n 5)

2.3. Mind-mindedness (n 4)

3. Shame

3.1. Recognising how behaviour can be a result of shame (n 3)

3.2. Foster carer recognising how their own reaction to behaviour can elicit shame (n 4)

3.3. Address and regulate shame vs. avoid (n 4)

4. Regulation before Reflection

4.1. Emotional mind vs rational mind (n 4)

4.2. Foster carer stopping, reflecting, regulating self (n 5)

4.3. Acceptance that behaviour does not need to be resolved straight away (n 3)

5. Identity as a foster carer

5.1. Increased confidence

5.11. Increased confidence in parenting due to knowledge/affirmation from the group that doing the right thing (n 4)

5.12. Increased confidence when working with other professionals (n 4)

5.2. Flexible parenting

5.21. Trying things out (n 2)

5.22. Acceptance that it's ok for things to not go to plan/it's not bad parenting (n 7)

5.3. Recognising that the foster child's behaviour is not personal (n 4)

6. Awareness and understanding of own needs

6.2 Self-care (n 4)

6.2. Recognising the impact of own attachment style on parenting (n 3)

7. **Learning a new way of being with the foster child**

7.2 Foster child recognising difference in parenting style (n 3)

7.2. Implementing parenting techniques based on the child being in the right place (n 2)

8. Intersubjectivity?? (n 2) – joint attention – both attending to the same thing but bringing a different experience to it – would I then put matched affect with this too and in the first them, just have verbally labelling?

Template 7

Integrative Theme that cuts across: PACE

1. Regulation before Reflection

1.1. Foster carer stopping, reflecting, regulating self

1.2. Emotional mind vs rational mind

1.3. Acceptance that behaviour does not need to be resolved straight away

2. Parental Mentalisation

2.1. Recognition that the child's mind is different to the foster carer's mind

2.2. Curiosity about what is driving the foster child's behaviour

2.21. Understanding that behaviours are driven by underlying internal mental states

2.22. Being attuned to the foster child's developmental age

2.3. Recognising that the foster child's behaviour is not personal

3. Shame

3.1. Recognising how behaviour can be a result of shame

3.2. Foster carer recognising how their own reaction to behaviour can elicit shame

4. Connection before Correction

4.1. Connecting with the foster child's emotional experience

4.2. Co-creating a narrative

4.21. Recognition that the foster child does not understand their behaviour

4.22. Curiously wondering aloud with the child

5. Awareness and understanding of own needs

5.1. Self-care

5.2. Recognising the impact of own attachment style on parenting

6. Identity as a foster carer

6.1. Increased confidence

6.11. Increased confidence in parenting due to knowledge/affirmation from the group

6.12. Increased confidence to recognise when the recommendations provided by other professionals are not helpful ways of responding to the child's behaviour

6.2. Flexible parenting

7. Foster child's response to changes in parenting style

Appendix 6: Ethical Approval

Dear Dr Good & Dr Johnson,

Re: "An exploration of how Dyadic Developmental Psychopathology group interventions shape foster carers parenting practice and their relationship with their foster child"
Application for Ethical Review ERN_19-1380

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

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

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

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

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

Kind regards,

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