Post-Traumatic Stress Disorder in Children and Young People: Understanding the Evidence-Practice Gap

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Contents

List of Tables

Chapter One: Systematic Review

Chapter Two: Bridging Chapter

None.

Chapter Three: Empirical Study

Chapter Four: Extended Methodology

Chapter Five: Extended Results

Chapter Six: General Discussion and Critical Evaluation

None.

Appendices

List of Figures

Chapter One: Systematic Review

Chapter Two: Bridging Chapter

None.

Chapter Three: Empirical Study

None.

Chapter Four: Extended Methodology

None.

Chapter Five: Extended Results

None.

Chapter Six: General Discussion and Critical Evaluation

Appendices

List of Appendices

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Abstract

The aim of this research was to understand clinicians' experiences of working with children and young people who have experienced trauma. A systematic review was conducted to explore the factors fostering or impeding clinicians' use of evidence-informed interventions when working with this population. The review included 34 relevant studies and synthesised the literature, identifying a number of key barriers including a fear of causing further distress to service users, and a lack of training and supervision. An empirical study was conducted to further explore these issues. An online survey, completed by 717 clinicians working with young people who have experienced trauma in the UK, explored the current provision being offered to this population, as well as the training and supervision being provided to clinicians. The study attempted to understand the relationships between training, supervision, confidence and likelihood of implementing evidence-informed interventions for PTSD in children and young people. Overall the primary predictors of clinicians' use of evidence-informed practices for the treatment of PTSD in young people were ongoing training and supervision. The receipt of training and supervision improved clinician confidence and addressed some of the key barriers identified within the literature. These findings are discussed in relation to the evidence base, and recommendations for clinical practice and future research are highlighted.

Chapter One. Systematic Review

Prepared for submission to Clinical Psychology Review

(Author guidelines in Appendix A)

A Systematic Review of the Clinician Related Barriers and Facilitators to the Use of Evidence-Based Interventions for Post Traumatic Stress

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Abstract

A number of evidence-based interventions for post-traumatic stress disorder (PTSD) have been developed and recommended by clinical guidelines. Despite efforts to disseminate these approaches, there remains a significant gap between evidence and practice, and research has started to identify a number of barriers to the implementation of evidence-informed interventions for PTSD. This systematic review aimed to synthesise the relevant literature, both quantitative and qualitative, relating to clinicians' perceived barriers and facilitators. A literature search identified 34 relevant studies. Four levels of barriers and facilitators are identified, covering intervention, client, clinician and system factors. The most commonly cited perceived barriers identified include the inflexibility of manualised approaches, a fear of increasing client distress, working with comorbidities and a lack of training and support. Quality appraisal rated the majority of studies as strong, with five studies receiving an adequate rating. A clearer insight into the challenges and facilitators experienced by clinicians can help inform ongoing implementation needs, and findings are discussed in relation to future research and clinical implications.

Keywords: Post-Traumatic Stress Disorder; Clinicians; Barriers; Facilitators; Evidence-Based Practice

Highlights

- Several key barriers and facilitators were identified and synthesised
- Barriers occur within four levels: intervention, client, clinician and system
- Key barriers included a lack of training, confidence and support
- Flexibility within fidelity should be explored to support implementation
- These issues should be considered within future training and dissemination efforts

Introduction

In recent decades, mental health services worldwide have placed a significant emphasis on the development, implementation and evaluation of psychosocial interventions for a range of mental health difficulties (Kadzin, 2008). Evidence-based practice (EBP) is the term used in the health literature to describe the process of clinician's decision making about the care of individuals being based on the best available scientific evidence (Sackett, Rosenberg, Gray, Haynes & Richardson, 1996). The American Psychological Association (2006) define EBP as "the integration of the best available research with clinical expertise in the context of patient characteristics, culture and preferences" (p. 273).

However, the dissemination and implementation of evidence-informed practices in routine clinical practice goes beyond the distribution of clinical guidelines and recommendations, and instead requires multi-level assimilation of the approaches across the system (Ploeg, Davies, Edwards, Gifford & Miller, 2007). Despite the evidence base, several studies have demonstrated that evidence-informed practice is rarely implemented in routine clinical practice (Hoagwood & Olin, 2002). Recent research in the field of implementation science has started to explore the barriers to the implementation of evidence-informed practices in real world clinical settings (Marques et al., 2016). For the purposes of this paper, evidence-informed practices are those interventions for which an evidence-based exists, and that have been endorsed by national or international practice guidelines. This reflects a clinicians' decision-making being grounded in the evidence and good practice guidelines.

Post-Traumatic Stress Disorder

A particular area of mental health gaining increasing attention is the treatment of Post-Traumatic Stress Disorder (PTSD). Worldwide lifetime prevalence estimates suggest

that more than two-thirds of individuals will experience a trauma during their lifetime (Kessler et al., 2017). Traumatic events are those where a person is exposed to "death, threatened death, actual or threatened serious injury, or actual or threatened sexual violence (5th ed.; Diagnostic and Statistical Manual of Mental Disorders [DSM-5]; American Psychiatric Association, 2013).

Recommended guidelines for the treatment of PTSD have been produced by various organisations worldwide, including the American Psychiatric Association, the American Psychological Association and the Department of Veteran Affairs (VA) in the United States, the National Institute for Health and Care Excellence (NICE) in the UK, the National Health and Medical Research Council (NHMRC) in Australia and the International Society for Traumatic Stress Studies (ISTSS). The evidence-informed interventions recommended by each of these guidelines as a first line treatment for PTSD are presented in Table 1.1.

These guidelines are based on a wide range of research that provides evidence for the effectiveness of a number of treatment interventions for PTSD (Bisson et al., 2007; Ehring et al., 2014; Cusack et al., 2016). Increasing recognition of the importance of the timely treatment of PTSD has led to the development of multiple interventions aimed at addressing this issue (Dorsey et al., 2017). Recent meta-analyses suggest that best research evidence currently advocates trauma-focused cognitive behaviour therapy (TF-CBT) as the most effective treatment for PTSD (Watts et al., 2013). In addition to TF-CBT, promising evidence has been found for interventions including Eye Movement Desensitisation and Reprocessing (EMDR; Chen et al., 2014) and Narrative Exposure Therapy (NET; Robjant & Fazel, 2010).

Table 1.1: Clinical Practice Guidelines for the Treatment of PTSD

Clinical Practice Guideline	Recommended first line intervention
International Society for Traumatic Stress Studies (ISTSS)	Cognitive Behavioural Therapy with exposure elements; Cognitive Therapy; Stress Inoculation Therapy; Eye Movement Desensitisation and Reprocessing; Exposure
National Institute for Health and Care Excellence (NICE)	Trauma-Focused Cognitive Behavioural Therapy; Eye Movement Desensitisation and Reprocessing
American Psychiatric Association	Trauma-Focused Cognitive Behavioural Therapy
American Psychological Association	Cognitive Behavioural Therapy; Cognitive Processing Therapy; Cognitive Therapy; Prolonged Exposure
National Health and Medical Research Council (NHMRC)	Trauma-Focused Cognitive Behavioural Therapy; Eye Movement Desensitisation and Reprocessing
Department of Veteran Affairs (VA)	Prolonged Exposure; Cognitive Processing Therapy; Eye Movement Desensitisation and Reprocessing; Brief Eclectic Psychotherapy; Narrative Exposure Therapy; Written Narrative Exposure; Cognitive Behavioural Therapy for PTSD

Barriers

Despite these guidelines, and a number of training efforts to disseminate evidence-informed practice to clinicians working with those who have experienced trauma, there remains a question in the literature relating to the extent to which these approaches are routinely being used in clinical practice (Ruzek & Rosen, 2009; Hundt, Harik, Barrera, Cully & Stanley, 2016). Indeed, some surveys conducted focusing on military veterans in the USA suggest a large majority of service users presenting for treatment for PTSD do not receive evidence-informed interventions (Tanielian & Jaycox, 2008; Borah, Holder & Chen, 2017). The issue with this research is that the results are not necessarily generalisable to the general clinical population, and evidence is lacking that demonstrates the service provision being offered within general mental health services. In particular there is little literature available outlining the provision being offered to individuals with PTSD in the United Kingdom.

Implementation Science

Recent evidence suggests that while clinicians generally hold favourable attitudes towards evidence-informed interventions, there remain a number of barriers to implementation (Gray, Elhai & Schmidt, 2007). Exploring the barriers and facilitators to the implementation of evidence-informed practice is crucial to improving the provision and quality of care received by those who have experienced trauma (Aarons et al., 2010).

Implementation science is an area of research that aims to explore the range of methods and approaches used to implement current research findings into clinical practice and understand the barriers and facilitators to this (Nilsen, 2015). This research attempts to answer the question as to why evidence-informed interventions do not easily translate into real world settings (Marques et al., 2016). A number of models identifying multi-level

factors that may influence clinician use of evidence-informed interventions have been developed (Damschroder et al., 2009; Stirman, Gutner, Langon & Graham, 2016).

In particular, clinicians are critical agents in ensuring that evidence-informed treatments are adopted and implemented in clinical practice (Adams et al., 2016). A clearer insight into the challenges and facilitators experienced by clinicians working with this population can help to inform not only the development of new interventions, but also the dissemination process including clinician training, supervision and ongoing implementation needs (Becker, Zayfert & Anderson, 2004; Adams et al., 2016). As proposed in Becker et al. (2004), in order to address the limitations to the use of evidence-informed interventions in routine clinical practice, research must first identify the factors affecting clinical use for those involved in implementation.

One particular model of implementation science, the Consolidated Framework for Implementation Science (CFIR) identifies four levels of implementation factors that have formed the foundation for this review (Damschroder et al., 2009). These are the inner and outer setting in which the intervention is implemented (system level factors); the characteristics of the individuals involved (clinician level factors and client level factors); characteristics of the intervention and the process of implementation.

Objectives

This study aimed to systematically examine and synthesise relevant quantitative, qualitative and mixed-method literature relating to clinicians' perceived barriers and facilitators to the implementation of evidence-informed interventions at all levels of the system for individuals with PTSD. In addition, this review aims to provide recommendations that may help to facilitate the implementation of evidence-informed trauma interventions and provide policymakers and clinicians a comprehensive overview of the available literature.

Methods

A systematic review protocol was developed in line with PRISMA guidelines (Shamseer et al., 2015). The protocol was registered at PROSPERO (January 2018, CRD42018085534). To ensure transparency of the research, the rationale, objectives, methods and the process of data analysis were published.

Search Strategy

Systematic searches were carried out in four electronic databases using specified search terms to identify appropriate evidence. The following databases were searched: PsycINFO, MEDLINE, CINAHL and PILOTS. Search terms were developed following initial scoping searches of the literature to identify alternative terminology. The final search terms were based on the key elements of the review: (1) clinicians or mental health professionals, AND (2) PTSD, AND (3) evidence-based practice, AND (4) barriers and/or facilitators. Full search terms are provided in Appendix C.

Eligibility Criteria

The following criteria were required for the study to be included in the review: (1) explored the views, beliefs and perceptions of mental health professionals working with individuals experiencing PTSD; (2) explored the barriers and facilitators to the use of evidence-informed interventions; (3) published between 1980 and December 2017. The year 1980 was chosen as the earliest date as this coincides with the introduction of the PTSD diagnosis in the third edition of the American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders (DSM-III; 1980); (4) studies published in peer-reviewed journals. Studies were excluded from the review if they: (1) focused on the perspectives of other individuals including patients and other stakeholders; (2) did not involve an evaluation of the barriers and facilitators to the use of evidence-informed interventions, such as studies focusing solely on the effectiveness of an intervention and

clinical or economic outcomes; (3) were not written in English, unless a published translation is available; (4) were not published in peer reviewed journals. All studies excluded once abstract review had been performed were recorded with a reason, and the number of studies excluded at each stage of the review was documented. All eligible international studies were included.

Study Selection

All studies identified by the search strategy were included in the first stage of the review. Once duplicates had been removed, the initial database searches identified a total of 5,645 references. Study selection was then completed in the following procedure: the lead reviewer (JF) screened the titles and abstracts of the remaining studies to determine whether they met the inclusion criteria. Studies where it was not clear from the title or abstract whether they met the criteria were read in full. A second independent reviewer (LG) then screened a randomised sub-selection of the titles and abstracts at each stage to ensure consistency. A total of 5,152 records were excluded following title review, and a further 355 records were excluded following abstract review. Overall 138 references remained to be considered in full. Studies that were considered in full were assessed independently by the two reviewers, using an inclusion checklist developed for the review. Any disagreement regarding full text articles for inclusion were referred to the third author (RMS) for resolution. Following this stage, 104 references did not meet the eligibility criteria and were therefore excluded from the study, leaving 34 studies eligible for inclusion in the final review. A PRISMA flowchart (Moher, Liberati, Tetzlaff & Altman, 2009) detailing the screening and selection process is presented in Figure 1.1. Further details regarding the excluded studies and reasons for exclusion are noted in Appendix D.

Data Extraction

The lead author (JF) extracted the data from the included studies using a data extraction table that was developed for the study in line with PRISMA guidelines. A second author (LG) checked a sub-selection (50%) of this data for consistency and accuracy. Key data extracted included: author, year of publication, location, study design, sample size and characteristics, use of specific interventions and reported barriers and facilitators.

Quality Appraisal

The quality of included papers was assessed by one of the authors (JF) using the modified McMaster Critical Appraisal tool (Law et al., 1998; Letts et al., 2007). The tool was developed using guidelines recommended by the McMaster University, which were modified to include a score for each key criteria of study quality, and also adapted the range of included research designs to enable the application of the tool to both qualitative and quantitative studies. Each study is rated as strong, average or poor based upon the total percentage of the criteria fulfilled, allowing for comparison between quantitative, qualitative and mixed-method studies. A second author (LG) critically appraised a sub-selection (50%) of the included studies to ensure rater-consistency. Minor discrepancies were discussed between the two raters and an agreed score determined. Only a few minor discrepancies in scores occurred and these did not influence the overall quality rating.

Data Analysis

Data analysis was conducted using a content analysis format, based upon guidelines for directed content analysis (Hsieh & Shannon, 2005). In line with a directed approach, content analysis begins with a theory which guides initial codes. Within the current systematic review, initial codes were developed according to the Consolidated Framework for Implementation Research model (CFIR), based upon different levels of

factors that may influence a clinician's use of evidence-informed interventions. These factors include system level factors, provider level factors, client level factors and intervention level factors. Content analysis was chosen due to its ability to bridge quantitative and qualitative research methods and using a deductive approach the researcher analyses the data with a coding template in mind (Pope et al., 2007).

In line with content analysis guidelines, the key individual barriers and facilitators reported in each study were identified and extracted (Hsieh & Shannon, 2005). A method of convergent synthesis was employed whereby results from both quantitative and qualitive studies were extracted and transformed into key factors (Frantzen & Fretters, 2015; Hong, Pluye, Bujold & Wassef, 2017). For qualitative studies, all reported barriers were extracted from the study. In the quantitative studies, all barriers were extracted and those reporting the highest percentage of clinicians endorsing each barrier were included.

One author (JF) read each of the articles identified by the search in order to extract all individual barriers and facilitators. A coding frame based upon system level, clinician level, client level and intervention level factors was developed, and each individual code was tabulated within this framework to provide an overview of frequencies for each of the barriers and facilitators identified. Some codes were recorded as both a barrier and facilitator dependent upon the context and were therefore coded separately. A subset of the papers were then reviewed by the second author (LG; 25%) to ensure reliability of the coding framework.

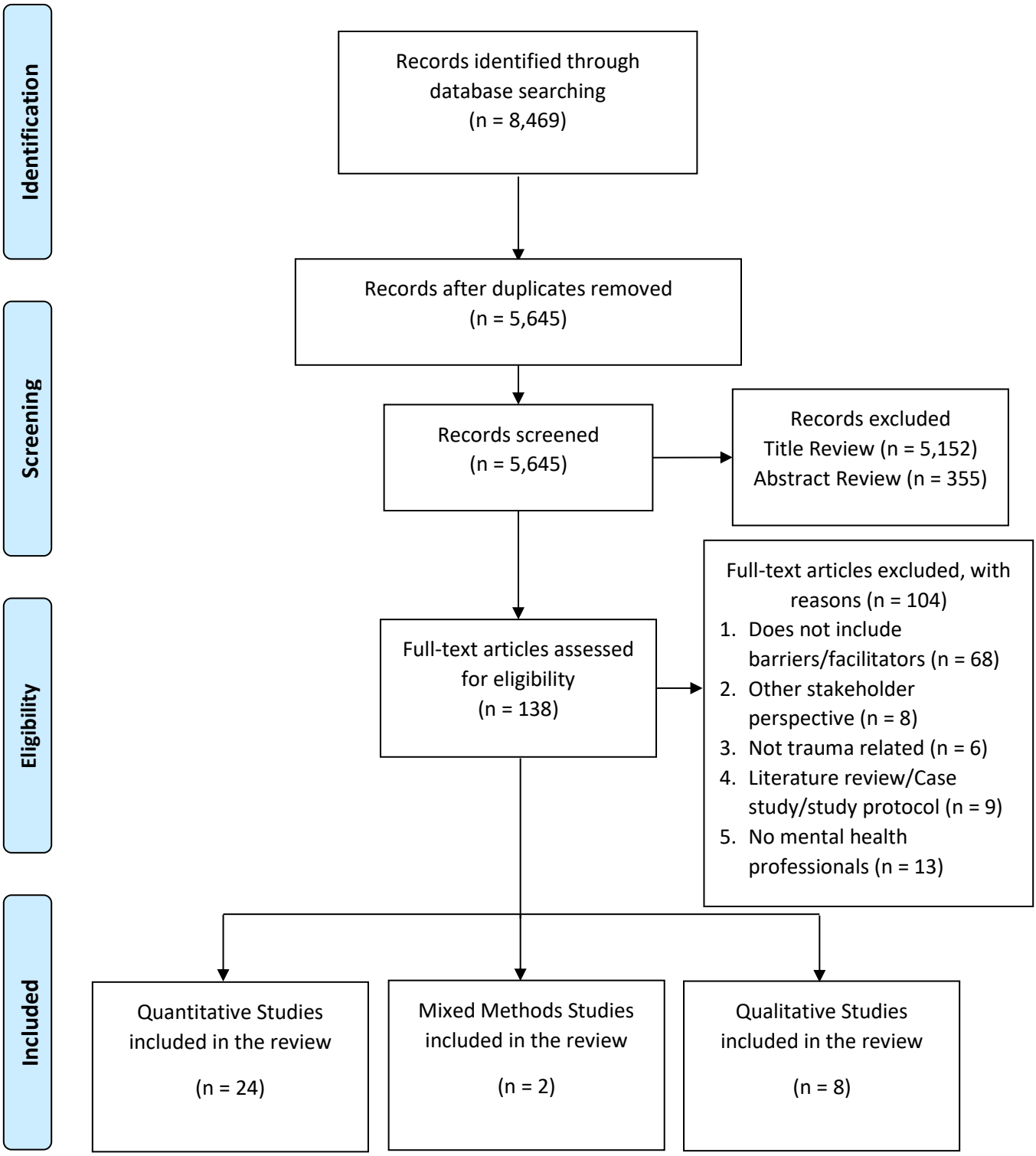

Figure 1.1 PRISMA Flow Diagram

Results

Study Characteristics

In total, 34 studies were included in the systematic review. This included 24 (70.6%) quantitative studies, 8 (23.5%) qualitative studies and 2 (5.9%) mixed method studies. The majority of included papers involved the use of self-report questionnaires (23; 67.7%). Seven further studies included semi-structured interviews conducted either face-to-face or via telephone (20.6%). The remaining studies involved the use of semi-structured focus groups (2; 5.9%), both interviews and focus groups (1; 2.9%) or a self-report survey contained within a randomised controlled trial (1; 2.9%). Further study characteristics are presented in Table 1.2.

Study Quality

Using the modified McMaster Critical Appraisal tool (Law et al., 1998; Letts et al., 2007), the majority of the studies were rated as having strong quality, with five studies receiving an ‘average’ adequacy rating due to methodological limitations. The main limitations identified in included studies were the inclusion of unreliable or unvalidated measures, no clinical implications of the study results reported, and a lack of detail outlining study characteristics. Further details about the quality appraisal scores for each study are included in Appendix E.

Table 1.2: Study Characteristics

Study, Year & Location	Design	Primary Objective	Method of data collection
Becker et al., 2004	Quantitative	Identify extent to which exposure is used in clinical practice and the factors influencing use.	Survey
Salyers et al., 2004	Quantitative	Identify service needs for adults with PTSD and severe mental illness and the barriers for treatment of PTSD	Survey
Kane et al., 2016	Qualitative	Explore clinician perspectives on new PTSD guidelines	Interviews
Donisch et al., 2016	Qualitative	Explore clinician perspectives of trauma informed practice, resources needed and barriers to use.	Interviews & Focus Groups
Czincz & Romano, 2013	Quantitative	Identify extent to which clinicians use EBP and predictors of EBP use	Survey
Allen et al., 2012	Quantitative	Explore whether clinicians can identify EBPs and training and factors influencing clinician beliefs	Survey
Adams et al., 2016	Quantitative	Investigate clinical practice and barriers to treating PTSD & substance use	Survey

Table 2: (continued)

Study, Year & Location	Design	Primary Objective	Method of data collection
Frueh et al., 2006	Qualitative	Identify clinician perspectives of clinical needs of PTSD population	Focus Group
Kolko et al., 2009	Quantitative	Explore clinician's perceptions of EBP, and the nature of training and supervision received	Survey
Hipol & Deacon, 2012	Quantitative	Examine the use of psychotherapy techniques and determine status of EBP dissemination	Survey
Langley et al., 2010	Qualitative	Explore potential barriers and facilitators to implementation of EBP in schools	Interviews
Sprang et al., 2008	Quantitative	Explore extent to which clinicians use EBP and factors influencing use	Survey
Ruzek et al., 2014	Quantitative	Explore beliefs and attitudes to EBP and factors associated with beliefs and attitudes.	Survey
Watts et al., 2014	Mixed-Method	Examine the effectiveness of a VA effort to promote EBP	Interviews

Table 2: (continued)

Study, Year & Location	Design	Primary Objective	Method of data collection
Borah et al., 2013	Quantitative	Assess clinicians' interest in using Cognitive Processing Therapy and Prolonged Exposure and factors influencing use	Survey
David & Schiff, 2015	Mixed-Method	Explore degree to which clinicians are using EBP and their experience of using EBP	Focus Group & Survey
Padmanabhanunni & Sui 2017	Quantitative	Explore attitudes to EBP and which factors influence attitudes	Survey
Ruzek et al., 2017	Quantitative	Explore clinician intention to use EBP and clinician factors influencing use	Survey
Barnett et al., 2014	Qualitative	Explore clinician perspectives of EBP and factors influencing knowledge and use	Interviews
Marques et al., 2016	Qualitative	Explore relationships between attitudes to EBP and implementation of EBP	Interviews
Borah et al., 2017	Quantitative	Identify challenges related to training in EBP and provider attitudes towards EBP	Survey

Table 2: (continued)

Study, Year & Location	Design	Primary Objective	Method of data collection
Gray et al., 2007	Quantitative	Explore attitudes towards and use of EBP	Survey
Allen & Crosby, 2014	Quantitative	Explore relationships between beliefs and use of EBP for working with maltreated children	Survey
Hundt et al., 2016	Quantitative	Examine the provider and patient characteristics influencing EBP	Survey
van Minnen et al., 2010	Quantitative	Identify patient and therapist factors that act as barriers and facilitators to use of EBP	Survey
Najavits et al., 2011	Quantitative	Explore clinician views of common treatment models for PTSD and substance use	Survey
Najavits, 2002	Quantitative	Understand difficulties in treating PTSD and substance use and associated clinician characteristics	Survey
Cook et al., 2015	Qualitative	Evaluate the use of CPT and PE and the predictors of use	Interviews
Trottier et al., 2017	Quantitative	Examine attitudes to EBP for PTSD and eating disorders and the specific concerns and barriers	Survey

Table 2: (continued)

Study, Year & Location	Design	Primary Objective	Method of data collection
Najavits, 2006	Quantitative	Explore clinician views of present and past focused treatments for PTSD	Survey
Kirst et al., 2017	Qualitative	Explore the facilitators and barriers to implementing EBP in mental health and substance use	Interviews
Barnard-Thompson & Leichner, 1999	Quantitative	Explore knowledge of EBP, training and sufficiency of treatment resources	Survey
David & Schiff, 2017	Quantitative	Examine the roles of self-efficacy, social network and supervision in use of EBP	Survey
Richards et al., 2017	Quantitative	Explore training, experience and capacity for providing EBP and examine the predictors of use.	Survey

Sample Characteristics

The majority of studies included in the review were conducted in the United States of America (76.5%). Of the remaining studies, three were conducted in Canada (8.8%), two included international samples (5.9%), two were conducted in Africa (5.9%) and the final study was conducted in Scandinavia (2.9%). The review included 10 studies involving samples from clinicians working with the general population (Becker et al., 2004; Gray et al., 2007; Sprang, Craig & Clark, 2008; van Minnen, Hendriks & Olff, 2010; Hipol & Deacon, 2012; Donisch, Bray & Gewirtz, 2016; Hundt et al., 2016; Kane et al., 2016; Marques et al., 2016; Padmanabhanunni & Sui, 2017). A further eight studies involved military clinician samples (Borah et al., 2013; Barnett et al., 2014; Ruzek et al., 2014; Watts et al., 2014; Cook et al., 2015; Borah et al., 2017; Richards et al., 2017; Ruzek et al., 2017), and eight included samples involving clinicians working with children (Barnard-Thompson & Leichner, 1999; Kolko, Cohen, Mannarino, Baumann & Knudsen, 2009; Langley, Nadeem, Kataoka, Stein & Jaycox, 2010; Allen et al., 2012; Czincz & Romano, 2013; David & Schiff, 2015; David & Schiff, 2017). Four samples included clinicians working with both PTSD and substance use difficulties (Najavits, 2002; Najavits, 2006; Najavits, Kivlahan & Kosten, 2011; Kirst, Aery, Matheson & Stergiopoulos, 2017). The final four studies included two studies of clinicians working with severe mental illness (Salyers, Evans, Bond & Meyer, 2004; Frueh, Cusack, Grubaugh, Sauvageot & Wells, 2006), one study of clinicians working with youth with PTSD and substance use difficulties (Adams et al., 2016) and one study of clinicians working with PTSD and eating disorders (Trottier, Monson, Wonderlich, MacDonald & Olmsted, 2017). Studies were published between 1999 and 2017.

The number of participants ranged from 13 to 1,275. In studies where age was reported, mean age ranged from 32.0 to 53.6. Where gender was reported, the majority of

studies had a higher proportion of female participants, with the percentage of female participants ranging from 50% to 94.8%. In 12 studies, ethnicity was reported, with the highest percentage ethnicity being white Caucasian (range 66.7% to 95.9%). Mean years' experience where reported ranged from 5.84 to 20.3. Further details relating to sample characteristics including profession, highest education, employment setting, and theoretical orientation are included in Appendix F.

Barriers and Facilitators

Perceived clinician barriers were reported in 28 of the included studies, and perceived clinician facilitators reported in 26 of the included studies.

Assessment of barriers and facilitators. A variety of methods was used across the included studies to assess the perceived clinician barriers and facilitators to the implementation of evidence-informed interventions for working with trauma. Nine of the studies identified predictors of evidence-informed interventions based on demographic and clinical characteristics and related these to use of evidence-informed interventions (Najavits, 2002; Najavits, 2006; Allen et al., 2012; Czincz & Romano, 2013; Watts et al., 2014; Cook et al., 2015; David & Schiff, 2017; Ruzek et al., 2017; Richards et al., 2017). A further nine studies included specific questions about attitudes towards and use of evidence-informed interventions (Barnard-Thompson & Leichner, 1999; Gray et al., 2007; Kolko et al., 2009; Najavits et al., 2011; Allen & Crosby, 2014; Ruzek et al., 2014; David & Schiff, 2015; Padmannabhanunni & Sui, 2017; Trottier et al., 2017).

Seven of the studies included open-ended questions within surveys, interviews or focus groups about barriers or facilitators, such as what would help or hinder the use of evidence-informed interventions (Salyers et al., 2004; Frueh et al., 2006; Sprang et al., 2008; Barnett et al., 2014; Marques et al., 2016; Borah et al., 2017; Kirst et al., 2017), and a further four included specific questions about barriers and facilitators (Langley et al.,

2010; Hipol & Deacon, 2012; Donisch et al., 2016; Kane et al., 2016). Four of the included studies developed a list of barriers based on previous literature and asked respondents to rate the extent to which they agreed with each item (Becker et al., 2004; van Minnen et al., 2010; Borah et al., 2013; Adams et al., 2016). Finally, one study developed case vignettes and the study identified predictors and facilitators based on participant responses (Hundt et al., 2016).

Perceived barriers and facilitators. Directed content analysis identified key barriers and facilitators from each of the included studies and grouped them according to the coding framework. Each barrier and facilitator was assigned to one of the four key levels where barriers and facilitators are reported by clinicians. Each of these key levels is described in further detail below.

***Intervention level barriers/facilitators*.** Intervention level barriers and facilitators were those identified that influenced the clinician's use of evidence-informed interventions based on the components of the intervention. The intervention level barriers and facilitators are presented in table 1.3. The barriers and facilitators are ordered based on the total number of studies reporting each barrier, and grouped according to quantitative, qualitative and mixed method studies. The most commonly reported intervention level barriers were clinician preference for individualised approaches, and therefore finding intervention manuals too limited or restricted, or the lack of ability to adapt the intervention manuals. On the other hand, the most commonly reported facilitator was where intervention manuals had the scope to be adapted or flexible.

***Client level barriers/facilitators*.** The client level barriers are those identified that influence clinicians' use of evidence-informed interventions based on characteristics or behaviours of the client referred for the intervention. Client level barriers and facilitators are displayed in table 1.4, in order of the total number of reported studies. The most

commonly reported client level barriers included client comorbidities, clinician concerns about re-traumatising the client or making their symptoms worse, and client's treatment preferences for other approaches. Client level facilitators were limited in the included studies, with each identified facilitator only being reported in one study.

***Clinician level barriers/facilitators*.** Clinician level barriers and facilitators are those identified that influence the clinicians' use of evidence-informed interventions for trauma based on their own demographic characteristics or clinical experiences. The identified clinician level barriers and facilitators are presented in table 1.5, ordered by total number of reported studies. The most commonly reported clinician level barriers included a lack of training in trauma approaches and therefore uncertainty of how and when to use approaches, plus concerns about the emotional burdens of working with individuals who have experienced trauma. Clinician level facilitators included increased clinical experience, and positive or favourable attitudes towards evidence-informed interventions (including an understanding of the need for evidence-based practices in healthcare).

***System level barriers/facilitators*.** Finally, the system level barriers and facilitators are those identified that are at the level of the provider or organisation that influence the clinicians' use of or attitudes towards evidence-informed interventions for working with trauma. The system level barriers and facilitators are displayed in table 1.6. Commonly reported system level barriers included a lack of time available to focus upon the treatment of trauma and dissemination of evidence-based approaches, and access to training and resources. On the other hand, commonly reported facilitators were for organisations where there was good access to training and resources.

Table 1.3: Intervention Level Barriers

Barrier	Quantitative studies	Qualitative Studies	Mixed-Method Studies
Use of intervention manual components too rigid and preferring an individualised approach	Najavits, 2002; Becker et al., 2004; Najavits et al., 2011; Adams et al., 2016; Trottier et al., 2017		
Difficulty adapting treatment intervention for group-based approach	Najavits, 2006	Frueh et al., 2006; Cook et al., 2015	
Evidence informed intervention not generalisable to the population and disregards individual/social/cultural needs	Gray et al., 2007	Marques et al., 2016	
Treatment length inflexible	Trottier et al., 2017		

Table 1.3 (continued)

Facilitators

Facilitator	Quantitative Studies	Qualitative Studies	Mixed Method Studies
Guideline flexibility within approach and use of a variety of modules	Najavits 2002; Najavits et al., 2011; Allen and Crosby, 2014	Cook et al., 2015; Kane et al., 2016	
Robust research base and theoretical depth	Hipol & Deacon, 2012	Cook et al., 2015	David & Schiff, 2015
Ability to adapt approach to meet client's individual needs		Kane et al., 2016; Kirst et al., 2017	

Table 1.4: Client Level Barriers

Barrier	Quantitative studies	Qualitative Studies	Mixed-Method Studies
Client comorbidities including substance use and suicidality	Najavits, 2002; Becker et al., 2004; Salyers et al., 2004; van Minnen et al., 2010; Najavits et al., 2011; Adams et al., 2016; Trottier et al., 2017	Kane et al., 2016; Marques et al., 2016	
Concerns about re-traumatising clients or client decompensating as a result of the intervention	Becker et al., 2004; Salyers et al., 2004; Najavits et al., 2011; Allen & Crosby, 2014; Ruzek et al, 2017; Trottier et al., 2017	Frueh et al., 2006;	
Client treatment adherence or treatment preference	Salyers et al., 2004; Borah et al., 2013; Adams et al., 2016	Barnett et al., 2014; Kane et al., 2016; Marques et al., 2016	
Prioritising client needs if other needs or crises are present	Najavits, 2002; Salyers et al., 2004; Adams et al., 2016	Kane et al., 2016; Marques et al., 2016	
Client cognitive impairment	Adams et al., 2016	Langley et al., 2010	

Table 1.4: (continued)

Barrier	Quantitative Studies	Qualitative Studies	Mixed Method Studies
Engaging family and caregivers in the intervention	Salyers et al., 2004	Marques et al., 2016	

Facilitators

Facilitator	Quantitative Studies	Qualitative Studies	Mixed Method Studies
Quality of the therapeutic relationship		Kirst et al., 2017	
Patient preference for treatment approach and motivation to engage		Marques et al., 2016	
Clients access to support network		Marques et al., 2016	

Table 1.5: Clinician Level Barriers

Barrier	Quantitative studies	Qualitative Studies	Mixed-Method Studies
Lack of training in treatment approach or evidence-informed interventions for trauma	Barnard-Thompson & Leichner, 1999; Becker et al., 2004; Najavits et al., 2011; Czincz & Romano, 2013; Borah et al., 2017; Richards et al., 2017; Trottier et al., 2017	Frueh et al., 2006; Barnett et al., 2014; Donisch et al., 2016; Kane et al., 2016	
Emotional burden of trauma work or clinician burnout	Najavits, 2002; Adams et al., 2016; Ruzek et al., 2017; Trottier et al., 2017	Frueh et al., 2006; Marques et al., 2016	David & Schiff, 2015
Uncertainty of how to acknowledge trauma or when to use exposure appropriately	Najavits, 2002; Najavits et al., 2011	Marques et al., 2016; Kirst et al., 2017	
Competing responsibilities or lack of time	Ruzek et al., 2014; Ruzek et al., 2017	Langley et al., 2010; Cook et al., 2015	

Table 1.5: (continued)

Barrier	Quantitative Studies	Qualitative Studies	Mixed Method Studies
Lack of knowledge about trauma or evidence-informed interventions	Salyers et al., 2004; Gray et al., 2007	Barnett et al., 2014; Kirst et al., 2017	
Clinicians lack of confidence	Salyers et al., 2004; Borah et al., 2013	Frueh et al., 2006	
Fewer years of experience	Becker et al., 2004; Salyers et al., 2004		
Psychodynamic/Humanistic Orientation	Gray et al., 2007; Czincz & Romano, 2013		

Table 1.5: (continued)

Facilitators

Facilitator	Quantitative Studies	Qualitative Studies	Mixed Method Studies
Increased clinical experience	Najavits, 2002; Sprang et al., 2008; Najavits et al., 2011; Allen et al., 2012; Ruzek et al., 2014 Hundt et al., 2016; Padmanabhanunni & Sui, 2017; Ruzek et al., 2017; Richards et al., 2017	Frueh et al., 2006	
Endorsement of treatment manuals and belief in treatment credibility	Salyers et al., 2004; Kolko et al., 2009; van Minnen et al., 2010; Allen et al., 2012; Padmanabhanunni & Sui, 2017; Ruzek et al., 2017; Trottier et al., 2017	Frueh et al., 2006; Marques et al., 2016	

Table 1.5: (continued)

Facilitator	Quantitative Studies	Qualitative Studies	Mixed Method Studies
Having received additional training or expressed interest in additional training	van Minnen et al., 2010; Allen et al., 2012; Hipol & Deacon, 2012; Hundt et al., 2016; Ruzek et al., 2017	Frueh et al., 2006; Kane et al., 2016; Marques et al., 2016	
Clinician confidence	Salyers et al., 2004; Ruzek et al., 2014; Hundt et al., 2016; David & Schiff, 2017; Ruzek et al., 2017	Marques et al., 2016	
Awareness of evidence-informed interventions and increased engagement in continued professional development	Salyers et al., 2004; Gray et al., 2007; Padmanabhanunni & Sui, 2017	Marques et al., 2016	David & Schiff, 2015

Table 1.5: (continued)

Facilitator	Quantitative Studies	Qualitative Studies	Mixed Method Studies
Clinician CBT orientation	Gray et al., 2007; Hipol & Deacon, 2012; Allen & Crosby, 2014; Ruzek et al., 2014; Hundt et al., 2016		
Personal experiences of treatment effectiveness	Hipol & Deacon, 2012; Padmanabhanunni & Sui, 2017	Barnett et al., 2014; Cook et al., 2015	Watts et al., 2014
Receiving additional support and supervision	David & Schiff, 2017; Kirst et al., 2017	Donisch et al., 2016; Kirst et al., 2017	
Approach is consistent with familiar clinical style	Hipol & Deacon, 2012; Trottier et al., 2017	Cook et al., 2015	David & Schiff, 2015
Being a younger therapist or having fewer years' experience	Gray et al., 2007; Ruzek et al., 2014; Hundt et al., 2016		

Table 1.6: System Level Barriers

Barrier	Quantitative studies	Qualitative Studies	Mixed-Method Studies
Lack of time for or access to training	Barnard-Thompson & Leichner, 1999; Becker et al., 2004; Gray et al., 2007; Najavits et al., 2011; Borah et al., 2013; Czincz & Romano, 2013; Borah et al., 2017; Richards et al., 2017; Trottier et al., 2017	Frueh et al., 2006; Barnett et al., 2014; Donisch et al., 2016; Kane et al., 2016	Watts et al., 2014
Lack of resources within organisation	Barnard-Thompson & Leichner, 1999; Salyers et al., 2004; Adams et al., 2016; Trottier et al., 2017	Langley et al., 2010; Cook et al., 2015; Donisch et al., 2016; Kane et al., 2016; Marques et al., 2016; Kirst et al., 2017	

Table 1.6: (continued)

Barrier	Quantitative Studies	Qualitative Studies	Mixed Method Studies
Lack of time to provide treatment or caseload too high	Najavits, 2002; Borah et al., 2013; Adams et al., 2016; Borah et al., 2017	Langley et al., 2010; Cook et al., 2015; Donisch et al., 2016; Kane et al., 2016; Marques et al., 2016; Kirst et al., 2017	
Lack of support or flexibility within organisation	Najavits, 2002; Gray et al., 2007; Padmanabhanunni & Sui, 2017; Trottier et al., 2017	Donisch et al., 2016; Marques et al., 2016	Watts et al., 2014; David & Schiff, 2015
Lack of supervision	Borah et al., 2013		David & Schiff, 2015

Table 1.6: (continued)

Facilitators

Facilitator	Quantitative Studies	Qualitative Studies	Mixed Method Studies
Good access to high quality training		Barnett et al., 2014; Cook et al., 2015; Donisch et al., 2016	Watts et al., 2014; David & Schiff, 2015
Access to resources including administration		Barnett et al., 2015; Cook et al., 2015; Kane et al., 2015; Marques et al., 2016; Kirst et al., 2017	
Support to include the approach in schedule	Borah et al., 2013; Ruzek et al., 2017	Kirst et al., 2017	
Strong leadership and management support		Barnett et al., 2014; Cook et al., 2015	

Access to support and supervision	Cook et al., 2015; Kane et al., 2016

Discussion

The 34 papers included in this review summarised a number of key barriers to and facilitators for the delivery of evidence-informed and guideline recommended interventions for PTSD based upon CFIR factors (system level, provider level, client level and intervention level). The quality of included papers was mixed, however overall the majority of papers received a strong quality rating. Several key barriers and facilitators to the implementation of evidence-informed interventions for PTSD were highlighted. The factors influencing evidence-informed intervention delivery were found to vary in level, from intervention level factors, to clinician level factors, client level factors and finally system level factors. These findings were consistent with previous models of implementation science (Damschroder et al., 2009; Marques et al., 2016 Stirman et al., 2016).

With regards to the use of evidence-informed interventions, guideline flexibility was identified by clinicians as a key facilitator. Clinicians were more likely to endorse evidence-informed interventions if they perceived the treatment approach contained an element of flexibility and adaptability, to allow the approach to meet the needs of their individual clients. Clinicians who perceived the approaches to be too rigid and manualised generally cited this as a barrier to implementation. Flexibility within fidelity is the concept that even within published evidence-informed intervention manuals there is scope for flexibility and adaptability, allowing clinicians to adapt elements of the treatment approach to fit the needs of specific clients, whilst still working within the overall framework of the intervention (Kendall, 2008). To increase clinician acceptability of manualised treatment approaches, it may be beneficial for researchers and treatment developers to explore flexibility within fidelity and specify the boundaries of practice to allow for individual tailoring of evidence-informed approaches (Kendall & Beidas, 2007).

Client factors included those characteristics of the client that influenced use of evidence-informed interventions. In particular, clinicians identified their fear of the risk of "retraumatising" the client or exacerbating symptoms as a barrier. This was particularly true for clinicians engaging in exposure-based therapies for PTSD. This is an important issue to address, as research suggests that only a small minority of clients experience any symptom exacerbation due to PTSD treatment (Foa, Zoellner, Feeny, Hembree & Alvarez-Conrad, 2002; Larsen, Stirman, Smith & Resick, 2016). Additionally, even within this minority, individuals who do experience symptom exacerbation are still highly likely to experience a clinically significant improvement in symptoms after treatment, and symptom exacerbation has not been found to be related to treatment non-completion. This is a significant area for future research and dissemination efforts to address, as exposure techniques are present in the majority of evidence-informed interventions for trauma recommended by national and international guidelines, and it is important for clinicians to understand the risks related to the exacerbation of symptoms in order to prevent this from being perceived as a barrier to the use of interventions utilising exposure techniques.

A second client related barrier identified within the literature was the presence of comorbid difficulties alongside PTSD, and prioritising clients' other prominent needs. This is an important treatment consideration, as research suggests that approximately 80% of individuals with PTSD will experience a comorbid psychiatric disorder (Foa, 2009). Therefore, it is important to provide clinicians with adequate training that provides knowledge of how to adapt and integrate treatments for PTSD with a range of comorbidities. In addition, research has demonstrated that as comorbidities in PTSD tend to be the rule as opposed to the exception, specific PTSD treatments for differing presenting difficulties should be developed and evaluated (Brady, Killenn, Breweton & Lucerini, 2000). Given the lack of client level facilitators reported in the literature, future

research should aim to explore this area and identify characteristics of service users that may support the implementation of evidence-informed interventions for trauma.

Perhaps the most important level of barriers and facilitators identified in the review were the characteristics of the clinician likely to foster or impede use of evidence-informed interventions are the key variables that can be addressed by training and dissemination efforts. The most dominant theme within clinician related barriers was a lack of training, which further linked to a number of other clinician barriers identified including an uncertainty of how to approach trauma, a lack of knowledge, and a lack of confidence in using evidence-informed interventions. This was further emphasised by the finding that key clinician *facilitators* were increased access to training, knowledge of the evidence base, and increased clinical experience leading to better confidence. Lack of training as a barrier to the implementation of evidence-informed interventions has been heavily endorsed in the literature (Becker et al., 2004; Borah et al., 2013; Czincz & Romano, 2013; Kane et al., 2016), with a number of recommendations made to address this gap. Given that clinicians are key stakeholders in the implementation of evidence-informed and guideline recommended interventions, ensuring adequate training opportunities is a priority (Adams et al., 2016). In particular, training that addresses beliefs in treatment credibility and attitudes towards evidence-informed practice is likely to be beneficial (Allen & Crosby, 2014).

A second key clinician barrier identified in the review is the emotional burden upon the clinician of working with an individual who has experienced trauma. Secondary traumatic stress is becoming an increasingly recognised difficulty for those working in mental health services, and research is underway to develop and implement supportive interventions for this population (Molnar et al., 2017). It is therefore important to ensure

that organisations have adequate support systems in place to provide supervision and promote the wellbeing of staff undertaking this work.

The final level of factors influencing clinicians' implementation of evidence-informed interventions for PTSD were system level factors. These included characteristics of the system or organisation. Linked to clinician level barriers, the most commonly reported system level barrier was the lack of provision for time or access to training or resources to support the implementation of evidence-informed interventions. In addition, the level of support from leadership and management was cited as both a barrier and a facilitator depending on the overall culture of the organisation. This is currently an important issue, with the rapidly developing recognition for the need for trauma-informed services. The Substance Abuse and Mental Health Services Administration of the United States (SAMHSA, 2014) defines trauma informed practice as "a program, organization or system that is trauma-informed realizes the widespread impact of trauma and understands potential paths for recovery; recognizes the signs and symptoms of trauma in clients, families, staff, and others involved with the system; responds by fully integrating knowledge about trauma into policies, procedures, and practices; and seeks to actively resist retraumatization" (p.9). This definition acknowledges the need for organisations to become more focused on trauma and hold the treatment of trauma at the heart of the system to ensure all individuals who have experienced a traumatic event receive timely access to evidence-informed interventions.

Strengths and Limitations

This was the first study to systematically synthesise the literature related to clinicians' perceptions of barriers and facilitators to the implementation of evidence-informed interventions for PTSD. The findings have been discussed in relation to clinical implications and directions for future research. Extending our knowledge of the factors

that foster or impede our use of evidence-informed interventions within this population can help to inform future development of training and dissemination efforts, by ensuring the identified barriers are addressed. In addition, key facilitators can be incorporated within new and existing treatment approaches to develop the best possible treatment interventions for this population.

The systematic review also has a number of limitations. The exclusion of studies published in languages other than English introduces a risk of bias as clinicians in predominantly English-speaking countries may perceive different barriers and facilitators to evidence-informed interventions for PTSD than do clinicians in other countries.

A second limitation identified was the heterogeneity of the included studies. While all of the included studies reported on potential clinician perceived barriers and facilitators, the primary objectives and methods of data collection differed across studies. This may therefore have influenced the comparability of the studies included and made it difficult to investigate the relative importance of different variables. This was particularly important considering the inclusion of both qualitative and quantitative studies in the review. The heterogeneity of study designs included within the review impacted on the ability to robustly extract and quality appraise all papers in the same manner. As a result of the inclusion of both qualitative and quantitative studies, a quality appraisal tool was selected that can be adapted to use with either approach (Letts et al., 2007). This modified tool allows for a range of research designs to be addressed and provide a rating for each study based on the overall study quality (Barras, 2005). However, difficulties were still met when trying to assess studies with vastly differing methods of data collection for identifying the facilitators and barriers to the use of evidence-informed interventions. However, despite the methodological diversity in studies the results indicate a broad consensus of reported factors influencing evidence-informed intervention delivery for

post-traumatic stress disorder. An additional methodological limitation was the use of directed content analysis as a method of data analysis and synthesis due to the potential for research bias introduced.

In addition to the heterogeneity of the study designs, the review also included studies comprising a range of professionals. Although it is likely that clinicians' attitudes towards and use of evidence-informed interventions are influenced by their background and training, this allowed the study to review factors influencing the use of evidence-informed interventions across a wide range of mental health professionals thus gaining a more comprehensive understanding of practice. However, further research may wish to explore the differences in attitudes between professionals further. This would support the development of more tailored training and dissemination efforts. Finally, further research should explore the links between clinician factors and the actual outcomes of the therapeutic approaches to establish whether there are associations with the effectiveness of the interventions.

Conclusion

The systematic review identified a number of barriers and facilitators to the implementation of evidence-informed and guideline recommended interventions for PTSD perceived by clinicians treating this population. In particular, a lack of training, knowledge and confidence in using these approaches was commonly reported by clinicians across the majority of studies. These issues need to be considered not only in future research, but also in the development, dissemination, implementation and evaluation of all training initiatives. Future research should seek to explore the nature of the training and supervision received by clinicians and address the training-practice gaps that are present.

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Chapter Two. Bridging Chapter

Chapter Two

Bridging Chapter

The previous chapter established a number of barriers and facilitators to the implementation of evidence-informed interventions when working with individuals with Post-Traumatic Stress Disorder (PTSD). For the purposes of the thesis portfolio, evidence-informed interventions are those interventions for which an evidence-base exists, and that are recommended within national or international guidelines. Of particular importance were the clinician related barriers identified. Given clinicians' imperative role in disseminating and implementing evidence-informed interventions, addressing the barriers preventing them from using these interventions is crucial.

Despite clinical guidelines advocating evidence-informed interventions, and a number of training efforts to implement them, there remains a significant gap between research and clinical practice (Hoagwood & Olin, 2002; Ruzek & Rosen, 2009). In relation to PTSD, a number of studies have demonstrated that a large majority of those individuals referred to services do not receive these clinically recommended interventions (Morina, Wicherts, Lobbrecht & Priebe, 2014; Borah, Holder & Chen, 2017). This is highly concerning, particularly considering research evidence suggesting that a large proportion of individuals diagnosed with PTSD experience symptoms for a number of years (Chapman et al., 2012). A recent meta-analysis suggested that over half of individuals will not recover for at least three years (Morina et al., 2014).

However, despite these prognoses, a large body of evidence has found support for the effectiveness of trauma-focused interventions in the treatment of PTSD (Courtois et al., 2016). A review by Bisson et al. (2007) demonstrated that the vast majority of individuals (90%) receiving trauma-focused cognitive behavioural therapy (TF-CBT) for PTSD experienced significantly less symptoms than those in a waiting list control group. These

findings emphasise the need for the barriers to implementing evidence-informed interventions to be addressed, to ensure this population are consistently receiving appropriate intervention.

Of particular importance is the treatment of PTSD in children and adolescents, considering the evidence demonstrating the lifetime consequences for young people who have experienced trauma (Yule et al., 2000). A wide range of negative outcomes has been found for these young people, including increased emotional and behavioural difficulties, as well as a wide range of negative social and educational outcomes (Mathews et al., 2009; Trickett, Noll & Putnam, 2011). In addition to the long-term consequences, research has indicated that due to children's emotional and cognitive development, they may be particularly vulnerable to developing PTSD (Shaw et al., 2012). Considering the evidence demonstrating these long-term and pervasive consequences of PTSD in young people, increasing social and political attention has focused on the development and implementation of treatment approaches to address these difficulties (Dorsey et al., 2017).

However, returning to the findings of the previous chapter, it is likely that those clinician barriers preventing the implementation of evidence-informed interventions for PTSD across the lifespan also extend to working with children and young people. Indeed, eight of the included studies included samples of clinicians working with children and young people, and identified a range of clinician related barriers including a lack of training and experience in using evidence-informed interventions (Allen et al., 2012; Czincz & Romano, 2013); a lack of confidence in treating this population (David & Schiff, 2017), and concerns around the emotional burden of the work and a lack of supervision (David & Schiff, 2015; David & Schiff, 2017).

Given these barriers, it is important to explore the training and supervision being offered to clinicians working with this population, and understand the current provision

being offered to children who have experienced trauma in order to identify the gaps in services and dissemination efforts. Clearly there is a gap in the evidence base that warrants further attention. Therefore, the study described in the next chapter was developed to assess the training and supervision needs of clinicians working with children and young people who have experienced trauma. The study aimed to construct an overview of the provision being offered to this population, including the training, supervision and confidence of the workforce and the barriers to the use of evidence-informed interventions.

Chapter Three. Empirical Paper

Prepared for Submission to Behaviour, Research and Therapy

(Author guidelines included in Appendix B)

Post-Traumatic Stress Disorder in Childhood and Adolescence: A Survey of the Training Needs of Clinicians and Predictors of Evidence-Informed Practice

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Abstract

Post-Traumatic Stress Disorder in children and young people has received increasing recognition in recent decades. Despite increased development of treatments and improved dissemination efforts, research has identified a number of barriers to implementing these approaches. This study surveyed clinicians working with this population in the UK to explore the training and supervision needs and identify the current treatment approaches being offered. Lack of training and supervision was associated with reduced clinician confidence in treating children with PTSD. In addition, regression analyses identified that lack of training and supervision were significant barriers to the use of evidence-informed interventions in clinical practice. Other predictors of clinician confidence and use of evidence-informed interventions included profession and years of experience. A vignette-based study with experimental manipulation explored the service user characteristics influencing the use of evidence-informed interventions and found the age of the child to be a significant predictor of treatment decision making. By understanding the training and supervision being received by clinicians and mapping current treatment practice onto the evidence base, the study is able to offer recommendations for future training efforts and dissemination processes.

Keywords: Trauma; Post-Traumatic Stress Disorder; Children; Adolescents; Treatment

Highlights

- Clinicians reported a significant lack of training and supervision related to trauma
- Clinician confidence was related to training, supervision, profession and experience
- Predictors of evidence-informed interventions included training, supervision and profession
- A vignette-based task suggested that the age of a client and nature of the trauma are related to treatment decision making

- Results emphasised the need for training, supervision and improved dissemination

Introduction

Prevalence and Trajectory of Post-Traumatic Stress Disorder in Children

Traumatic events are experienced by more than two-thirds of children worldwide before the age of 16 years old (Copeland, Keeler, Angold & Costello, 2007). Traumatic events are defined as those where the individual is exposed to "death, threatened death, actual or threatened serious injury, or actual or threatened sexual violence" (5th ed.; *Diagnostic and Statistical Manual of Mental Disorders [DSM-5];* American Psychiatric Association, 2013).

Research has found that approximately 16% (one in six) of children who are exposed to trauma go on to develop Post-Traumatic Stress Disorder (PTSD; Alisic, 2014). PTSD is a distressing and pervasive condition, characterised by the reliving of traumatic events in the form of flashbacks or nightmares, avoidance of any reminders of the events, and a hypervigilance to threat with increased physiological arousal (DSM-5).

PTSD in young people has been found to be associated with increased mental health difficulties and behaviour problems, as well as a wide range of negative educational and social outcomes (Mathews et al., 2009; Trickett, Noll & Putnam, 2011).

Interventions

In recent years, increasing recognition of the importance of treating PTSD in children has led to the development of various interventions aimed at addressing this issue (Dorsey et al., 2017). In particular, Trauma-Focused Cognitive Behavioural Therapy (TF-CBT) was initially developed for children who had experienced sexual abuse but has been expanded for use with children and young people who have experienced any type of trauma (Cohen, Mannarino & Deblinger, 2006). TF-CBT has the largest evidence base for treating PTSD in children and adolescents and is endorsed internationally by providers of

treatment guidelines including the International Society for Traumatic Stress Studies (ISTSS), the American Psychiatric Association (APA) and the UK's National Institute for Health and Care Excellence (NICE; Foa et al., 2000; APA, 2010; NICE, 2018). The UK NICE Guidelines for the treatment of PTSD in Children and Young People are included in Appendix G.

TF-CBT is a structured, time limited therapy offered to children who have been exposed to trauma. Some of the key components of TF-CBT include psychoeducation for the young person and caregiver, relaxation skills, cognitive processing of the traumatic event, development of a trauma narrative and in vivo exposure to reminders of the trauma (Cohen et al., 2006).

Barriers to the Use of Evidence-Informed Interventions in PTSD

For the purpose of the thesis portfolio, evidence-informed interventions are those for which an evidence base exists, and those that are endorsed by national or international guidelines for PTSD. Despite the development of evidence-informed interventions for children with PTSD, there remains a question in the literature relating to the extent to which these approaches are routinely being used in clinical practice (Becker et al., 2004; Allen, Gharagozloo & Johnson, 2011; Czincz & Romano, 2013). Evidence indicates that psychological therapies which have been found to be effective often take a long time to be implemented in clinical practice (Hoagwood & Olin, 2002; Palinkas et al., 2017). In particular, research has indicated that when working with children who have experienced trauma, clinicians are most likely to avoid treatment techniques that directly address the traumatic event (Allen, Wilson & Armstrong, 2014). This is concerning, given the wealth of information supporting exposure techniques (Farrell, Kemp, Blakey, Meyer & Deacon, 2016).

Implementation science is an area of research that has developed over the past two decades focusing on exploring the uptake of research findings into clinical practice (Nilsen, 2015). Research has explored the barriers to implementing evidence-informed interventions for PTSD. A number of barriers have been identified, including clinicians' fear of increasing distress, lack of training and supervision in evidence-informed approaches, a lack of confidence, beliefs relating to the restrictiveness of manualised approaches, and service user factors such as age and nature of the trauma (Becker et al., 2004; Minnen, Hendriks & Olff, 2009; Whiteside, Deacon, Benito & Stewart, 2016). Czincz and Romano (2013) surveyed clinicians working with children who have experienced sexual abuse and found that 77.5% of clinicians received no training in specific trauma approaches, and 66.2% reported never receiving clinical supervision when working with this population.

Given these barriers, it is important that further research not only establishes the current provision being offered to children who have experienced trauma, but also identifies the training and supervision needs of clinicians treating this population. In 2015, the Department of Health produced "Future in Mind", a report outlining the recommendations for the treatment of mental health in children (Department of Health, 2015). Included in these recommendations were guidelines for enhancing training to increase awareness of trauma, emphasis on skills, training and experience of clinicians to provide the best possible support, and an acknowledgement of the need for staff confidence in promoting children's mental health.

In addition, NICE guidelines recommend that the primary response to working with young people with PTSD is the provision of psychological therapy, particularly TF-CBT (NICE, 2018). There is therefore a clear role within the research for the development, implementation, dissemination and evaluation of evidence-informed

interventions within this population. The NICE guidelines specifically state research recommendations considering the differential effects of evidence-based practice of the age of the young person and the nature of the trauma. It is important to understand how these factors also influence clinician decision-making and the use of evidence-informed interventions. Becker et al., (2004) highlights the need for future research investigating factors that can influence the use of evidence-informed approaches within PTSD.

The primary objective of the study was to survey clinicians working within child and adolescent mental health services (CAMHS) in the United Kingdom to identify the treatment strategies being routinely used in clinical practice, alongside the training and supervision being received and clinician confidence in implementing evidence-informed and guideline recommended interventions. The study aimed to map current practice onto the evidence base and guideline recommended interventions for PTSD to understand any discrepancies. In addition, the study aimed to identify clinician and service user characteristics that predicted clinician confidence, treatment decision-making and the use of evidence-informed interventions in the treatment of trauma in children and young people.

Methods

Design

The study encompassed two related phases, comprising a cross-sectional survey design, and an optional experimental study that involved manipulation of a clinical vignette based on a child with PTSD. The online surveys were developing using Qualtrics, an online survey tool.

Participants

Staff working within National Health Service (NHS) Child and Adolescent Mental Health Services (CAMHS) or youth mental health services in the UK were invited to

participate in an online survey of training, supervision and treatment practice. Recruitment methods were via three different routes. These included professional overseeing bodies such as the British Psychological Society, the Royal College of Psychiatrists, the Royal College of Occupational Therapists, the British Association of Behavioural and Cognitive Psychotherapies, the British Association of Social Work, the Royal College of Nursing and the Association for Family Therapy. In addition, participants were recruited via the National Institute for Health Research Clinical Research Network (NIHR CRN), who corresponded directly with CAMHS teams in 13 National Health Service (NHS) mental health trusts. Finally, the survey link was shared via social media.

Procedure

A flowchart of the procedure has been included in Appendix H.

Recruitment. Recruitment of participants was conducted via professional overseeing bodies, the NIHR CRN and social media networks. Those who opted to participate followed a link to the first phase of the study.

Consent process. The Participant Information Sheet was included as the first page of the survey. A copy of the Participant Information Sheet is included as Appendix I. This provided information describing the purpose of the study and ethical considerations such as data storage, confidentiality and potential risks and benefits of participation. Due to the study using an online survey, a separate consent form was not completed. Information regarding what the participant was consenting to was included in the information page, and consent was therefore assumed if the participant completed the survey. A copy of the consent statement is included as Appendix J.

Phase one. The initial phase of the study was completed by all clinicians who consented to participate. An internet-based survey collected quantitative data including demographic information, training and supervision received, staff confidence in

recognising and treating trauma in children and young people, and self-reported treatment strategies endorsed by this population. A copy of the survey is included as Appendix K.

Phase two. The second phase of the study was an optional experimental task also delivered via online survey. Participants were offered the opportunity to take part in the second phase of the study which explored treatment strategies, perceived barriers to evidence-informed interventions, and the impact of the work on the professionals. A second participant information sheet was displayed to those who opted to take part in the second phase. A copy of this information sheet is included as Appendix L. This phase of the study employed a 2x2 between-subjects factorial survey design. Participants were randomised to reading one of four vignettes, in which the age of the young person (7 or 13) and the nature of the trauma (road traffic accident vs. child sexual abuse) were manipulated. No other aspects of the vignette were manipulated. Copies of the case vignettes are included as Appendix M. The purpose of the vignette was to determine whether the age of the young person or the nature of the trauma could influence the treatment strategies used by the clinician. Differences in treatment approach were measured by repeating the treatment approach questions asked in phase one of the study to measure changes in response based upon service user characteristics. The vignette questions are included within Appendix M.

Debrief. Following completion of the study, participants were presented with a webpage containing debrief information. The participant debrief information is included in Appendix N.

Ethical approval. Ethical approval was received from the Faculty of Medicine and Health Sciences Ethics Committee at the University of East Anglia (ref 2017/8 – 7). Approval to disseminate the survey to NHS trusts was given by the Health and Research

Authority (HRA; ref 243374). Copies of the approval letters are included in Appendices O and P.

Measures

Demographic and employment information. Participants were asked to provide demographic information including age, gender, profession and highest level of education. In addition, information was collected on employment setting and years of experience working with children who had experienced trauma.

Training, supervision and treatment strategies. In the online survey participants were asked questions relating to the training and supervision that they have received specific to working with trauma, how confident they feel (based upon a 10-point Likert scale) in recognising and treating PTSD, and the routine treatment strategies used. Participants were asked to rate to what extent they would be likely to use different treatment approaches on a five-point Likert scale ranging from 1 (extremely unlikely to use treatment) to 5 (extremely likely to use treatment). For the purposes of analysis, a score of four or five was considered to be endorsement of use of the treatment.

The survey questionnaire was developed in collaboration with experts in the field and was submitted to a local expert group to provide feedback on the suitability and meaningfulness of the questions. These local expert groups were made up of two teams. The first team included a Consultant Clinical Psychologist and clinicians from a local Integrated Child Health Services team, who were able to consider the clinical meaningfulness of the questions. The second group was made up of a research team at a local university including a Professor in Child and Adolescent Psychiatry and three Senior Research fellows who have been involved in recent similar surveys focusing on other disorders and were therefore able to comment on the suitability of the questions within the research.

Barriers. Participants were asked to rate ten potential barriers to the use of evidence-informed interventions on a five-point Likert scale from 1 (extremely likely to be a barrier) to 5 (extremely unlikely to be a barrier). The list of barriers was developed in collaboration with experts in the field and a local expert group.

Analyses

Alpha level was set at .05 for all statistical analyses. Assumption testing was carried out to check for normality, outliers and multicollinearity. No serious violations were found.

To evaluate the primary objective, descriptive analyses were employed to determine the level of training and supervision received by clinicians, clinician confidence in recognising and treating trauma in children and young people, and the treatment strategies routinely being used in clinical practice. To explore the clinician and service user characteristics that predicted clinician confidence and use of evidence-informed interventions a series of multiple and logistic regressions were conducted. Predictor variables were selected based upon previous literature identifying potential barriers and facilitators to the use of evidence-informed interventions for PTSD (Becker et al., 2004; Czincz & Romano, 2013; Minnen et al., 2012). Predictor variables were often dependent upon each other due to the associations between them. For example, profession and training may be included separately as predictor variables, but descriptive analyses identified certain patterns between particular professions receiving more training than others, thus linking the two variables.

The initial multiple regressions aimed to explore the factors associated with clinician confidence. Clinician confidence was measured using a Likert scale from 0-10 where clinicians self-reported levels of confidence in recognising and treating PTSD. The following predictor variables were included: profession, and whether the clinician had

received trauma related training and supervision. Sample size calculations were conducted using G*Power statistical analysis tool (Faul, Erdfelfer, Lang & Buchner, 2007) based on multiple regression analysis using nine predictor variables with a medium effect size (R^2), indicating a minimum sample size of 114 participants were required.

The main series of logistic regressions aimed to assess the therapist related factors associated with clinicians' likelihood to implement evidence-informed interventions including TF-CBT and Eye Movement Desensitisation and Reprocessing (EMDR). The TF-CBT and EMDR outcomes were constructed by collapsing a 5-point Likert scale measuring how likely clinicians would be to use these treatment approaches. Collapsing these scales allowed the outcomes to become binary variables. The following predictor variables were included: profession, years of experience, and whether the clinician had received trauma related training and supervision. Sample size calculations based on logistic regression analysis indicated that a minimum of 308 participants were required to detect a small effect size (odds ratio 1.5; Cohen 1988).

To explore service user characteristics predicting the use of therapeutic approaches, logistic regression modelling was used. Outcome variables were constructed using the above method. The predictor variables included were the age of the child, the nature of the trauma, and whether the clinician endorsed the specific treatment approach in general practice.

The final multiple regressions were conducted to explore clinician characteristics that predict implementation of evidence-informed interventions. The predictor variables included were training, supervision, profession and use of evidence-informed interventions. Sample size calculations indicated that a minimum of 118 participants were required.

Results

Sample Characteristics

Seven-hundred-and-seventeen clinicians participated in phase one. There was a fairly even proportion of females (51.4%) and males (48.6%). Participants were aged from 18 years to above 75 years, with the majority of clinicians being aged between 26 years and 45 years (64.7%). The majority of clinicians held at least a master's Degree or more advanced as their highest level of education (75.7%). The primary employment setting was NHS Community Child and Adolescent Mental Health Services (CAMHS; 62.7%), and the most commonly reported professions were Clinical Psychologists (28.6%), Nurses/Mental Health Practitioners (23.5%) and Psychiatrists (15.9%). Table 3.1 provides an overview of the demographic information.

Sample Characteristics Phase Two

For the second phase of the study, 460 clinicians opted to take part (64.2% of those participants who completed phase one). This sample was comprised of an even split of females (50%) and males (50%). Participants ranged from 18 years old to 75 years old, with the majority of clinicians aged between 26 and 45 years of age (66.8%). With regards to highest education, 80.4% of clinicians held at least a master's Degree or above. As above, the primary employment setting was NHS CAMHS (67.2%) and the most commonly reported professions were Clinical Psychologists (31.5%), Nurses/Mental Health Practitioners (19.8%) and Psychiatrists (17.2%).

To put these samples into the context of UK CAMHS, NHS England indicates that approximately one-fifth of the UK population is under the age of 18 years old, suggesting that the population of children and adolescents is currently around 13,200,000 (NHS England, 2018). The 2017/2018 CAMHS Benchmarking report (NHS Benchmarking, 2018) estimates the current CAMHS workforce to be approximately 75 whole time

equivalent (WTE) staff per 100,000 population, suggesting that roughly 9,900 WTE employees are employed within UK CAMHS.

The CAMHS benchmarking report also calculates the CAMHS workforce by discipline, indicating that more than 30% of CAMHS employees are nursing staff, and a further 20% is made up of specialist therapy groups including Clinical Psychologists, Psychotherapists and other therapists (NHS Benchmarking, 2018). In addition, roughly 10% of the workforce is made up of medical staff and less than five percent is made up of Social Workers. In the current study (phase one), nursing staff made up approximately 23.5% of the sample, while specialist therapy groups made up 43.1% of the sample. Social workers made up 6%. These figures are discussed in further detail in Chapter 5.

Table 3.1: Sample Demographic Characteristics

Sample Characteristics		Phase One		Phase Two	
		No.	%	No.	%
Age	18-25	17	2.4%	9	2%
	26-35	239	33.4%	166	36.1%
	36-45	224	31.3%	141	30.7%
	46-55	173	24.2%	100	21.7%
	56-65	59	8.2%	42	9.1%
	66+	4	0.6%	2	0.4%
Gender	Male	348	48.6%	230	50%
	Female	368	51.4%	230	50%
Highest Education	Below BSc	50	7.0%	25	5.4%
	BSc or equivalent	123	17.3%	65	14.1%
	MSc or equivalent	291	40.8%	191	41.5%
	Doctorate or equivalent	249	34.9%	179	38.9%
Profession	Clinical Psychologist	205	28.6%	145	31.5%
	Psychiatrist	114	15.9%	79	17.2%
	Nurse/Mental Health Practitioner	168	23.5%	91	19.8%
	Occupational Therapist	19	2.7%	8	1.7%
	Social Worker	43	6.0%	26	5.7%
	CBT Therapist	31	4.3%	24	5.2%
	Psychotherapist	51	7.1%	32	7.0%
	Family Therapist	22	3.1%	17	3.7%
	Other	63	8.7%	38	8.2%
Employment Settings	NHS CAMHS	449	62.7%	309	67.2%
	NHS Other	148	20.7%	83	18.0%
	3rd Sector/Private CAMHS	16	2.2%	11	2.4%
	3rd Sector/Private Other	18	2.6%	12	2.6%
	Education	23	3.2%	9	2.0%
	Social Care	14	2.0%	10	2.2%
	Other	48	6.5%	26	5.6%
Years of Experience	Less than 3 years	184	25.8%	125	27.2%
	3-5 years	108	15.1%	67	14.6%
	5-10 years	130	18.2%	79	17.2%
	10-15 years	117	16.4%	77	16.7%
	15+ years	176	24.6%	112	24.3%

Training

A majority of clinicians reported receiving training specific to working with trauma during their professional qualification (56.7%). Approximately half of the clinicians (50.6%) also reported receiving training specific to working with trauma since completing their qualification. Of these, 70% of clinicians reported receiving training specific to working with children who have experienced trauma. Finally, clinicians were asked whether they would like to receive further training relating to children experiencing trauma, with a large majority of clinicians indicating that they would (89.6%).

Those clinicians who had received training specific to working with trauma were asked to identify the methods of teaching used during this training. The following teaching methods were reported: e-learning (20.8%), training using specific trauma techniques such as exposure or relaxation (51.2%), group discussion (40.5%), case presentations (44.1%), video examples (19.6%) and role play exercises (23.2%).

Descriptive analyses were conducted to explore the training received by different professions. Table 3.2 displays these results. With regards to training during qualification, the majority of Clinical Psychologists, Psychiatrists and CBT Therapists reported receiving training. In contrast, less than 30% of nurses/mental health practitioners, Occupational Therapists, Social Workers and Family Therapists reported receiving training during their professional training.

In relation to training post qualification, the majority of Clinical Psychologists, CBT therapists, Psychotherapists and Family Therapists reported receiving. Additionally, while approximately half of Psychiatrists and Social Workers reported trauma related training post-qualification, only a minority of nurses/mental health practitioners and Occupational Therapists had received additional training post-qualification.

Supervision

Participants were asked to report on the type and frequency of the supervision that they receive. The majority of clinicians reported receiving routine clinical supervision (56.6%), with a further 8.8% of clinicians reporting supervision specific to PTSD, and 34.6% of clinicians reporting receiving no supervision. With regards to supervision frequency, the majority of clinicians (55.6%) receive monthly supervision, with 28.5% of clinicians receiving supervision more often (for example weekly or fortnightly) and the remaining 15.9% of clinicians receiving supervision less than monthly (for example bi-monthly or quarterly). Descriptive analyses were used to further explore the supervision received by different professions. Table 3.2 displays the results of these analyses.

Table 3.2: Percentage of Clinicians Receiving Training and Supervision by Profession

Profession	Training During Qualification		Training Since Qualification		Supervision Received	
	Yes (%)	No (%)	Yes (%)	No (%)	Yes (%)	No (%)
Clinical Psychologist	91.7%	8.3%	62.6%	37.4%	88.3%	11.7%
Psychiatrist	74.6%	25.4%	48.2%	51.8%	49.1%	50.9%
Nurse/Mental Health Practitioner	26.8%	73.2%	36.9%	63.1%	44%	56%
Occupational Therapist	10.5%	89.5%	26.3%	73.7%	42.1%	57.9%
Social Worker	18.6%	81.4%	48.8%	51.2%	60.5%	39.5%
CBT Therapist	67.7%	32.3%	77.4%	22.6%	87.1%	12.9%
Psychotherapist	41.2%	58.8%	68.6%	31.4%	80.4%	19.6%
Family Therapist	22.7%	77.3%	63.6%	36.4%	63.6%	36.4%

Confidence

Participants were asked to report confidence in recognising and treating trauma. This was based upon a Likert scale ranging from one to ten where one indicated no confidence at all, and ten indicated feeling very confident. The mean confidence in recognising trauma was 6.99 (SD = 2.05), and the mean confidence in treating trauma was 5.69 (SD = 2.32). Table 3.3 displays mean confidence scores for recognising and treating PTSD by profession, training, supervision, highest education, age, gender and years of experience.

As displayed, confidence was higher when participants had received training and supervision specific to PTSD. With regards to profession, higher confidence scores were generally found for Clinical Psychologists, Psychiatrists, CBT Therapists and Psychotherapists, whereas lower scores were found for Nurses/Mental Health Practitioners, Occupational Therapists and Social Workers. Confidence scores increased as education level increased. In addition, males were generally more confident than females, and confidence increased with age until the age of 55 years and above. Finally, there was a general pattern whereby confidence increased as clinicians gained more years of experience.

Table 3.3: Mean Confidence Scores with 95% confidence intervals, by Sample Characteristics (possible range 0-10)

Variable	Confidence Recognising		Confidence Treating	
	Mean	95% CI	Mean	95% CI
Profession				
Clinical Psychologist	7.85	7.66-8.04	6.79	6.55-7.03
Psychiatrist	7.71	7.38-8.04	5.96	5.54-6.39
Nurse/Mental Health Practitioner	5.98	5.65-6.31	4.34	4.00-4.67
Occupational Therapist	5.05	3.91-6.19	4.26	3.37-5.16
Social Worker	6.91	6.37-7.44	5.60	4.96-6.25
CBT Therapist	7.45	6.76-8.15	6.42	5.62-7.22
Psychotherapist	7.14	6.55-7.73	6.39	5.74-7.04
Training and Supervision				
Training	7.54	7.40-7.68	6.40	6.23-6.57
No training	5.49	5.17-5.82	3.76	3.47-4.04
Supervision	7.53	7.38-7.68	6.38	6.20-6.56
No supervision	5.98	5.68-6.28	4.40	4.10-4.69
Highest Education				
Under MSc	5.85	5.51-6.20	4.50	4.14-4.86
MSc or equivalent	6.92	6.69-7.16	5.48	5.22-5.73
Doctoral level	7.87	7.69-8.04	6.79	6.56-7.02
Age				
18-25	4.94	3.69-6.19	3.82	2.64-5.00
26-35	6.79	6.54-7.04	5.32	5.04-5.60
36-45	7.05	6.78-7.33	5.87	5.56-6.18
46-55	7.35	7.04-7.66	6.13	5.78-6.48
56-65	7.15	6.65-7.65	5.98	5.43-6.54
Gender				
Female	6.84	6.62-7.06	5.46	5.21-5.71
Male	7.16	6.95-7.36	5.95	5.71-6.18
Years of Experience				
Less than one year	5.92	5.32-6.52	4.42	3.83-5.02
1-3 Years	6.51	6.16-6.86	5.02	4.62-5.41
3-5 Years	6.93	6.59-7.26	5.79	5.41-5.92
5-10 Years	6.85	6.47-7.24	5.51	5.10-5.92
10-15 Years	7.32	6.95-7.69	6.14	5.71-6.56
15+ Years	7.66	7.40-7.93	6.43	6.10-6.76

Confidence recognising PTSD. A multiple regression was conducted to predict confidence recognising PTSD in children and young people from profession, training and supervision. The multiple regression model statistically significantly predicted confidence recognising PTSD, $F(9,705) = 33.72$, $p<0.0005$. R^2 for the overall model was 30.1% with an adjusted R^2 of 29.2%, suggesting 29.2% of the variance was accounted for by the significant variables. Five variables significantly predicted confidence recognising PTSD: training, supervision, and being a clinical psychologist, psychiatrist or social worker. Increased levels of training and supervision predicted increased confidence in recognising PTSD, and those working as Clinical Psychologists, Psychiatrists and Social Workers were more likely to report higher levels of confidence. Regression coefficients and standard errors can be found in Table 3.4.

Table 3.4: Multiple Regression Model Predicting Confidence in Recognising PTSD from Profession, Training and Supervision.

Variable	*B*	SE	β	P
Training	1.256	.167	.272	.000
Supervision	1.021	.152	.237	.000
Clinical Psychologist	.934	.230	.206	.000
Psychiatrist	1.413	.251	.252	.000
Nurse/Mental Health Practitioner	.109	.232	.023	.640
Occupational Therapist	-.574	.441	-.045	.194
Social Worker	.730	.323	.085	.024
CBT Therapist	.628	.365	.062	.086
Psychotherapist	.506	.307	.064	.100

B = unstandardized regression coefficient; SE = Standard error of the coefficient; β = standardized coefficient

Confidence treating PTSD. A multiple regression was run to predict confidence treating PTSD in children and young people from profession, training and supervision. The multiple regression model statistically significantly predicted confidence treating PTSD, $F(9,706) = 42.415$, $p<0.0005$. R^2 for the overall model was 35.1% with an adjusted R^2 of 34.3%, suggesting that 34.3% of the variance was accounted for by the significant variables. Five variables significantly predicted confidence treating PTSD, $p<0.05$: training, supervision, and being a clinical psychologist, psychiatrist or psychotherapist. Increased levels of training and supervision predicated higher levels of confidence in treating PTSD, and working as a Clinical Psychologist, Psychiatrist of Psychotherapist led to higher reported levels of confidence. Regression coefficients and standard errors can be found in Table 3.5.

Table 3.5: Multiple Regression Model Predicting Confidence in Treating PTSD from Profession, Training and Supervision.

Variable	*B*	SE	B	P
Training	1.792	.182	.343	.000
Supervision	1.149	.165	.236	.000
Clinical Psychologist	.845	.250	.165	.001
Psychiatrist	.785	.272	.124	.004
Nurse/Mental Health Practitioner	-.255	.253	-.047	.313
Occupational Therapist	.013	.481	.001	.979
Social Worker	.626	.352	.064	.075
CBT Therapist	.600	.398	.053	.132
Psychotherapist	.827	.335	.092	.014

B = unstandardized regression coefficient; SE = Standard error of the coefficient; β = standardized coefficient

Approaches Used

Clinicians self-reported implementation of between zero and 14 approaches (out of 15), with the majority reporting using between four and seven approaches (58%). The percentage of clinicians implementing each approach was as follows, ordered by the highest number of clinicians implementing the approach: Psychoeducation (79.2%); Guided Self-Help (68.8%); Case management/coordination (59.5%); Trauma-Focused Cognitive Behavioural Therapy (58.4%); Cognitive Behavioural Therapy (52.8%); Mindfulness Based Therapy (43.7%); Family Therapy (43.6%); Eye Movement Desensitization and Reprocessing (37.5%); Compassion Focused Therapy (31.7%); Referral to peer support (31.2%); Exposure (30.6%); Person centred therapy (28.5%); medication (23.8%); Psychodynamic psychotherapy (18.5%); Cognitive Analytic Therapy (15.4%) and Group Therapy (14.7%).

Predictors of TF-CBT Implementation

A logistic regression was performed to ascertain the effects of profession, years of experience, training and supervision on participants use of TF-CBT for children and young people. The training variable was constructed by collapsing two variables 'training during qualification' and 'training after qualification', and clinicians were identified to have received training if they answered yes to either of the above. The logistic regression model was statistically significant χ^2 (10) = 143.75, $p<0.0005$. The model explained 24.5% (Nagelkerke R^2) of the variance in use of TF-CBT and correctly classified 68.7% of cases. Sensitivity was 57.6%, specificity was 76.6%, positive predictive value was 71.75% and negative predictive value was 63.57%. Of the 10 inputted variables, six were statistically significant: training, supervision, clinical psychologist, psychiatrist, CBT therapist and psychotherapist (as shown in Table 3.6). Each predictor variable increased

the likelihood of using TF-CBT, with the exception of being a psychotherapist which decreased the likelihood of using TF-CBT.

Table 3.6: Logistic Regression Predicting Use of TF-CBT

Profession	B	SE	Wald	df	P	Odds Ratio
Training	.718	.206	12.183	1	.000	2.050
Supervision	.655	.188	12.135	1	.000	1.925
Clinical Psychologist	1.319	.300	19.388	1	.000	3.740
Psychiatrist	.669	.314	4.258	1	.033	1.952
Nurse/MHP	.059	.284	.044	1	.834	1.061
Occupational Therapist	-.272	.559	.236	1	.627	.762
Social Worker	.366	.388	.888	1	.346	1.442
CBT Therapist	1.812	.592	9.369	1	.002	6.124
Psychotherapist	-.942	.395	5.693	1	.017	.390
Years of Experience	-.018	.053	.115	1	.734	.982

Predictors of EMDR Implementation

A logistic regression was performed to ascertain the effects of profession, years of experience, training and supervision on participants implementation of EMDR. The logistic regression model was statistically significant χ^2 (10) = 44.81, p<0.0005. The model explained 8.3% (Nagelkerke R^2) of the variance in use of EMDR and correctly classified 62.5% of cases. Sensitivity was 89.5%, specificity was 17.5%, positive predictive value was 50% and negative predictive value was 64.4%. Of the 10 inputted variables, only three were statistically significant: training, supervision and years of experience (as shown in Table 3.7). Increased training and supervision were associated

with an increased likelihood of using EMDR, alongside increased number of years of experience.

Table 3.7: Logistic Regression Predicting Use of EMDR

Profession	B	SE	Wald	df	P	Odds Ratio
Training	.608	.217	7.870	1	.005	1.838
Supervision	.559	.192	8.258	1	.003	1.750
Clinical Psychologist	-.037	.290	.016	1	.898	.964
Psychiatrist	.277	.321	.748	1	.387	1.320
Nurse/MHP	.163	.302	.292	1	.589	1.177
Occupational Therapist	-.212	.627	.114	1	.736	.809
Social Worker	.180	.410	.194	1	.660	1.198
CBT Therapist	.578	.442	1.712	1	.191	1.783
Psychotherapist	.594	.381	2.429	1	.119	1.812
Years of Experience	.136	.051	7.239	1	.007	1.146

Predictors of Evidence-Informed Interventions

A logistic regression was also performed to ascertain the effects of profession, years of experience, training and supervision on participants implementation of UK evidence-informed interventions as outlined by NICE guidelines, i.e. endorsing either TF-CBT or EMDR. The logistic regression model was statistically significant χ^2 (10) = 144.095, $p<0.0005$. The model explained 25.8% (Nagelkerke R^2) of the variance in use of evidence-informed interventions and correctly classified 75.2% of cases. Sensitivity was 39.6% and specificity was 90.8%, positive predictive value was 77.5% and negative predictive value was 65.6%. Of the 10 inputted variables, four were statistically significant: training, supervision, clinical psychologist and CBT therapist (as shown in

Table 3.8). Increased training and supervision were associated with an increased likelihood of implementing evidence-informed interventions, alongside working as a Clinical Psychologist and a CBT therapist.

Table 3.8: Logistic Regression Predicting Use of Evidence-Informed Interventions

Profession	B	SE	Wald	Df	P	Odds Ratio
Training	.967	.207	21.860	1	.000	2.630
Supervision	.772	.195	15.629	1	.000	2.165
Clinical Psychologist	1.327	.344	14.876	1	.000	3.769
Psychiatrist	.300	.330	.830	1	.362	1.350
Nurse/MHP	.040	.293	.019	1	.892	1.041
Occupational Therapist	-.514	.553	.865	1	.352	.598
Social Worker	.426	.414	1.055	1	.304	1.531
CBT Therapist	1.969	.784	6.310	1	.012	7.166
Psychotherapist	-.287	.389	.545	1	.460	.750
Years of Experience	.031	.057	.299	1	.584	1.031

Service User Factors Predicting Implementation of Therapeutic Approaches

In order to ascertain whether service user factors (age of the young person and the nature of the trauma) are associated with clinicians' implementation of therapeutic approaches, a series of logistic regressions were conducted. These specific variables were chosen based upon NICE research recommendations (NICE, 2018) suggesting that these factors may influence the use and effectiveness of evidence-informed interventions for PTSD. The logistic regressions were based upon the phase two clinical vignettes that participants were randomised to in the second phase. The age of the child and the nature of the trauma were manipulated within the context of a case study (Appendix M).

Within the logistic regression models, the predictor variables were the age of the young person (age 7 or age 13), nature of the trauma experienced (road traffic accident vs. child sexual abuse) and whether the clinician previously indicating use of the therapeutic approach in general practice (as measured by treatment approaches questions in phase one). The dependent variable was the participant's response to the treatment approach questions repeated after they had read the case study, in order to determine whether their responses had changed based upon the age of the child or nature of the trauma. Tests for multicollinearity for each of the logistic regression models indicated that a very low level of multicollinearity was present (VIG was greater than one for each variable).

Table 3.9 summarises the results from the logistic regression models. For the purposes of the analysis, the age of the child was scored as one for a younger child (aged 7) and two for an older child (aged 13). In addition, the nature of the trauma was scored as one for single event trauma (road traffic accident) and two for multiple or chronic trauma (sexual abuse). Therefore, positive odds ratio scores indicate that the clinician would be more likely to endorse the treatment. Previous indication of use of therapeutic models significantly predicted current use of the approach in all cases except Family Therapy, where it was excluded from the model analysis due to being a constant (all cases of previous use for Family Therapy were scored 'no', indicating that the participants would not endorse this approach in general practice). This suggests that in general practitioners would continue to implement an approach that they had previously implemented not dependent upon the age of the young person or the nature of the trauma that they had experienced.

The age of the child in the vignette predicted current use of the therapeutic approach in the following models: TF-CBT, Family Therapy, and Guided Self-Help. Older age of the child was associated with increased likelihood of implementing the

therapeutic approach in all of these models except Family Therapy. For Family Therapy, the *younger* the age of the child the more likely the clinician would be to use this approach. This suggests that clinicians would be more likely to use this approach based on the characteristics of the young person than they would have been in general practice (as measured by previous endorsement of the approach).

The nature of the trauma (road traffic collision vs. child sexual abuse) predicted clinicians' current likelihood of endorsing the therapeutic approach for CFT and Psychodynamic Psychotherapy. These approaches were more likely to be used where the young person had experienced child sexual abuse as opposed to a road traffic collision.

Table 3.9 Logistic Regression Models Exploring Impact of Service User Characteristics on Use of Evidence-Based Practice

Therapeutic Approach	χ^2	Model Significance	Variance (Nagelkerke R^2)	% cases correctly classified	Predictors	P	Odds Ratio
TF-CBT	160.79	p<0.005*	41.1%	80.7%	Previous TF-CBT use	p<0.005*	15.638
					Age of Child	p<0.005*	2.704
					Nature of Trauma	p=0.304	.918
					Age by Trauma	p=0.253	.570
EMDR	199.96	p<0.005*	47%	81.1%	Previous EMDR use	p<0.005*	21.104
					Age of Child	p=0.380	1.356
					Nature of Trauma	p=0.148	1.640
					Age by Trauma	p=0.936	1.039
CBT	133.26	p<0.005*	33.7%	74.1%	Previous CBT use	p<0.005*	10.411
					Age of Child	p=0.072	1.758
					Nature of Trauma	p=.666	1.143
					Age by Trauma	p=0.762	1.143
CFT	173.21	p<0.005*	44.5%	81.5%	Previous CFT use	p<0.005*	19.200
					Age of Child	p=0.052	1.977
					Nature of Trauma	p<0.05*	.418
					Age by Trauma	p=0.720	.832
Psychodynamic (PsyDy)	132.43	p<0.005*	44.9%	90%	Previous PsyDy use	p<0.005*	29.571
					Age of Child	p=0.535	1.303
					Nature of Trauma	p<0.05*	.304
					Age by Trauma	p=0.681	.750
Mindfulness Based Therapies (MBT)	133.78	p<0.005*	34.6%	77%	Previous MBT use	p<0.005*	11.558
					Age of Child	p=0.734	1.117
					Nature of Trauma	p=0.892	.957
					Age by Trauma	p=0.985	1.008
Family Therapy (FT)	18.43	p<0.005*	5.3%	59.3%	Previous FT use	**excluded	
					Age of Child	p<0.05*	.513
					Nature of Trauma	p=0.664	.893
					Age by Trauma	p=0.571	.804

Medication	68.19	p<0.005*	29.4%	90.4%	Previous medication endorsement	p<0.005*	14.583
					Age of Child	p=0.128	2.046
					Nature of Trauma	p=0.294	.166
					Age by Trauma	p=0.719	1.307
Guided Self-Help (GSH)	151.20	p<0.005*	37.6%	76.1%	Previous GSH use	p<0.005*	16.210
					Age of Child	p<0.005*	2.836
					Nature of Trauma	p=0.558	.839
Group Therapy	27.018	p<0.005*	14.9%	93.5%	Previous Group use	p<0.005*	8.194
					Age of Child	p=0.583	.746
					Nature of Trauma	p=0.226	.492
					Age by Trauma	p=0.309	2.278
Person Centred Therapy (PCT)	179.63	p<0.005*	47.9%	85.7%	Previous PCT use	p<0.005*	27.234
					Age of Child	p=0.819	1.093
					Nature of Trauma	p=0.357	.695
					Age by Trauma	p=0.518	.695
Cognitive Analytic Therapy (CAT)	40.62	p<0.005*	23.5%	94.1%	Previous CAT use	p<0.005*	14.455
					Age of Child	p=0.101	2.993
					Nature of Trauma	p=0.229	2.218
					Age by Trauma	p=0.213	.335
Psychoeducation (PsyEd)	78.91	p<0.005*	24.3%	83.3%	Previous PsyEd use	p<0.005*	11.809
					Age of Child	p=0.793	.909
					Nature of Trauma	p=0.719	1.143
					Age by Trauma	p=0.493	.703
Case Management (CM)	138.80	p<0.005*	34.6%	74.6%	Previous CM use	p<0.005*	12.228
					Age of Child	p=0.646	1.155
					Nature of Trauma	p=0.177	.658
					Age by Trauma	p=0.575	.781
Peer Support (PS)	104.756	p<0.005*	32%	82.6%	Previous PS use	p<0.005*	12.035
					Age of Child	p=0.086	1.947
					Nature of Trauma	p=0.765	1.129
					Age by Trauma	p=0.537	1.395

Barriers

Participants in the second phase of the study were asked to review a list of potential barriers and indicate whether they felt each item would be a barrier impacting upon the treatment they would provide to children and young people with PTSD. The following barriers were endorsed, displayed with the total percentage of clinicians endorsing each barrier: Service user substance use (81.1%); Treatment adopting a "one size fits all" approach (74.5%); Lack of training or knowledge in evidence-informed interventions (74.3%); Lack of supervision in using evidence-informed interventions (73.4%); Risk of increasing distress to the service user (65.1%); Comorbidity with other mental health disorders (58.7%); Service user non-adherence to treatment (51.3%); Time taken to engage with the client before trauma work can commence (44.8%); Relevance of research findings to clinical practice (38.5%); Comorbidity with physical health disorders (35.5%).

To explore the influence of clinicians' characteristics such as training, supervision, profession and likelihood of implementing evidence-informed interventions on perceived barriers, the total number of barriers endorsed was calculated. A multiple regression was conducted to predict the number of barriers endorsed by these clinician characteristics. There were no significant differences in the number of barriers endorsed based on training, supervision, profession, and use of evidence-informed interventions $F(10, 449) = 1.551$, $p=0.119$.

Discussion

The aim of the study was to explore the experience of clinicians working with children to identify the treatment approaches being used in clinical practice, alongside the training and supervision being received and clinician confidence in implementing evidence-informed and guideline recommended interventions. It is important to gain an understanding of the perspectives of clinicians, given their position as key agents in the

dissemination and implementation of evidence-informed interventions (Adams et al., 2016). In addition, the study explored clinician and service user characteristics predicting clinician confidence, treatment decision-making and the use of evidence-informed interventions in the treatment of trauma in children. Becker et al. (2004) emphasised the need to identify the factors influencing use of evidence-informed interventions in clinical practice. Understanding these barriers and facilitators can help to inform both the development of new interventions, and the dissemination process including clinician training and supervision.

Training and Supervision

Consistent with the existing literature, training and supervision were identified as significant predictors of clinicians' confidence in recognising and treating PTSD in children, as well as predicting the use of evidence informed, NICE recommended practices such as TF-CBT and EMDR (Borah et al., 2017; Richards et al., 2017). This is an important finding given that approximately half of clinicians reported receiving no trauma related training at all, and almost a third of clinicians reported receiving no supervision. While these results are greater when compared to previous studies conducted in other countries finding a much more notable lack of training and supervision (Czincz & Romano, 2013), this finding still suggests a large number of clinicians are going without training and supervision. Results identified noticeable differences between professions in the level of training and supervision received. In particular, professions reporting higher levels of training included Clinical Psychologists, Psychiatrists and CBT Therapists, whereas less training was reported by Occupational Therapists, Social Workers and Nurses/Mental Health Practitioners. In relation to supervision, over half of the participating Psychiatrists, Nurses/Mental Health Practitioners and Occupational Therapists reported receiving no clinical supervision at all.

Clinician Confidence

Clinician confidence relating to the recognition and treatment of PTSD in children was explored in the study. As outlined above, clinician confidence was significantly higher for those who had received training and supervision. Mapping onto this, the professions reporting higher levels of confidence, Clinical Psychologists, Psychiatrists, CBT Therapists and Psychotherapists, were also those reporting higher levels of training and supervision. In addition, clinicians with higher levels of education and years of experience felt more confident in recognising and treating these difficulties.

Treatment Approaches

With regards to the approaches being routinely implemented, clinician likelihood of implementation varied. Trauma-Focused CBT, the main recommended front line treatment for PTSD in children by ISTSS, NICE and the APA, was indicated by only approximately 60% of clinicians as being an approach that they are likely to use. In the logistic regression, use of TF-CBT was predicted by higher levels of training and supervision, alongside being trained and employed within specialist therapy groups such as Clinical Psychology, Psychiatry, CBT therapy and Psychotherapy.

In addition, EMDR was indicated by only 37.5% of clinicians as an approach that they would be likely to use. EMDR is recommended as a second line treatment should the young person not respond to or engage in TF-CBT (NICE, 2018). Alongside training and supervision, EMDR was also predicted by years of experience, suggesting that clinicians with increased experience are more likely to utilise this approach.

Psychoeducation, a component of both of the above approaches, was indicated as a likely approach by almost 80% of clinicians. Interestingly, almost a quarter of clinicians indicated medication as a likely approach for this population, despite NICE guidelines stating that drug treatment should not be used for children with PTSD; it is possible that

clinicians have in mind the treatment of other comorbid conditions such as depression. Other highly endorsed approaches (>40%) included Mindfulness-Based Therapies and Family Therapy, despite these approaches not being recommended within international guidelines for PTSD.

Interestingly, nursing was not found to be a significant predictor within any of the regression models, suggesting that use of evidence-informed interventions is highly varied within the profession. This is important to note, given that over 30% of the CAMHS workforce is made up of nursing staff (NHS Benchmarking, 2018).

Service User Factors Influencing Use of Evidence-Informed Interventions

One of the secondary objectives of the study was to identify the service user characteristics predicting the use of therapeutic approaches. NICE guidelines (2005) recommended that research explored the differential effects of the age of the young person and nature of the trauma for influencing clinicians' treatment decision making. The results from this study suggest that for TF-CBT and Guided Self-Help, clinicians are more likely to endorse these approaches when the child is older in age. However, for Family Therapy, results indicated that clinicians would be more likely to offer this approach to younger children. This is potentially due to increased involvement of the child's family in cases where the child is young.

With regards to the nature of the trauma, only psychodynamic psychotherapy and Compassion Focused Therapy were significantly affected by whether the young person had experienced a single traumatic event or chronic trauma. In these cases, clinicians were more likely to endorse use of these approaches where the child had experienced chronic trauma. This is possibly a result of clinicians' concerns around complex trauma and the application of traditional approaches with this population.

Clinically this suggests that clinical-decision making can be influenced based upon the characteristics of the young person, despite evidence suggesting that evidence-informed interventions are effective across the whole of childhood, and not dependent on the nature of the trauma. While the results indicate that the age of the young person and the nature of the trauma can influence the use of evidence-informed interventions, this data is only preliminary and further research is warranted to explore the interactions between service user characteristics and use of evidence-informed interventions in more detail.

Barriers

Finally, the study sought to explore the barriers to the implementation of evidence-informed interventions for PTSD in children. The main barriers affirmed by clinicians included service user substance use, fears of increasing service user distress, feeling as though treatments adopt a 'one size fits all approach', and a lack of training and supervision. These findings are in line with research that has identified similar barriers as substantial in influencing clinicians use of evidence-informed interventions such as exposure and trauma-focused CBT (Becker et al., 2004; Allen, Wilson & Armstrong, 2014; Whiteside, Deacon, Benito & Stewart, 2016).

Clinical Implications

The findings of the study highlight the importance of clinicians' working with this population having access to trauma related training and supervision. The results suggest that due to a current lack of training and supervision, evidence-informed interventions are not currently being implemented consistently with NICE guidelines. As a result, clinicians may be lacking in confidence and the treatment being offered to children and young people with PTSD is likely to be below expected standard. Therefore, training and dissemination efforts should aim to address the barriers to the implementation of evidence-informed interventions for children who have experienced trauma. For example, many clinicians

may be concerned about using trauma-related approaches such as exposure for fear of negative complications potentially arising from the use of these approaches such as 're-traumatising' the individual (Becker, Zayfert & Anderson (2004). However, research has demonstrated that only a very small proportion of individuals who receive these therapies experience any adverse effects (Foa, Zoellner, Feeny, Hembree & Alvarez-Conrad, 2002; Larsen, Stirman, Smith & Resick, 2016). It is important that training is offered to the entire workforce to ensure that all clinicians are using these approaches consistently. It may be particularly important to note those professions for whom discipline was not a significant predictor of implementation, in order to address the varied perceptions and treatment approaches within these groups. In addition, the dissemination of clinical guidelines for working with this population should be a priority in clinical practice.

An interesting result to note was the finding that Guided Self-Help (GSH) is highly endorsed by clinicians working with young people who have experienced trauma. Although the evidence base is limited in relation to the use of GSH, this could be an important area to research given the lower intensity mode of GSH and the implications for its broader use.

Strengths and Limitations

While the logistic regression models exploring predictors of evidence-informed interventions were statistically significant, it is important to note that the amount of variance explained by the predictors in each of the models was low (24.5% for TF-CBT; 8% for EMDR; 25.8% for evidence-based practice). A similar proportion of variance was explained for confidence in recognition and treatment of PTSD. Factors other than basic clinician characteristics are influencing the use of evidence-informed interventions and clinician confidence. Future research should aim to identify these influences to better understand the implementation of evidence-informed interventions.

The results from this study were produced based upon self-report data. As such, these results may not provide an accurate representation of actual routine clinical practice. In addition, given that participants were not randomly selected, there may be a bias towards the types of clinicians likely to participate in research. The questionnaire also provided cross-sectional data which explores clinicians experience at a specific time point, therefore limiting understanding of causality.

A particular limitation to note is related to the language used within the survey. To determine the treatment strategy used by the clinician, the question was worded 'to what extent would you be likely to use the following treatment approaches to treat PTSD in children and adolescents', with clinicians answering on a five-point Likert scale from extremely unlikely to extremely likely. The shortcoming within the wording in this question is its inability to capture clinicians that may still 'endorse' the approach but are unable to implement the intervention themselves due to lack of training. This does not capture circumstances where clinicians may refer cases to other members of the team who may have received training in evidence-informed interventions, which is an important aspect of clinical decision making. At a conceptual level, the study aimed to understand not only clinicians use of evidence-informed interventions, but also their attitudes towards them. This is therefore likely to have impacted upon the predictors of the implementation of evidence-informed interventions.

One of the strengths of the study compared to previous clinician surveys was the relatively equal representation of male and female participants. While the study received lower response rates from professions such as Occupational Therapy and Social Work, these subgroups were fairly representative of the numbers employed within the UK CAMHS workforce (NHS Benchmarking, 2018). Further information regarding the current CAMHS workforce is detailed in Chapter Five. This was also true of medical staff such as

Psychiatrists. However, while specialist therapy groups such as Clinical Psychology and Psychotherapy were over-represented within the sample, nursing staff were slightly underrepresented given that this subgroup make up over 30% of the total CAMHS workforce. The over-representation of specialist therapy groups may be explained by the emphasis of research practices within the professional training of these subgroups.

Finally, the study mainly recruited participants in working in the NHS, indicating that results cannot be generalised to those working in other settings.

Conclusions

While clinician training and supervision are key predictors of both clinician confidence and practice when working with children and young people, a large number of clinicians still do not have access to adequate training and support when working with this population. This is an important finding, as a systematic review by Finch, Meiser-Stedman, Ford & Grainger (2019) identified a lack of training to be a primary barrier to the dissemination and implementation of evidence-informed interventions for PTSD. The results suggest that there remains a research-practice gap in the treatment of trauma in children and young people, with only 60% of clinicians endorsing TF-CBT and less than 40% of clinicians endorsing EMDR. It is therefore important that future research and policy efforts focus on improving the training and dissemination related to these approaches and address the common myths and barriers surrounding them.

In addition, the study identified marked differences in profession in relation to the receipt of training, supervision and use of evidence-informed interventions for the treatment of PTSD. In particular, while Psychiatrists and Clinical Psychologists report receiving training and supervision for working with this population, professions such as Nursing, Occupational Therapy and Social Work receive less training and supervision which therefore impacts upon their use of evidence-informed interventions. This is an

important issue that needs addressing, ensuring that appropriate training and support is offered across disciplines to enable the best possible practice to be offered to this vulnerable group of children and young people.

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Chapter Four

Extended Methodology

Chapter Four

Extended Methodology

Aims

This study aimed to build on the current evidence-base identifying the barriers to implementing evidence-informed and guideline recommended interventions for PTSD in children and young people. The primary aim of the study was to construct an overview of the treatment approaches currently being offered to this population within youth services in the UK, and understand the training and supervision being received by the clinicians working with this population. Additionally, previous research has called for further exploration of the factors influencing the use of evidence-informed interventions for working with PTSD (Becker et al., 2004). This study therefore aimed to examine the clinician and service user characteristics predicting endorsement of evidence-informed interventions.

Research Questions

The study was separated into two phases. The research questions were therefore separated to indicate the questions being addressed in each phase of the study.

Phase one.

Research question one. Do CAMHS clinicians receive trauma-focused PTSD training and supervision for working with children and adolescents?

Research question two. How confident do CAMHS clinicians feel in treating PTSD in children and adolescents?

Research question three. What strategies and treatment modalities are routinely being used in the treatment of PTSD in children and adolescents?

Research question four. Do clinician characteristics (profession, years of experience, training and supervision) predict the use of TF-CBT and other evidence-based practices when treating PTSD in children and adolescents?

Phase two.

Research Question five. When considering a hypothetical case of a young person with PTSD, do service user characteristics (e.g. age, nature of trauma) affect clinician's endorsement of evidence-informed interventions?

Research Question six. Do clinician characteristics (profession, training, supervision and endorsement of evidence-based practice) predict endorsement of barriers to evidence-informed interventions when working with children and young people?

Recruitment Process

The initial recruitment method for the study was via professional overseeing bodies and social media. Recruitment commenced in October 2017. The research team established contact with The British Psychological Society, the Royal College of Psychiatrists, the Royal College of Nursing, the British Association of Social Workers, the Royal College of Occupational Therapists, the Association of Family Therapy and the British Association of Behavioural and Cognitive Psychotherapy. Each of the organisations agreed to distribute the survey link to members and shared the link via email lists, association newsletters and association social media pages. A copy of the suggested recruitment email is included in Appendix Q. Social media recruitment commenced in January 2018 following the second distribution of the link via professional overseeing bodies. A copy of the social media recruitment advert is included in Appendix R. A total of 417 participants were recruited via these methods between October 2017 and September 2018.

In February 2018 approval was sought from the Health Research Authority (HRA) to extend recruitment and identify potential participants via the National Institute for

Health Research Clinical Research Networks (NIHR CRN), as the study was deemed eligible for adoption onto the NIHR portfolio. A minor amendment was submitted to the Faculty of Medicine and Health Sciences Ethics Committee at the University of East Anglia to approve the changes. Approval was obtained from both organisations in March 2018. Recruitment via the NIHR CRN commenced in April 2018. Survey information was sent to CRN departments across the country via the local CRN Deputy Research Delivery Manager. National CRN departments forwarded the survey information and link onto relevant local clinical teams via email. A total of 300 participants were recruited via this method between April and September 2018.

Sample Size Calculation

Sample size calculations were performed for each objective of the study to determine the number of participants required. For all sample size calculations power was set at 80% and confidence level at .05. Sample size estimates were calculated using G*Power statistical analysis tool (Faul, Erffelfer, Lang & Buchner, 2007).

Confidence recognising and treating PTSD. Sample size calculations were performed based on multiple regression analyses using nine predictor variables with a medium effect size (R^2 0.13) for confidence recognising and confidence treating PTSD. Calculations indicated that 114 participants would be required. Appendix S details the G*Power analysis output for these calculations.

Logistic regression analyses. Logistic regression analyses were performed to predict both clinician and service user characteristics influencing endorsement of evidence-informed interventions. When performing logistic regressions, the ten events per variable rule is a widely accepted minimal criteria for sample size considerations prior to conducting logistic regressions (Pavlou et al., 2015). Based on 10 predictor variables this criterion suggests that a minimum of 100 participants is required in order to perform a

logistic regression. Sample size calculations were performed to estimate the number of participants required to detect a small effect size within logistic regression analysis. Calculations indicated a minimum of 308 participants would be required. Appendix T details the G*Power analysis output for these calculations.

Barriers. Multiple regression analysis was performed to predict the influence of clinician characteristics on endorsement of barriers to evidence-informed interventions. Sample size calculations were performed based on multiple regression analysis using 10 predictor variables with a medium effect size (R^2 0.13) for endorsement of barriers. Calculations indicated that 118 participants would be required. Appendix U details the G*Power analysis output for these calculations.

Measures

A questionnaire was developed for the purpose of the survey. Prior to the survey being distributed a pilot version of the questionnaire was sent out to colleagues of the research team working with the relevant population to determine the appropriateness of the included questions and obtain an average time taken to complete the survey. A copy of the questionnaire has been included in Appendix K.

Demographic and employment information. The demographic and employment information questionnaire was developed following scoping searches of the literature to identify relevant criteria for inclusion in the study. Standard demographic information such as age, gender and highest level of education were included. Employment information collected included current profession, employment setting, years of experience and percentage of caseload that have experienced trauma.

Training, supervision and treatment approaches. The questionnaire was developed in collaboration with experts in the field who reviewed the survey and offered feedback on the suitability and meaningfulness of the questions. Information was collected

on the types and frequency of training and supervision received. In addition, clinicians were asked to rate how confident they felt in recognising and treating PTSD.

To establish the treatment approaches being used in routine clinical practice, clinicians were asked to rate to what extent they would be likely to use an approach based upon a five-point Likert scale (one being extremely unlikely to five being extremely likely). The list of potential treatment approaches was developed in collaboration with the local expert groups identifying a number of relevant approaches currently being used in clinical practice by a range of professionals.

Additionally, two qualitative questions were included asking participants to describe the types of trauma related training they had previously received, and the types of training they would like to receive. Results from these questions were not analysed as part of the empirical paper in order to maintain a focus on the main objectives. Qualitative data collected as part of these questions are explored further in Chapter five.

Barriers. A list of barriers was developed in collaboration with the local expert group and by including barriers already identified in the literature (Gray, Elhai & Schmidt, 2007; Hipol & Deacon, 2012; Hundt et al., 2016; Borah, Holder & Chen, 2017; Finch, Meiser-Stedman, Ford & Grainger, 2019). Participants were asked to rate the potential barriers to the use of evidence-informed interventions on a five-point Likert Scale from 1 (extremely likely to be a barrier) to 5 (extremely unlikely to be a barrier) as to how likely they felt each item would be to impact upon their clinical practice. Table 4.1 summarises the barriers included in the questionnaire.

Table 4.1 Potential Barriers to Evidence-Informed Interventions included in the Questionnaire

Potential Barriers
Comorbidity with other mental health disorders
Comorbidity with physical health disorders
Service user substance use
Increasing distress/risk of harm to service user
Treatment adopting a “one size fits all” approach
Lack of training or knowledge in how to use evidence-informed interventions
Lack of supervision in using evidence-informed interventions
Service user past treatment non-response/adherence to treatment
Relevance of research findings to clinical practice
Time taken to engage with the client (i.e. building a therapeutic relationship) before trauma work can commence

Vignette development. For the second phase of the study four case vignettes were developed that manipulated the age of the child and the nature of the trauma. The vignettes were developed in collaboration with the local expert group and were based upon DSM-5 criteria for PTSD and common clinical presentations of young people who have experienced trauma. Apart from the age of the child (age seven or 13) and the nature of the trauma (road traffic collision or child sexual abuse) all other factors were controlled. Participants were asked to repeat the question relating to treatment approach after reading the vignette, to determine whether service user factors influenced how the clinician would approach working with the young person. A copy of the case vignettes is included in Appendix M.

Ethical Considerations

Ethical approval for the study was granted by the Health Research Authority (ref 243374) and the Faculty of Medicine and Health Sciences Ethics Committee at the University of East Anglia (ref 2017/8 – 7). Approval letters are included in Appendices O and P. This study was undertaken as an amendment to an existing research trial 'DECRYPT' ('Delivery of Cognitive Therapy for Young People after Trauma') which is a randomised controlled trial aimed at supporting children and young people aged 8-17 who have developed PTSD as a result of exposure to multiple traumas. The study is being run by the research team at the University of East Anglia and is funded by the National Institute of Health Research. The study has been approved by the Cambridge South Research Ethics Committee (16/EE/0233). The Chief Investigator for the trial is Dr Richard Meiser-Stedman, who is the primary supervisor for the current thesis portfolio. The amendment to the DECRYPT trial allowed the current study to be adopted onto the NIHR CRN portfolio to support the recruitment process.

Consent. Participants were provided with the opportunity to respond to an email invitation or social media survey link to the study. This was distributed via the NIHR CRN, professional overseeing bodies and via social media links. If participants chose to follow the link, they were taken to an information page providing information relating to the study (Appendix I). Following on from this page, participants were provided with a consent statement that they were required to read. Once they had read the participant information and consent sheet, if they were willing to take part they followed a link to the survey. While a separate consent form was not completed, consent was assumed if the participant completed the survey. This is consistent with Health Research Authority guidance in seeking proportionate consent using online surveys (HRA, 2017). All

information forms were tested using the Gunning Fog Index to ensure appropriate wording and language.

Coercion and withdrawal. Participants were informed in the information page that participation is voluntary and that they could decline to take part. Informed consent provided information about their right to withdraw from the study during participation without this affecting legal or employment rights. The risk of coercion was reduced as participants were not known to the researchers and opted to participate via an online link. An opportunity to enter a prize draw following completion of the second phase of the study to win a £25 Amazon Voucher was offered to thank clinicians for their participation. This amount was deemed appropriate in the context of a prize draw.

Confidentiality and data storage. Confidentiality laws and regulations were followed for all aspects of the study. Data was stored in adherence to the Data Protection Act (1998) and the UEA Confidentiality Code of Practice. The collection of information was restricted to what was necessary for the purpose of the study. Only the lead researcher had access to participant information.

Electronic files associated with the study were kept on a UEA approved password protected encrypted memory stick for the purpose of transport. These were transferred to an encrypted UEA server for storage purposes. Any online information stored using Qualtrics was accessible using a username and password known only to the lead researcher. Any information in paper format was kept in a locked filing cabinet in the research supervisor's office at the University of East Anglia, which was only accessible to the research team. Any identifiable information that was collected was stored on a separate UEA approved password protected encrypted memory stick for transport and was also stored on an encrypted UEA server. Identifiable information was assigned a participant number linked to the questionnaire data.

Data will be stored securely in line with Good Clinical Practice Guidelines, which indicates that research data must be kept for 10 years. All identifiable participant information was destroyed upon completion of the study.

With regards to participant confidentiality, due to the anonymous and voluntary nature of the survey it was not possible to identify participants through their responses. This was discussed with the ethics committee in light of the possibility of the acquisition of data that might suggest that a participant is not acting in accordance with recommended clinical guidelines, and appropriate debrief information was therefore provided at the end of the survey to support the participant to contact the relevant parties should any queries arise as a result of their participation.

Distress. There was a small risk that the content of the study could cause distress to participants. This was due to the nature of the survey asking participants to reflect upon their clinical decision-making and training. All participants were provided with debrief information at the end of the study with details of organisations that they can contact should they feel distressed. In addition, contact details for the research team were provided should the participant have wished to discuss any issues that arose as a result of their participation.

Debriefing. Following participation in the study, participants were provided with full debrief information (Appendix N).

Chapter Five

Extended Results

Chapter Five

Extended Results

Sample

The study aimed to recruit a representative sample of the UK CAMHS workforce. Sample size calculations were met. Figure 5.1 displays the percentage of clinicians by discipline compared to the figures published by the NHS Benchmarking Network indicating the total percentages of clinicians by discipline in the NHS CAMHS workforce in 2017. As the CAMHS Benchmarking category of 'other' included administration staff and allied health professionals, it is not possible to compare this category with the current sample. As can be seen, the study sample was fairly representative of the overall UK CAMHS workforce, with the exception of Clinical Psychology and Psychiatry that were over-represented, and nursing that was under-represented. From the NHS CAMHS Benchmarking report it is possible to calculate that there are approximately 2970 WTE nursing staff, 1980 WTE Specialist therapy staff, 495 WTE Psychiatrists and 247 Social Workers. This is compared to the study sample that recruited 168 nursing staff (5.66%), 299 Specialist therapy staff including Clinical Psychology, Psychotherapy, CBT Therapy and Family Therapy (15.1%), 114 Psychiatrists (23%) and 43 Social Workers (17.4%).

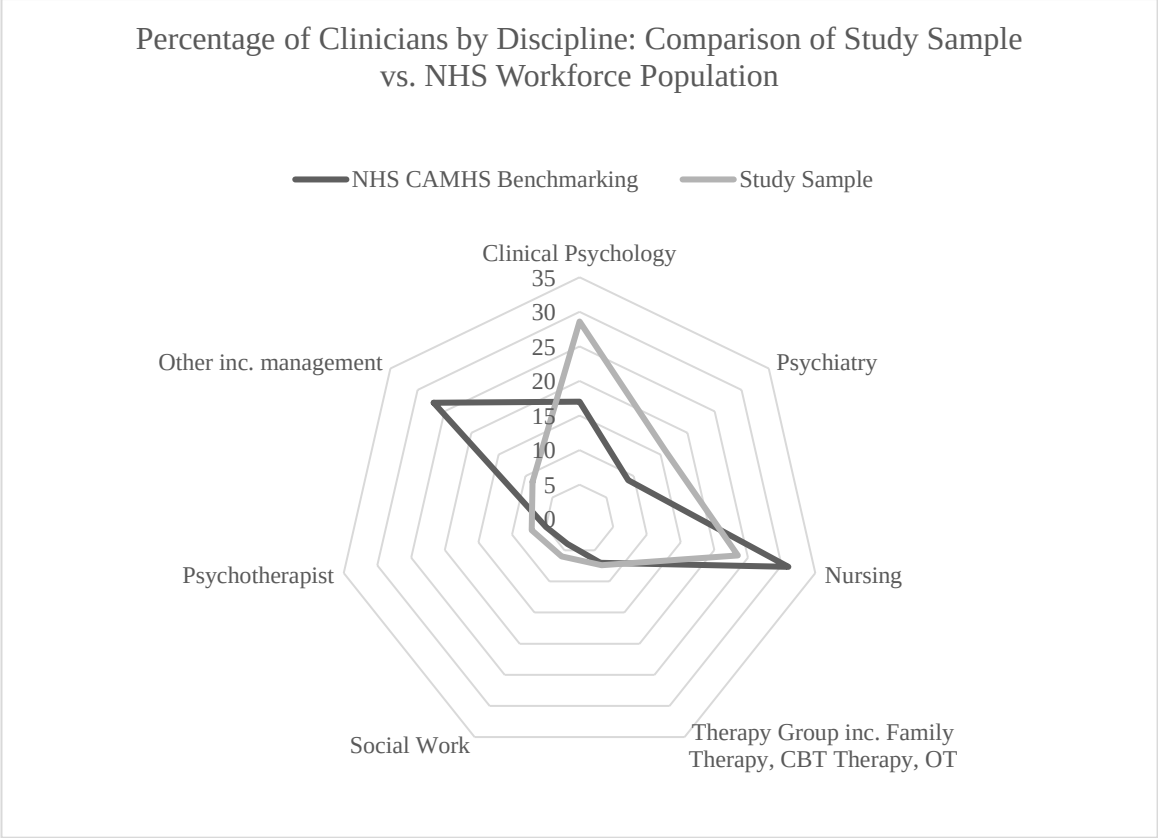

Figure 5.1 Clinicians by Discipline in Study Sample Compared to the CAMHS Workforce

Software Packages

Data were compiled and analysed in the statistical software Statistical Package for the Social Sciences (SPSS; International Business Machines Corporation [IBM Corp.], 2013).

Statistical Assumptions and Further Analysis

Predictors of Confidence Recognising PTSD. A multiple regression was conducted to predict confidence recognising PTSD in children and young people from profession, training and supervision. There was linearity as assessed by partial regression plots and a plot of studentized residuals against the predicted values. There was independence of residuals, as assessed by a Durbin-Watson statistic of 1.991. There was homoscedasticity, as assessed by visual inspection of a plot of studentized residuals versus unstandardized predicted values. There was no evidence of multicollinearity, as assessed

by tolerance values greater than 0.1. There were five studentized deleted residuals greater than +/-3 standard deviations that were kept in the analysis following further examination. There were no leverage values greater than 0.2, and values for Cook's distance above one. The assumption of normality was met, as assessed by a Q-Q Plot.

In addition to the multiple regression model, LMATRIX analysis was conducted to predict the dependent variable based on a set of values of the predictor variables. Table 5.1 summarises the results of these analyses, displaying the mean predicted confidence score based on each profession and whether they received training and supervision. For example, predictors were made to determine mean confidence recognising PTSD for Clinical Psychologists who had received training and supervision. Mean confidence recognising was predicted as 8.011 (95% confidence interval [CI], 7.772 to 8.250).

Table 5.1 LMATRIX Analysis Predicting Confidence Recognising by Profession

Profession	Training and Supervision		No Training and Supervision	
	Mean	95% CI	Mean	95% CI
Clinical Psychologist	8.011	7.772-8.250	5.734	5.304-6.167
Psychiatrist	8.490	8.137-8.843	6.213	5.798-6.628
Nurse/Mental Health Practitioner	7.186	6.852-7.520	4.909	4.591-5.227
Occupational Therapist	6.503	5.687-7.319	4.226	3.436-5.016
Social Worker	7.807	7.268-8.436	5.530	4.963-6.098
CBT Therapist	7.705	7.095-8.315	5.428	4.728-6.128
Psychotherapist	7.584	7.095-8.315	5.307	4.739-5.875

Predictors of Confidence Treating PTSD. A multiple regression was conducted to predict confidence treating PTSD in children and young people from profession, training and supervision. There was linearity as assessed by partial regression plots and a plot of studentized residuals against the predicted values. There was independence of residuals, as assessed by a Durbin-Watson statistic of 1.953. There was homoscedasticity, as assessed by visual inspection of a plot of studentized residuals versus unstandardized predicted values. There was no evidence of multicollinearity, as assessed by tolerance values greater than 0.1. There was one studentized deleted residual greater than +/-3 standard deviations that was kept in the analysis following further examination. There were no leverage values greater than 0.2, and values for Cook's distance above one. The assumption of normality was met, as assessed by a Q-Q Plot.

In addition to the multiple regression model, LMATRIX analysis was conducted to predict the dependent variable based on a set of values of the predictor variables. Table 5.2 summarises the results of these analyses, displaying the mean predicted confidence score based on each profession and whether they received training and supervision. For example, predictors were made to determine mean confidence treating PTSD for Clinical Psychologists who had received training and supervision. Mean confidence recognising was predicted as 6.986 (95% confidence interval [CI], 6.726 to 7.246).

Table 5.2 LMATRIX Analysis Predicting Confidence Treating by Profession

Profession	Training and Supervision		No Training and Supervision	
	Mean	95% CI	Mean	95% CI
Clinical Psychologist	6.986	6.726-7.246	4.045	3.575-4.516
Psychiatrist	6.927	6.544-7.309	3.986	3.535-4.437
Nurse/Mental Health Practitioner	5.886	5.522-6.250	2.946	2.600-3.291
Occupational Therapist	6.154	5.266-7.043	3.214	2.354-4.074
Social Worker	6.767	6.181-7.354	3.827	3.209-4.444
CBT Therapist	6.741	6.077-7.405	3.800	3.039-4.562
Psychotherapist	6.969	6.446-7.492	4.028	3.410-4.646

Predictors of Endorsement of Trauma-Focused CBT. A binomial logistic regression aims to predict the likelihood of a binary outcome (dependent variable) occurring based on one or more independent variables. Binomial logistic regressions require the data to meet a number of assumptions. Firstly, the dependent variable (endorsement of TF-CBT) is required to be dichotomous in nature, while the independent variables (profession, years of experience, training and supervision) may be continuous or categorical. Additionally, there should be independence of observations and the categories of both the dependent variable and independent variables should be mutually exclusive. The test also requires that there is a minimum of 15 cases per independent variable.

The final three assumptions were assessed using SPSS. Logistic regressions require that there is a linear relationship between any continuous independent variables and the logit transformation of the dependent variables. As no continuous independent variables were included within the logistic regression, no assumptions were violated. Secondly, the

data must not show high levels of multicollinearity. Tests for multicollinearity indicated that a very low level of multicollinearity was present (VIF = 2.660 for Clinical Psychologist, 2.131 for Psychiatrist, 2.378 for Nurse/Mental Health Practitioner, 1.214 for Occupational Therapist, 1.426 for Social Worker, 1.336 for CBT Therapist, 1.560 for Psychotherapist, 1.332 for training, 1.225 for supervision and 1.093 for years of experience). Finally, the regression model should not include significant outliers or extreme points. Casewise diagnostics identified that there were two standardized residuals with a value of >2.5 which were kept in the analysis.

Predictors of Endorsement of EMDR. The logistic regression model met the first four assumptions of the nature of the variables, independence of observations and the number of cases per variable. In addition, no continuous independent variables were included. As the same independent variables were included as for the previous logistic regression model, the VIF scores were the same and therefore a very low level of multicollinearity was present. Casewise diagnostics identified that there was one standardized residual with a value of >2.5 which was kept in the analysis.

Predictors of Endorsement of Evidence Informed Interventions (TF-CBT or EMDR). The logistic regression model met the first four assumptions of the nature of the variables, independence of observations and the number of cases per variable. In addition, no continuous independent variables were included. As the same independent variables were included as for the previous two logistic regression models, the VIF scores were the same and therefore a very low level of multicollinearity was present. Casewise diagnostics identified that there were no outliers.

Service user factors predicting endorsement of therapeutic approaches. In order to ascertain whether service user factors were associated with a clinician's endorsement of various therapeutic approaches, a series of logistic regressions were

conducted. Each of the logistic regression models met the assumptions regarding the nature of the variables, independence of observations and the number of cases per variable. In addition, no continuous variables were included and therefore the logit transformation of the dependent variable assumption was not violated. Tests for multicollinearity indicated that a very low level of multicollinearity was present. Table 5.3 displays the VIF scores for each of the variables.

Table 5.3 VIF Scores for Service User Variables

Variable	VIF Scores		
	Age of Child	Nature of Trauma	Previous endorsement
TF-CBT	1.001	1.003	1.003
EMDR	1.001	1.001	1.000
CBT	1.004	1.002	1.004
CFT	1.001	1.001	1.001
Group Therapy	1.001	1.001	1.000
Psychodynamic	1.001	1.002	1.002
MBT	1.001	1.002	1.002
Family Therapy	1.001	1.001	Excluded
Medication	1.002	1.002	1.002
Guided Self-Help	1.001	1.002	1.001

Barriers to the Use of Evidence-Informed Interventions. A multiple regression was conducted to predict the number of barriers to the use of evidence-informed interventions endorsed by clinicians from profession, training, supervision and endorsement of evidence-informed interventions. There was linearity as assessed by partial regression plots and a plot of studentized residuals against the predicted values. There was

independence of residuals, as assessed by a Durbin-Watson statistic of 1.916. There was homoscedasticity, as assessed by visual inspection of a plot of studentized residuals versus unstandardized predicted values. There was no evidence of multicollinearity, as assessed by tolerance values greater than 0.1. There were no studentized deleted residuals greater than +/-3 standard deviations. Additionally, there were no leverage values greater than 0.2, and values for Cook's distance above one. The assumption of normality was met, as assessed by a Q-Q Plot. The model was statistically insignificant.

Qualitative Analysis

In phase one of the study, participants were asked to answer two qualitative questions assessing the types of trauma-related training that they had already received, and the types of additional trauma training that they would be interested in receiving. Answers to these questions were analysed using inductive content analysis to identify and extract key codes and patterns emerging from the results (Hsieh & Shannon, 2005). Content analysis involves tabulating data into electronic matrices and grouping codes into frequencies to develop categories according to the most relevant reported codes (Sneilstveit, Oliver & Vojtkova, 2012).

Types of Training Received. Content analysis identified four key categories from participants responses reporting the types of trauma-related training they have previously received. Firstly, a large proportion of respondents described receiving training in NICE guidance recommended practices including TF-CBT and EMDR. A second category of codes reported by participants was attendances at Continuing Professional Development or Special Interest Groups providing general education about PTSD and not specific to psychological therapies. Thirdly, a number of participants reported receiving training in a number of therapeutic approaches not endorsed in clinical guidelines, including Cognitive Analytic Therapy, Family Therapy, Compassion Focused Therapy, Dyadic Developmental

Psychotherapy, Psychodynamic Psychotherapy, Dialectical Behavioural Therapy, Mindfulness Based Therapies and Creative therapeutic approaches. The final category emerging from the data was a small group of participants reporting receiving training in medication and prescribing for PTSD.

Types of Training Desired. Content analysis identified a number of categories from participants responses reporting the types of additional training that they would like to receive. A key category of codes that emerged was the concept of working with complexity and comorbidity. In particular participants reported wanting training when working with individuals with PTSD and additional presentations including dissociation, Autism Spectrum Disorders, Learning Disabilities, Looked After Children and Personality Disorders. In addition, clinicians described a number of specific approaches that they would like to learn including TF-CBT, EMDR, Narrative Exposure Therapy, Dyadic Developmental Psychotherapy, Cognitive Analytic Therapy and Systemic approaches to managing trauma. Linked to systemic approaches, clinicians described wanting to understand how to manage trauma within the whole family system.

Another key category that emerged was a desire to learn how to apply traditional models of treatment for PTSD to working with children and young people. In particular, a number of clinicians described working with very young children as a key learning need. Additionally, one pattern that emerged was that clinicians are keen to learn more about developmental and relational trauma when working with children and young people.

Content analysis also identified continuing professional development as a significant clinician desire. Participants emphasised their wish to attend regular training sessions to ensure up to date knowledge of the best current practices and evidence base. In line with this, clinicians also reported a desire for training that offered practical advice and

strategies for working with children and young people with PTSD, and ways of managing risk in this population.

The final categories that emerged from the data were a desire for training in the identification and assessment of trauma in children and young people, and training providing information relating to the theory of PTSD including the aetiology and maintenance.

Chapter six

General Discussion and Critical Evaluation

Chapter Six

Discussion and Critical Evaluation

The aim of this thesis was to understand clinicians' experiences relating to working with children and young people who have experienced trauma. The research aimed to identify the training and supervision received by clinicians working with this population, as well as the treatment approaches currently being offered and the barriers and facilitators to implementing these approaches. The study aimed to map current clinical practice onto the evidence base.

A systematic review synthesised relevant literature exploring clinician reported barriers and facilitators to the implementation of evidence-informed interventions for the treatment of PTSD. For the purpose of the thesis, evidence-informed interventions are those interventions grounded in evidence, and that are recommended by national and international guidelines. The results of 34 studies were extracted and analysed, and the findings suggested that barriers exist at four levels of implementing evidence-informed interventions. Intervention level barriers were aspects of the intervention that fostered or impeded clinicians use of it. Client and clinician level barriers were characteristics of the service user or therapist that influenced their preferences for treatment. Finally, system level factors were those at an organisational level that impact upon clinicians use of evidence-informed interventions. The key barriers identified were the inflexibility of evidence-informed interventions, fear of causing further distress to the client and a lack of training and supervision.

An empirical study then followed on from this and aimed to explore the current treatment provisions being offered to children and young people with PTSD, as well as the training and supervision of the clinicians offering this treatment. The study attempted to understand the relationships between training, supervision, clinicians' confidence and the

NICE guideline recommended evidence-informed interventions. In addition, the study further explored the barriers to implementing evidence-informed interventions that were identified in previous research.

Summary of the findings in the context of the literature

In the United Kingdom, the numbers of children and young people presenting to mental health services has increased significantly in recent decades (Hagell, Coleman & Brooks, 2015; Pitchforth et al., 2018). As a result, overseeing organisations are placing increasing emphasis on the development, access to and implementation of evidence-informed interventions for this population (NHS England, 2014). However, it is also recognised that the process of establishing evidence-informed interventions in clinical settings takes more than the top down distribution of clinical guidelines, but rather involves system change at all levels (Ploeg et al., 2007). In particular, clinicians and therapists working at the frontline with service users play a pivotal role in the uptake and application of these approaches (Cook, Schwartz & Kaslow, 2017).

These issues are particularly prevalent when considering the treatment of PTSD in children and young people. Due to increased clinician concerns and anxieties in treating this population, a higher number of barriers to the implementation of evidence-informed interventions for children and young people with PTSD have been found (Ruzek & Rosen, 2009; Reid et al., 2017). Research has demonstrated that less than a quarter of individuals presenting to services with PTSD receive evidence informed interventions (Borah, Holder & Chen, 2017). Clearly there is a need to understand the barriers perceived by clinicians working with this population and identify potential solutions to address these barriers.

Consistent with the literature identified in the systematic review, results from the empirical paper demonstrated a significant lack of training and supervision being offered to clinicians working with children and young people with PTSD. This lack of training and

supervision is highly concerning, given that results demonstrated that training and supervision were found to be significant predictors of clinician confidence and use of evidence-informed interventions.

In addition, the findings of the empirical paper reflected results found in previous studies relating to specific clinician barriers. The primary barriers to implementing evidence-informed interventions identified by clinicians were fears of increasing distress in the client, the perceived inflexibility of evidence-informed treatment models, and a lack of training and supervision.

The findings of the thesis portfolio highlight gaps between research and practice that need to be addressed before evidence-informed interventions can be implemented consistently across services. As a result of these barriers, clinicians may be lacking in confidence in the treatment of PTSD in children and young people. It is therefore important that future dissemination efforts aim to improve the training and supervision being offered to clinicians. Particular consideration should be given to the differences between the training and support offered to different disciplines, considering the multidisciplinary nature of current CAMHS services.

Implementation Science

Over two decades ago, a seminal paper by Sobell (1996) addressed the evidence-practice gap, highlighting the challenges of disseminating and implementing evidence-informed interventions in health care. Implementation science is a body of research that has evolved from this time, aiming to explore the range of methods and strategies used to promote the integration of new research findings into practice and understand the barriers and facilitators to this (Nilsen, 2015). The development and implementation of new practices is a complex process, made even more complex by the multi-level systems into which they are introduced, as demonstrated in the results from the systematic review

indicating that barriers and facilitators are present at all levels of these systems (Bauer, Damschroder, Hagedorn, Smith & Kilbourne, 2015).

Stirman, Gutner, Langdon and Graham (2016) reviewed relevant literature relating to implementation strategies in mental health services and developed a model of the multi-level system that is influenced by and in turn influences the use of evidence-based interventions (Figure 6.1). In keeping with the findings of the thesis, Stirman et al. (2016) suggested that clinicians who adopt and implement evidence-informed and guideline recommended interventions do so within a broader context and system that both impacts upon their perceptions of the intervention itself, as well as their motivations and abilities in using it. For example, the model recognises that there are elements of the intervention itself that will influence whether the clinician is likely to use it. This was reflected in the findings of the systematic review which demonstrated that the flexibility and adaptability of the approach as well as the clinician's subjective experiences of the intervention can act as a barrier or facilitator to its use. In addition, the findings of the systematic review are consistent with Stirman et al.'s (2016) model in identifying the wider contexts influencing the uptake of evidence-informed interventions such as the characteristics of the clinician, the culture and leadership structure of the organisation, and the structural and resourcing factors. The results of the empirical paper confirmed these findings, demonstrating the impact of a lack of training and supervision, as well as clinician characteristics such as profession and years of experience, on a clinician's use of evidence-informed interventions.

In order to address these multi-level factors influencing the use of evidence-informed interventions, implementation strategies should therefore focus on addressing the systemic issues addressed within this thesis portfolio. While research has started to develop strategies aimed at the innovation itself, as well as the inner context level factors,

little research currently exists pertaining to the outer level context and how these barriers can be addressed (Stirman et al., 2016). Evidence has found positive results for approaches that focus on addressing effective leadership (Aarons, 2006; Cook et al., 2014), organisational culture (Glisson & Williams, 2015) and staffing and resource issues (Garner et al., 2012).

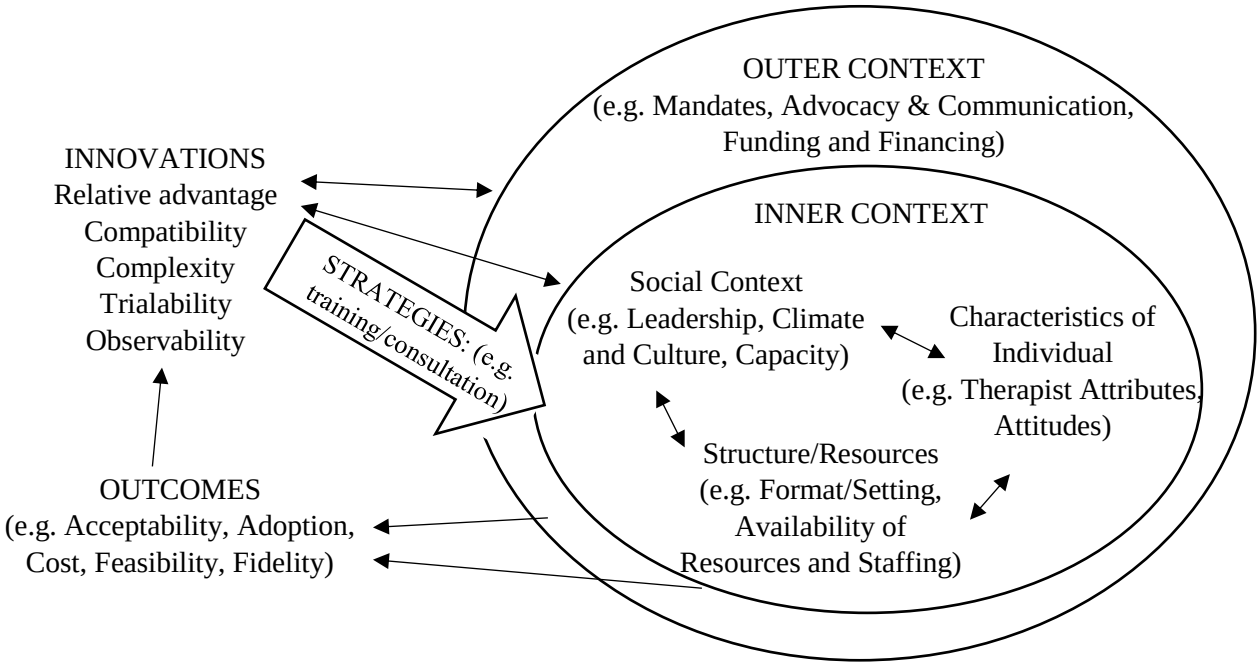

Figure 6.1 Multi-level model of implementation (Stirman et al., 2016)

Strengths and Limitations

The papers included in the thesis portfolio were the first of their kind to explore clinician related barriers to the implementation of evidence-informed interventions for young people with PTSD, and map the current provision being offered to this population. The study achieved a relatively large sample size compared to previous studies surveying clinicians (mean sample size for studies included in the systematic review was 223.7). In 2014/15 approximately 9,000 working time equivalent clinicians were working in children and young people's mental health services in the NHS in the UK (NHS England, 2016). In

addition, the sample was relatively representative of the different disciplines employed within CAMHS services, with the exception of nursing which was slightly underrepresented, and Clinical Psychology and Psychiatry which were overrepresented. Further research should explore how to better engage some of these hard-to-reach disciplines to ensure their views are being heard.

Despite the relatively large sample size, due to the methods of recruitment it is not possible to know the response rate for participants. As the study collected self-report data, the results may not reflect an accurate representation of the views of the entire workforce. In particular the question relating to the approaches endorsed by clinicians may not accurately reflect the treatment approaches being offered in services. In addition, there may be a bias towards participants who are more likely to take part in research, or those with stronger views on the study subject. This can be seen when considering the sample size by professional discipline. This may be due to differences in the emphasis on use of research in professional training. Another limitation of the design was the use of a cross-sectional survey. Collecting data from participants at one specific time point reduces the possibility of understanding causality. The survey was also developed for the purpose of the study, and therefore data collection included no validated measures. Feedback from some of the participants suggested that certain approaches that are commonly used in clinical practices were missed from the list of treatment approaches, including creative approaches and play therapy.

A notable limitation relates to the language used to capture clinicians use of evidence-based interventions within the online survey. The wording used to collect data relating to clinicians treatment approaches was limited to interventions that they would actually use, therefore leading to an inability to capture situations where a clinician is unable to perform an intervention themselves due to a lack of training, but where perhaps

they would still endorse use of the intervention and in clinical practice would refer the service user to other members of the team who may be able to provide the intervention. This is an important aspect of clinical decision making and fails to address clinicians' attitudes towards evidence-informed interventions.

The qualitative feedback from participants in phase one of the study provided in depth and meaningful information about the types of training currently being offered to clinicians, and where the gaps are in this offer. Further qualitative research could explore in more depth clinicians' perspectives around treating children and young people who have experienced trauma, in order to form a more targeted and comprehensive training approach.

Additionally, the empirical study only included participants working with children and young people in the UK. Due to the different structures of services worldwide and the limited time available to complete the thesis research, it was not possible to conduct the survey on an international scale. However, this means that the results cannot be generalised to healthcare services in other countries and only reflect the status of provision for PTSD for children and young people in the UK.

In relation to the results, while the regression models predicting the use of evidence-informed interventions were statistically significant, the amount of variance explained within the models was relatively low. This indicates that factors other than the clinician characteristics may be influencing the use of evidence-informed interventions. In addition, there was no scope in the study to be able to explore the influence of both clinician and service user characteristics and their interaction effects on the implementation of evidence-informed interventions. This is important given the subtle complexities that construct clinicians perceived barriers.

The systematic review was conducted in line with PRISMA guidelines (Shamseer et al., 2015), and the protocol was registered with PROSPERO to ensure the transparency of the research. The review synthesised the literature relating to clinician perceived barriers and facilitators and extended the evidence-base detailing the factors that foster or impede the implementation of evidence-informed interventions. A number of relevant studies were identified for inclusion. A second reviewer was used throughout the review process to ensure inter-rater reliability. However, the systematic review was not without limitations. Firstly, the review only included published studies and those written in English language. As a result, the exclusion of studies published in languages other than English introduces a risk of bias as clinicians in predominantly English-speaking countries may perceive different barriers and facilitators to evidence-informed interventions for PTSD than do clinicians in other countries. In addition, by focusing on those studies published in peer-reviewed journals, the opportunity to explore the grey literature in this area was limited, potentially missing some of the depth of knowledge from individual clinician perspectives.

In addition, a second limitation of the systematic review was the heterogeneity present in the included studies. The primary methods of data collection and analysis differed across studies, which impacted on the comparability of the results. While a number of barriers and facilitators were identified, it was not possible to distinguish the extent to which each barrier and facilitator effected practice.

Clinical Implications

The results from the thesis portfolio demonstrate that there remains a significant gap between research evidence and clinical practice in relation to the treatment of PTSD in children and young people. This is concerning given the evidence demonstrating the effectiveness of evidence-informed and guideline recommended interventions reducing not

just symptoms for the individual but also economic and political costs (Courtois et al., 2016). As a result, it is imperative that dissemination efforts focus on addressing the identified barriers, and in particular concentrate on improving the provision of adequate training and supervision to the CAMHS workforce. In particular this training needs to address the identified barriers in order to improve clinician confidence and utilisation. Without these efforts to adapt training opportunities, it is likely that young people who have experienced trauma will continue to receive a provision that does not meet clinical guideline expectations (Borah et al., 2017).

Direction for Future Research

This study set out to the explore the impact of clinician and service user characteristics on the implementation of evidence-informed interventions for trauma. However, unfortunately there was not scope within the study to consider the impact of these factors on the effectiveness of the interventions. Guidelines published by NICE have recommended further research assesses the differential effects of treatment effectiveness based on the age of the young person and the nature of the trauma (NICE, 2013). Further exploration of the clinician factors impacting treatment effectiveness for this population would also support the development of more comprehensive training and dissemination efforts.

In the second phase of the study we started to explore the impact of service user characteristics on the use of evidence-informed interventions. As per NICE guideline recommendations, the age of the child and the nature of the trauma were considered. However, these were only preliminary investigations exploring these factors using case vignettes. Further research should seek to explore clinical decision making based on these factors within clinical settings.

In addition, given that the current study was limited to clinicians working in the UK, further research should seek to compare the results to those of healthcare settings worldwide to determine whether the same barriers and facilitators are present.

A final consideration for future research and clinical practice is the introduction of the diagnosis of Complex PTSD (cPTSD; WHO, 2018). Complex PTSD has been included as a diagnosis in the revision of the International Classification of Diseases and Related Health Problems as a sibling disorder to PTSD, comprising a similar but distinct symptomology. Complex PTSD describes an emotional disorder experienced by those who have experienced enduring and repeated trauma, as opposed to a single traumatic event (Brewin et al., 2017). This suggests that PTSD and cPTSD are separate disorders characterised by different antecedents and differing levels of impairment (Cloire, Garvent, Brewin, Brayant & Maercker, 2013). Due to the subtle differences and added complexities of these differing diagnoses, it is likely that going forward the treatment guidelines will also differ (Chorpita et al., 2013). Therefore, future research should explore this in line with future guidelines to ensure that evidence-informed interventions are being delivered consistently and appropriately for each population.

Conclusion

Overall the primary predictors of clinicians' use of evidence-informed interventions for the treatment of PTSD in children and young people were ongoing training and supervision. The receipt of training and supervision improved clinician confidence and addressed some of the key barriers identified within the literature. In addition, higher levels of confidence and endorsement of evidence-informed interventions were found in specific professions, particularly those in which training and supervision are routinely offered as a part of the professional ethos. These findings, combined with evidence suggesting a lack of training opportunities being offered to clinicians,

demonstrate the need for trauma-focused continued professional development addressing the recognition, assessment and treatment of PTSD while addressing common barriers and myths.

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Appendices

Appendix A

Author Guidelines for Clinical Psychology Review

CLINICAL PSYCHOLOGY REVIEW

AUTHOR INFORMATION PACK

TABLE OF CONTENTS

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Appendix B

Author Guidelines for Behaviour, Research and Therapy

ELSEVIER

BEHAVIOUR RESEARCH AND THERAPY

AUTHOR INFORMATION PACK

TABLE OF CONTENTS

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DESCRIPTION

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

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Reference to a website:
Cancer Research UK. Cancer statistics reports for the UK. (2003). http://www.cancerresearchuk.org/aboutcancer/statistics/cancerstatsreport/ Accessed 13 March 2003.
Reference to a dataset:
[dataset] Oguro, M., Imahiro, S., Saito, S., Nakashizuka, T. (2015). *Mortality data for Japanese oak wilt disease and surrounding forest compositions*. Mendeley Data, v1. https://doi.org/10.17632/xwj98nb39r.1.
Reference to a conference paper or poster presentation:

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

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Appendix C

Chapter 1. Systematic Review: Full Search Terms

The full search terms were identified through initial scoping searches of the literature to locate any alternative terminology.

Mental health profession* OR clinician* OR therapist* OR health provider* OR clinical practice OR psychologist* OR practitioner* OR psychiatrist* OR worker* OR nurse*

AND

PTSD OR post-traumatic stress* OR post traumatic stress* OR posttraumatic stress* OR trauma*

AND

Evidence based practice * OR evidence-based practice* OR treatment* OR exposure* OR cognitive therap* OR CBT OR cognitive behavioural therapy* OR trauma-informed OR trauma-focused

AND

Belief* OR perception* OR barrier* OR facilitator* OR enabler* OR adherence* OR preference* OR decision* OR attitude* OR credibility* OR deliver* OR confidence* OR implement*

Appendix D

Chapter 1. Systematic Review: Reasons for Exclusion

Table A1. Reasons for Exclusion

Author	Year	Reason for Exclusion
Wiltsey Stirman et al.	2013	Does not include barriers/facilitators
Staudt & Williams-Hayes	2011	Does not include barriers/facilitators
Murphy, Archard, Regel & Joseph	2013	Does not include barriers/facilitators
Scott, Schobitz, Grace & Patterson	2015	Does not include barriers/facilitators
Rousseau, Measham & Nadeau	2012	Does not include barriers/facilitators
Becker, Darius & Schaumberg	2007	Other stakeholder perspective (patient)
Black & Weinreich	2001	Does not include barriers/facilitators
Sprang & Craig	2015	Does not include barriers/facilitators
Price et al.	2015	Other stakeholder perspective (patient)
Martsolf, Chan Osilla, Mandel, Hepner & Farmer	2016	Does not include barriers/facilitators
Matarazzo, Signoracci, Brenner & Olson-Madden	2016	Not trauma related
Morgan, Reavley & Jorm	2014	Does not include barriers/facilitators
Toth & Manly	2011	Literature Review
Cook, Schnurr & Foa	2004	Literature Review
Lang, Campbell, Shanley, Crusto & Connell	2016	Does not include barriers/facilitators
Foa, Gillihan & Bryant	2013	Literature Review
Cook, Dinnen, Thompson, Simiola & Schnurr	2014	Does not include barriers/facilitators

Allen, Wilson & Armstrong	2014	Does not include barriers/facilitators
Wenji, Turale & Petrini	2015	Does not include barriers/facilitators
Litt	2013	Literature Review
Cohen, Roer-Strier, Menachem, Finger-Amitai & Israeli	2015	Does not include barriers/facilitators
Finley et al	2017	Does not include barriers/facilitators
Straiht & Bolman	2016	Does not include barriers/facilitators
Barber, Triffleman & Marmar	2007	Literature Review
Kerns et al	2016	Does not include barriers/facilitators
Frueh, Grubaugh, Cusack & Elhai	2009	Does not include barriers/facilitators
Chard, Ricksecker, Healy, Bradley, Karlin & Resick	2012	Does not include barriers/facilitators
Cook, Walser, Kane, Ruzek & Woody	2006	Does not include barriers/facilitators
Karlin et al	2010	Does not include barriers/facilitators
Woody, Anderson, D'Souza, Baxter & Schubauer	2015	Does not include barriers/facilitators
Adams et al	2013	Does not include barriers/facilitators
Courtney	2016	Does not include barriers/facilitators
Lee et al	2004	No mental health professionals
Rassin et al	2007	No mental health professionals
Murray	2017	Does not include barriers/facilitators
Wonderlich et al	2011	Does not include barriers/facilitators
Garcia, McGeary, Finley, Ketchum, McGeary & Peterson	2015	Does not include barriers/facilitators

Allen & Berlinger	2015	Case Study
Van den berg	,,2016	Does not include barriers/facilitators
Pemberton, Conners-Burrow, Sigel, Sievers, Stokes & Kramer	2017	Does not include barriers/facilitators
Munro, Freeman & Law	2004	Does not include barriers/facilitators
Gifford et al.	2012	Does not include barriers/facilitators
Kenny, Vazquez, Long & Thompson	2017	Does not include barriers/facilitators
Goldman Fraser et al.	2014	Does not include barriers/facilitators
Zayfert & Black	2000	Does not include barriers/facilitators
Stirman et al.	2017	Study Protocol
Baweja, Santiago, Vona, Pears, Langley & Kataoka	2016	No mental health professionals
Fritz, Tempel, Sigel, Conners-Burrow, Worley & Kramer	2013	Does not include barriers/facilitators
Barnett, Rosenberg, Rosenberg, Osofsky & Wolford	2014	Other stakeholder perspective (patient)
Rosen et al.	2017	Does not include barriers/facilitators
Boscarino et al	2010	No mental health professionals
Shafran et al.	2009	Literature Review
Hanson et al.	2014	Does not include barriers/facilitators
Devilly & Huther	2008	Does not include barriers/facilitators
Fitzgerald, Henriksen & Garza	2012	Does not include barriers/facilitators
Banh, Saxe, Mangione & Horton	2008	No mental health professionals
Forbes et al.	2010	Does not include barriers/facilitators
Link & Smith	2017	No mental health professionals

Green et al.	2011	No mental health professionals
Gore Fenton, Koopman, Thoresen, Arnow, Bridges & Spiegel	2000	Does not include barriers/facilitators
Dye & Roth	1990	Does not include barriers/facilitators
Brown, Baker, Wilcox	2012	Does not include barriers/facilitators
Sigel et al.	2013	Does not include barriers/facilitators
Allen & Armstrong Hoskowitz	2017	Does not include barriers/facilitators
Vrapa, Campbell & Clay	2012	Other stakeholder perspectives
Meredith et al.	2009	No mental health professionals
Goodson, Helstrom, Marino & Smith	2017	Does not include barriers/facilitators
Dorahy et al.	2017	Does not include barriers/facilitators
Frueh, Monnier, Grubaugh, Elhai Yim & Knapp	2007	Does not include barriers/facilitators
Ormhaug, Shirk & Wentzel-Larsen	2015	Does not include barriers/facilitators
Hamblen et al.	2015	Does not include barriers/facilitators
Eftekhari et al.	2015	Does not include barriers/facilitators
Russel & Silver	2007	Does not include barriers/facilitators
Alisic et al.	2017	No mental health professionals
Conners-Burrow et al.	2013	Does not include barriers/facilitators
Schnyder, Valach & Hofer	1996	Does not include barriers/facilitators
Amaya-Jackson & DeRosa	2007	Literature Review
Cloitre et al.	2011	Does not include barriers/facilitators
Laska, Smith, Wislocki, Minami & Wampold	2013	Does not include barriers/facilitators
Wilk et al.	2013	Does not include barriers/facilitators

Lu et al.	2012	Does not include barriers/facilitators
Allen & Johnson	2012	Does not include barriers/facilitators
Rosen et al.	2004	Does not include barriers/facilitators
Hamblen et al.	2015	Other stakeholder perspectives
Cook et al.	2014	Other stakeholder perspectives
Lewandowski	1995	No mental health professionals
Van Minnen & Keijsers	2000	Does not include barriers/facilitators
Chung et al.	2012	No mental health professionals
Meier	2015	Not trauma related
Cook, Schnurr, Biyanova & Coyne	2009	Not trauma related
Van den Akker, Mol, Metsemakers, Dinant & Knottnerus	2001	No mental health professionals
Cook, Biyanova & Coyne	2009	Not trauma related
Stirman et al.	2013	Not trauma related
Thompson Lastad et al.	2017	Does not include barriers/facilitators
Williams & Smith	2017	Does not include barriers/facilitators
Ruzek et al.	2016	Does not include barriers/facilitators
Hoagwood & Eaton	2007	Other stakeholder perspectives
Najavits	2005	Not trauma related
Beidas et al.	2016	Other stakeholder perspectives
Osei-Bonsu et al.	2016	Does not include barriers/facilitators
Kassam Adams et al.	2015	No mental health professionals
Spinazzola & van der Kolk	2005	Does not include barriers/facilitators
Hamblen, Norris, Gibson & Lee	2010	Does not include barriers/facilitators

Appendix E

Systematic Review Quality Appraisals

Table A2. Quality Appraisal Scores

Study	Quality Rating
Adams et al. (2016)	Strong
Allen & Crosby (2014)	Strong
Allen et al. (2012)	Strong
Barnard-Thompson et al. (1999)	Average
Barnett et al. (2014)	Strong
Becker et al. (2004)	Strong
Borah et al. (2013)	Average
Borah et al. (2017)	Strong
Cook et al. (2015)	Strong
Czincz & Romano (2013)	Strong
David & Schiff (2015)	Strong
David & Schiff (2017)	Strong
Donisch et al. (2016)	Strong
Frueh et al. (2006)	Strong
Gray et al. (2007)	Strong
Hipol & Deacon (2012)	Strong
Hundt et al. (2016)	Strong
Kane et al. (2016)	Strong
Kirst et al. (2017)	Strong
Kolko et al. (2009)	Strong
Langley et al. (2010)	Strong
Marques et al. (2016)	Strong
Najavits (2002)	Average
Najavits et al. (2006)	Strong
Najavits et al. (2011)	Average
Padmanabhanunni et al. (2017)	Strong
Richards et al. (2017)	Strong
Ruzek et al. (2014)	Strong
Ruzek et al. (2017)	Strong
Salyers et al. (2004)	Strong
Sprang et al. (2008)	Strong
Trottier et al. (2017)	Average
van Minnen et al. (2010)	Strong
Watts et al. (2014)	Strong

Appendix F
Systematic Review Sample Characteristics

Table A3. Sample Characteristics

Study	Location	Sample Size	Gender	Age	Profession	Highest Education
Becker et al. (2004)	USA	246	Not reported	Not reported	100% Clinical Psychologists	Not reported
Salyers et al. (2004)	USA	271	70.1% Female 29.9% Male	Mean 38	40.7% Social Work 6.1% Sociologist 4.9% Nursing 35% Clinical Psychologists 1.2% Psychiatrists 2.4% Educators 9.8% Other	1.3% High School 4% College 3.2% Associate degree 1.6% Nursing dip. 57.6% BSc 30% Masters 2.4% Doctoral
Kane et al. (2016)	Africa	19	Not reported	Not reported	15.8% Psychiatrists 21% Psychosocial couns. 21% Social Worker 15.8% Clinical Officer 15.8% Psychiatric Nurse 10.5% NGO Workers	Not reported
Donisch et al. (2016)	USA	126	Not reported	Not reported	Service providers	Not reported
Czincz & Romano (2013)	Canada	231	71.9% Female 28.1% Male	64.9% aged 41-60	100% Clinical Psychologists	86.2% doctoral degree
Allen et al. (2012)	USA	240	86% Female 14% Male	Mean 44.3	35% Social Work 38% Counselling 21% Clinical Psychologists 6% Other	3% less than MSc 79% Masters 18% Doctoral
Adams et al. (2016)	USA	138	79.7% Female	Mean 42.9	22.5% Clinical Psychology 37% Couns. Psychology	22.5% Doctoral 72.5% Masters

			20.3% Male		3.6% Ed. Psychology 26.1% Social Work 2.9% Family Therapy 1.4% Pastoral 6.5% Medicine & other	0.7% BSc 3.6% MD 8.7% Cert. substance 0.7% Other
Frueh et al. (2006)	USA	33	79% Female 21% Male	Not reported	65% Clinical Psychologists 29% Social Workers 6% Other	Not reported
Kolko et al. (2009)	USA	401	77.9% Female 22.1% Male	Mean 40.5	40.3% Social Worker 29% Clinical Psychologist 24.3% Counsellor 3% Medicine 3.5% Other	6% Bachelors 71.4% Masters 18.4% Doctoral 4.3% MD
Hipol & Deacon (2012)	USA	51	60.8% Female 39.2% Male	Mean 53.6	29.4% Psychologist 27.5% Counsellors 25.5% Social Workers 11.8% Psychotherapists 3.9% Psychiatrists 2% Family Therapists	60.8% Masters 35.3% Doctoral 3.9% MD
Langley et al. (2010)	USA	35	74.3% Female 25.7% Male	Not reported	37% Social Work 15% Family Therapy 17% School Psychologist 14% Clinical Psychologist 8% Counsellor 4% School nurse	Not reported
Sprang et al. (2008)	USA	808	67% Female 33% Male	Mean 45.2	7.6% Psychiatrist 16.6% Psychologist 48.7% Social Worker 7.8% Family Therapist 13.2% Counsellors 1.7% Substance use worker 1.7% Nursing	69.6% Masters 17.6% Doctorate 8.1% MD 4.7% less than masters

Ruzek et al. (2014)	USA	1275	66.6% Female 33.4% Male	Not reported	55.8% Psychologist 37.5% Social Work 6.7% Other	Not reported
Watts et al. (2014)	USA	30	Not reported	Not reported	Mental health service line chief, PTSD clinic lead, PTSD therapists	Not reported
Borah et al. (2013)	USA	103	Not reported	Not reported	Military behavioural health provider	Not reported
David & Schiff (2015)	USA	29	83.3% Female 16.7% Male	Not reported	Psychology, Social Work, Psychiatry (figures not reported)	Not reported
Padmanabhanunni et al. (2017)	Africa	60	73.3% Female 26.7% Male	Mean 42.02	33.3% Counsellors 45% Clinical Psychologist 21.7% Social Work & Counselling	Not reported
Ruzek et al. (2017)	USA	743	65.6% Female 34.4% Male	Not reported	59.1% Psychologist 35.1% Social Workers 5.8% Other	Not reported
Barnett et al. (2014)	USA	26	50% Female 50% Male	Not reported	50% Psychiatrist 23% Primary care staff 8% Nurse 11% Physician assistant 8% Pharmacist	Not reported
Marques et al. (2016)	USA	28	81.5% Female 18.5% Male	Mean 41.8	37% Social worker 21.6% Trainee 18.5% Psychiatrist 11.1% Psychologist 3.7% Nurse	Not reported
Borah et al. (2017)	USA	49	Not reported	Not reported	43.5% Social Workers 10.9% Psychologists 9.9% Counsellors	67.4% masters 25.8% doctorate
Gray et al. (2007)	International	461	69% Female	Mean 46.9	58% Psychologists	49.1% PhD

			31% Male		12.6% Social Workers 8.5% Psychiatrists 7.8% Other	7.8% Doctoral 8.7% MD 28.7% Masters 5.7% BSc
Allen & Crosby (2014)	USA	256	86% Female 14% Male	Mean 44.3	38% Counsellor 36% Social Worker 21% Psychologist	79% Masters
Hundt et al. (2016)	International	185	71.4% Female 28.6% Male	44.9% 30-39	Not reported	55.3% PhD 16.2% PsyD 15.6% MA 7.8% Trainee 5.1% Other
van Minnen et al. (2010)	Scandinavia	255	65.5% Female 34.5% Male	Mean 48.8	45.9% Psychologist 12.5% Psychiatrist 14.9% Social Work & nursing 26.7% Other	Not reported
Najavits et al. (2011)	USA	205	Not reported	Not reported	43.9% Psychologist 20.7% Social Worker 14.6% Counsellor 9.3% Psychiatrist 6.8% Nurses	Not reported
Najavits (2002)	USA	147	61.9% Female 38.1% Male	Mean 44.2	29.9% Social Workers 27.9% Counsellors 3.4% Pastoral Counsellor 6.12% Nurses 3.4% Physicians 11.6% Other	15% MSc 10.2% PhD
Cook et al. (2015)	USA	198	63.6% Female 36.4% Male	Not reported	55.6% Psychologist 33.3% Social Worker 5.6% Nurses 2.5% Psychiatrist	Not reported

					3% Other	
Trottier et al. (2017)	Canada	184	Not reported	Not reported	Two samples – see paper	Not reported
Najavits (2006)	USA	133	72.8% Female 27.2% Male	Mean 43.2	28.6% Social Workers 20.3% Counsellor 24.1% Psychologist 9.8% Nurses 1.5% Psychiatrist 18.1% Other	Not reported
Kirst et al. (2017)	Canada	13	83% Female 17% Male	Not reported	25% managers 50% frontline staff 25% research expert	67% completed school
Barnard-Thompson et al. (1999)	Canada	189	58% Female 42% Male	Mean 32	Not reported	Not reported
David & Schiff (2017)	USA	77	94.8% Female 5.2% Male	Mean 48.5	36.4% Social Worker 52% Psychologist 2.6% Psychiatrist 2.6% Art therapist 6.4% Other	1.3% BA 77.9% MA 16.9% PhD 3.9% MD
Richards et al. (2017)	USA	352	80% Female 20% Male	Mean 51.9	30.7% Counsellor 37.8% Social Worker 22.7% Psychologist 3.4% Psychiatrist 5.4% Other	Not reported

Appendix G

NICE Guidelines for PTSD: Treatment for Children and Young People (NICE, 2018).

Treatment for children and young people

1.6.6 Consider individual trauma-focused CBT for children aged under 7 years with a diagnosis of PTSD r clinically important symptoms of PTSD more than 1 month after a traumatic event.

1.6.7 Consider individual trauma-focused CBT for children aged 7 to 17 years within 1 to 3 months of a traumatic event with a diagnosis of PTSD or clinically important symptoms of PTSD.

1.6.8 Offer individual trauma-focused CBT to children and young people aged 7 to 17 years with a diagnosis of PTSD or clinically important symptoms of PTSD more than 3 months after a traumatic event.

1.6.9 Trauma-Focused CBT for children and young people should:

- Be based on a validated manual
- Typically be provided over 6 to 12 sessions
- Be adapted to the child or young person's age and development
- Involve parents or carers as appropriate
- Include psychoeducation about reactions to trauma, strategies for managing arousal and safety planning
- Involve elaboration and processing of the trauma memories
- Involve restructuring trauma-related meanings for the individual
- Provide help to overcome avoidance
- Prepare them for the end of treatment

- Including planning booster sessions if needed, particularly in relation to significant dates (for example, trauma anniversaries).

1.6.10 Consider eye movement desensitisation and reprocessing (EMDR) for children and young people aged 7 to 17 years with a diagnosis of PTSD or clinically important symptoms of PTSD more than 3 months after a traumatic event only if they do not respond to or engage with trauma-focused CBT.

Appendix H

Procedure Flowchart

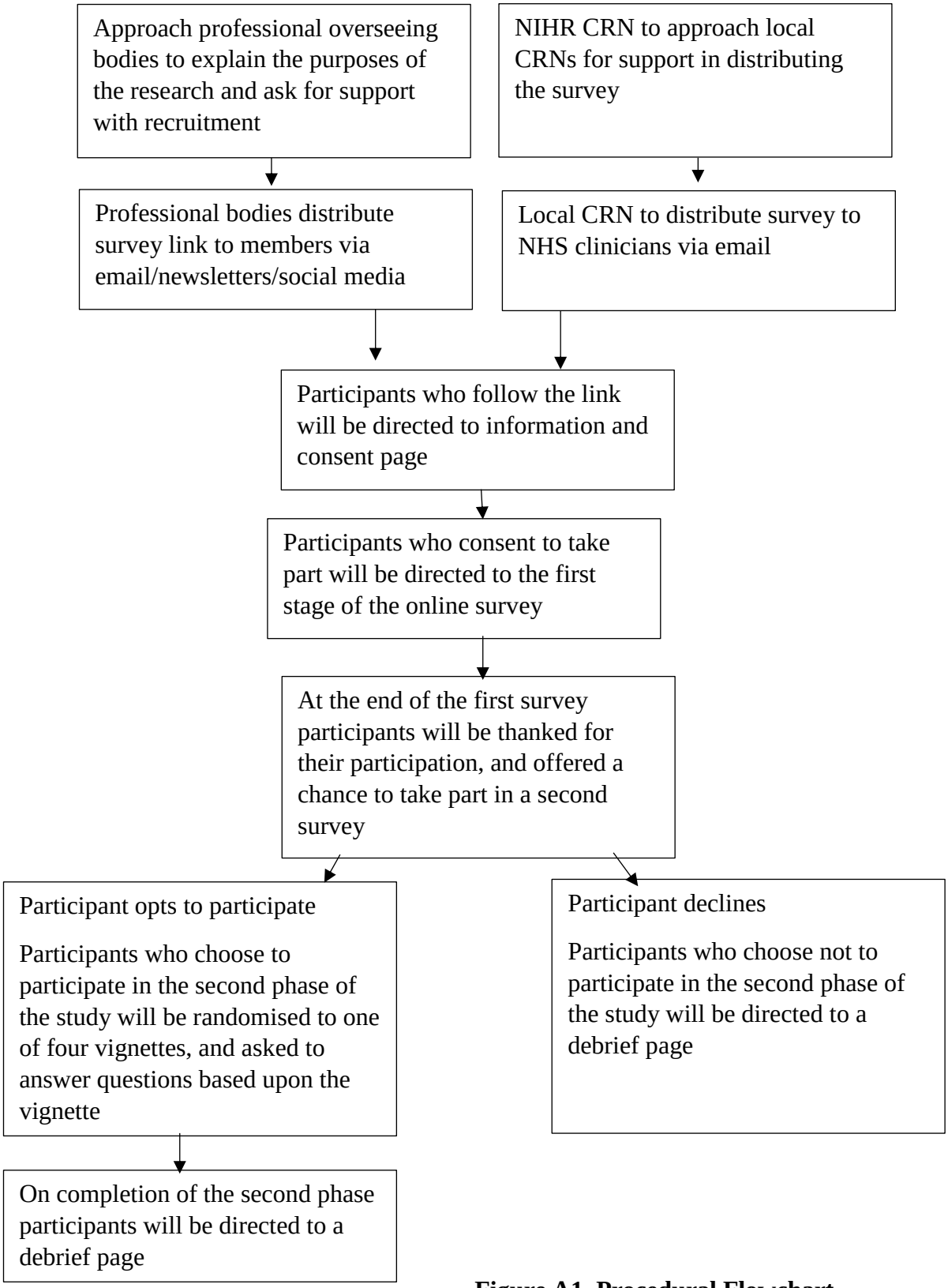

Figure A1. Procedural Flowchart

Appendix I

Participant Information Sheet

Norwich Medical School
Postgraduate Research Office 2.30
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University of East Anglia
Norwich Research Park
Norwich
NR4 7TJ
Email: clinpsyd@uea.ac.uk
Tel: +44 (0) 1603 593076
Fax: +44 (0) 1603 591132

Title of Project: Post-Traumatic Stress Disorder in Childhood: A Survey of the Training Needs of Clinicians and Predictors of Evidence-Based Practice

Name of Researcher: Jodie Finch
Primary Supervisor: Dr. Richard Meiser-Stedman
Secondary Supervisor: Dr. Catherine Ford

We are researchers at the University of East Anglia, and we would like to invite you to take part in a study exploring the training and supervision of clinicians working with children and adolescents with Post-Traumatic Stress Disorder, and the treatment strategies that are regularly used in routine clinical practice. This research study is being conducted as part of an educational qualification (Doctoral Programme in Clinical Psychology, University of East Anglia).

This information page is to help you decide if you would like to take part. Please read this page carefully, and feel free to discuss this with others if you wish. If there is anything that is not clear, or you would like to know more, please contact Jodie Finch via email at Jodie.Finch@uea.ac.uk.

What is the study about?
Post-Traumatic Stress Disorder (PTSD) is a deeply debilitating condition, experienced by high numbers of children and young people. PTSD in young people has been found to be linked with a wide range of negative emotional, behavioural and social outcomes. However, little evidence currently exists concerning the training and supervision needs of clinicians working with this population.

To determine the training and supervision needs, and the most appropriate treatment strategies, it is important that we establish the current provision being offered. In addition,

it is important for us to identify any barriers or facilitators to good practice with this population.

Why have I been invited?
You have been invited to take part because you are a clinician working in child and adolescent mental health services.

Do I have to take part?
No, you do not have to take part in this study. If you decide that you do not wish to take part this will not affect your employment or legal rights in any way.

What will the study involve?
If you decide to take part in the research, you will be invited to complete a survey exploring your experiences of training and supervision in relation to Post-traumatic stress disorder. The survey will also examine the treatment strategies that you regularly use in your routine practice when working with children and adolescents who meet the criteria for Post-Traumatic Stress Disorder.

What will happen if I decide not to carry on with the study?
That is fine, and it will not affect you in any way.

What are the potential disadvantages of taking part?
The survey will take approximately five minutes of your time to complete. There are no known risks to taking part in this study.

What are the potential benefits of taking part?
There is no guaranteed benefit to participating in this study. However, by taking part in the study you will be helping us to identify the current training and supervision provision that is being offered to clinicians working in child and adolescent mental health services. This will allow us to identify any training and supervision needs. In addition, your participation will allow us to develop an understanding of the current treatment strategies being used with this population.

Will the data provided by myself be kept confidential?
All privacy laws and procedures will be followed during all elements to this study. Information collected from you during the study will be kept confidential and safe, although we may have to break confidentiality if you tell us something that puts yourself or others at risk from harm. Only members from the research team will have access to your data.

Electronic data will be stored on a UEA approved password protected encrypted memory stick and an encrypted UEA server, and any information that is in paper form will be stored in a locked filing cabinet at the University of East Anglia. None of the information that you provide us will be attached to your name, and the results from the study will not be linked to any identifiable information. When the study has finished data which has only

been collected for the purpose of this research will be stored in a locked cupboard and destroyed after 10 years.

Who has reviewed the study?
This study has been reviewed and approved by the University of East Anglia Faculty of Medicine and Health Sciences Research Ethics Committee. Research Ethics Reference: 2017/8 – 7.

What will happen to the results of this study?
The results from the study will be published into an academic journal. Nobody who takes part in the study will be identifiable.

What if there is a problem?
If you have any concerns about any aspects of the research, you can contact the research supervisor Dr. Richard Meiser-Stedman via email on R.Meiser-Stedman@uea.ac.uk. If you have any further problems or complaints about the study then please contact Professor Ken Laidlaw, Director of the Doctorate of Clinical Psychology Programme at the University of East Anglia by email K.Laidlaw@uea.ac.uk or telephone 01603 593600.

What happens next?
If you decide to take part in the study you will need to read the consent statement below and provide your consent to participate. You can do this by clicking the link to the study below. Please take your time to think about whether you would like to do this and please ask any questions that you have.

How do I find out more?
If you would like to know more about the study, please contact Jodie Finch, Trainee Clinical Psychologist via email at Jodie.Finch@uea.ac.uk

Thank you for reading this information.

Appendix J

Participant Consent Statement

Statement of Consent

Norwich Medical School
Postgraduate Research Office 2.30
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Norwich Research Park
Norwich
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Email: clinpsyd@uea.ac.uk
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Fax: +44 (0) 1603 591132

Title of Project: Post-Traumatic Stress Disorder in Childhood: A Survey of the Training Needs of Clinicians and Predictors of Evidence-Based Practice

Statement of consent:

- I confirm that I have read the participant information above for the research study. I have had the opportunity to consider the information, ask any questions that I have and have had these answered satisfactorily.
- I understand that my participation in the study is voluntary and that I am free to withdraw at any time without giving any reason, without my employment or legal rights being affected.
- I consent to the storage and processing of my personal information for the purposes of this and future research studies. I understand that such information will be treated as strictly confidential and handled in accordance with the Data Protection Act 1998.
- I agree to take part in the above study.

If you would like to participate in the study, and agree with the statements above, please click the link below to be directed to the survey.

Appendix K

Clinician Survey

Demographic and Employment Information, Training and Supervision, Treatment Approaches

Please indicate your age out of the following categories:

- 18-25
- 26-35
- 36-45
- 46-55
- 56-65
- 66-75
- 76+

What is your gender?

- Female
- Male
- Other (specify) _____

What is the highest level of education you have completed?

- GCSE/BTEC Levels 1-2/NVQ Level 1-2 or equivalent
- A Levels/BTEC Level 3/NVQ Level 3 or equivalent
- Certificate of Higher Education/BTEC Professional Diplomas/NVQ Level 4
- Foundation Degree/Diploma of Higher Education/HND
- Bachelors Degree/PGCE
- Master's Degree/Postgraduate certificate or diploma
- Doctoral Degree

What is your current profession?

- Clinical Psychologist
- Psychiatrist
- Nurse/Mental Health Practitioner
- Occupational Therapist
- Social Worker
- CBT therapist
- Psychotherapist
- Family therapist
- Other (please specify) _____

What kind of employment setting do you currently work in?

- NHS community CAMHS
- NHS specialised inpatient, day patient or outpatient setting
- NHS other (please specify) _____
- 3rd Sector/Private community CAMHS
- 3rd Sector/Private specialised inpatient, day patient or outpatient setting
- 3rd Sector/Private other (please specify) _____
- Education
- GP Practice
- Social Services
- Youth Offending

How many years of experience do you have working in child and adolescent mental health?

- Less than 1
- 1-3
- 3-5
- 5-10
- 10-15
- 15+

What percentage of your caseload (or the young people you work with) do you estimate meet the criteria for post-traumatic stress disorder or have experienced trauma?

- 0-10%
- 11-20%
- 21-30%
- 31-40%
- 41-50%
- 51-60%
- 61-70%
- 71-80%
- 81-90%
- 91-100%

During your professional training, did you receive teaching/training specific to Post-traumatic stress disorder?

- Yes
- No

Since qualifying, have you received training specific to Post-traumatic stress disorder?

- Yes
- No

Has this training included specific information on working with children and adolescents?

- Yes
- No
- N/A

If you answered yes to either of the above questions, please tick any of the following that apply:

- E-learning/Online training
- Training including specific trauma techniques such as exposure, trauma narrative development, relaxation (please specify) _____
- Group tasks/discussions
- Case presentations
- Video examples
- Role play exercises

In your current role, do you receive:

- Supervision specific to the treatment of PTSD
- Routine clinical supervision including time to discuss PTSD cases
- No supervision relating to PTSD

How often do you receive clinical supervision?

- Daily
- Weekly
- Twice a month
- Monthly
- Never
- Other (please specify): _____

On a scale of 1 to 10, where 1 indicates you have no confidence at all, and 10 indicates you feel very confident in your ability, how confident do you feel in recognising PTSD in children and adolescents? _____

On a scale of 1 to 10, where 1 indicates you have no confidence at all, and 10 indicates you feel very confident in your ability, how confident do you feel in treating PTSD in children and adolescents? _____

Would you like to receive additional supervision in the treatment of PTSD in children and adolescents?

- Yes
- No

If yes, please provide a short description, or keywords, of the type of supervision you would like to receive: _____

To what extent would you be likely to use the following treatment approaches to treat PTSD in children and adolescents:

(1 – Extremely Unlikely; 2 – Unlikely; 3 – Neutral; 4 – Likely; 5 – Extremely Likely)

- Trauma-focused Cognitive Behavioural Therapy (TF-CBT)
- Cognitive Behavioural Therapy (CBT)
- Eye Movement Desensitization and Reprocessing (EMDR)
- Compassion Focused Therapy (CFT)
- Exposure Therapy
- Group therapy
- Psychodynamic psychotherapy
- Person-centred therapy
- Cognitive Analytic Therapy (CAT)
- Mindfulness Based Therapy
- Family Therapy
- Psychoeducation
- Case management via Care Coordinator/Lead Care Professional
- Medication
- Development of self-help plan
- Refer for peer support

Appendix L

Participant Information Sheet Phase Two

Norwich Medical School
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Fax: +44 (0) 1603 591132

Title of Project: Post-Traumatic Stress Disorder in Childhood: A Survey of the Training Needs of Clinicians and Predictors of Evidence-Based Practice

Thank you for taking part in this research study. Your information will help us to identify the current training and supervision provided to clinicians working with children and adolescents that meet the criteria for Post-traumatic stress disorder.

To explore the treatment strategies used further, and to consider the potential barriers and facilitators to evidence-based practice within this population, we would like to invite you to participate in a second phase of the research study.

Following completion of the second phase of the study you will be entered into a prize draw for the chance to win a £25 Amazon voucher, to thank you for your time.

You do not have to take part in the second phase of the study. If you choose not to take part, it will not affect your rights or previous participation in any way.

If you decide to take part, you will be shown a case vignette of a young person with post-traumatic stress disorder and asked to answer questions based upon the vignette. This will take approximately ten minutes to complete. There are no known risks to participating.

Please indicate below whether you would like to take part in the second phase of the study.

Appendix M

Case Vignettes

Case study 1

Charlotte is a 7-year-old girl who has been referred for treatment by her GP, following concerns around symptoms of Post-Traumatic Stress Disorder. Six months ago, Charlotte was in a car accident, which resulted in her being in hospital for two weeks due to her injuries. Prior to the car accident, Charlotte had no known social, behavioural or academic problems.

During the past six months, Charlotte's academic performance has deteriorated. She has become increasingly withdrawn from her friends and family, has difficulty concentrating at school, and has frequent angry outbursts in the classroom. Charlotte has become very anxious, and startles easily. Charlottes mother has described how she has difficulty sleeping, and has recurrent nightmares about the trauma.

Charlotte avoids any conversations that remind her of the trauma, and becomes very distressed if the topic is approached with her.

Case study 2

Charlotte is a 13-year-old girl who has been referred for treatment by her GP, following concerns around symptoms of Post-Traumatic Stress Disorder. Six months ago, Charlotte was in a car accident, which resulted in her being in hospital for two weeks due to her injuries. Prior to the car accident, Charlotte had no known social, behavioural or academic problems.

During the past six months, Charlotte's academic performance has deteriorated. She has become increasingly withdrawn from her friends and family, has difficulty concentrating at school, and has frequent angry outbursts in the classroom. Charlotte has become very anxious, and startles easily. Charlottes mother has described how she has difficulty sleeping, and has recurrent nightmares about the trauma.

Charlotte avoids any conversations that remind her of the trauma, and becomes very distressed if the topic is approached with her.

Case study 3

Charlotte is a 7-year-old girl who has been referred for treatment by her GP, following concerns around symptoms of Post-Traumatic Stress Disorder. Six months ago, Charlotte disclosed that a family relative had been sexually abusing her for the past year. Prior to the referral, Charlotte had no known social, behavioural or academic problems.

During the past six months, Charlotte's academic performance has deteriorated. She has become increasingly withdrawn from her friends and family, has difficulty concentrating at school, and has frequent angry outbursts in the classroom. Charlotte has become very anxious, and startles easily. Charlottes mother has described how she has difficulty sleeping, and has recurrent nightmares about the trauma.

Charlotte avoids any conversations that remind her of the trauma and becomes very distressed if the topic is approached with her.

Case study 4

Charlotte is a 13-year-old girl who has been referred for treatment by her GP, following concerns around symptoms of Post-Traumatic Stress Disorder. Six months ago, Charlotte disclosed that a family relative had been sexually abusing her for the past year. Prior to the referral, Charlotte had no known social, behavioural or academic problems.

During the past six months, Charlotte's academic performance has deteriorated. She has become increasingly withdrawn from her friends and family, has difficulty concentrating at school, and has frequent angry outbursts in the classroom. Charlotte has become very anxious, and startles easily. Charlottes mother has described how she has difficulty sleeping, and has recurrent nightmares about the trauma.

Charlotte avoids any conversations that remind her of the trauma and becomes very distressed if the topic is approached with her.

Case Vignette Questions (Online Survey)

Please answer the following questions in relation to the young person in the case vignette that you have just read

To what extent would you be likely to use the following treatment approaches

(1 – Extremely Unlikely; 2 – Unlikely; 3 – Neutral; 4 – Likely; 5 – Extremely Likely)

- Trauma-focused Cognitive Behavioural Therapy (TF-CBT)
- Cognitive Behavioural Therapy (CBT)
- Eye Movement Desensitization and Reprocessing (EMDR)
- Compassion Focused Therapy (CFT)
- Exposure Therapy
- Group therapy
- Psychodynamic psychotherapy
- Person-centred therapy
- Cognitive Analytic Therapy (CAT)
- Mindfulness Based Therapy
- Family Therapy
- Psychoeducation
- Case management via Care Coordinator/Lead Care Professional
- Medication
- Development of self-help plan
- Refer for peer support

Appendix N

Participant Debrief Information

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Fax: +44 (0) 1603 591132

Title of Project: Post-Traumatic Stress Disorder in Childhood: A Survey of the Training Needs of Clinicians and Predictors of Evidence-Based Practice

Thank you for taking part in this research study. Your information will help us to identify the current training and supervision provision offered to clinicians working with children with Post-Traumatic Stress Disorder. This will allow us to identify any further training and supervision needs. In addition, your answers will help us to identify the clinician and service user characteristics that influence treatment strategies when working with this population.

If you have any questions or concerns about the study, you would like to receive a summary of the findings, or you would like to withdraw from the study, please contact Jodie Finch via email at Jodie.Finch@uea.ac.uk.

The results of the study will be shared in a range of formats, such as:

- Publication in academic journals
- Presentation at research conference
- Project reports for associated services and funders

If you have been upset or distressed by taking part in the study, we would advise you to contact us directly, or speak to your GP. You can also call the Samaritans for free on 116 123.

If you have any problems or complaints about the study, please contact the research supervisor, Dr. Richard Meiser-Stedman via email at R.Meiser-Stedman@uea.ac.uk. Additionally, you can contact the Associate Dean for postgraduate research in the Faculty of Health, University of East Anglia via telephone: 01603 456161.

Thank you for your participation.

Appendix O

HRA Approval Letter

NHS
Health Research Authority

Email: hra.approval@nhs.net

Miss Jodie Finch
Department of Clinical Psychology
University of East Anglia
Norwich
NR4 7TJ

28 March 2018

Dear Miss Finch

Letter of HRA Approval

Study title:	**Post-Traumatic Stress Disorder in Childhood and Adolescence: A Survey of the Training Needs of Clinicians and Predictors of Evidence-Based Practice**
IRAS project ID:	**243374**
Sponsor:	**University of East Anglia**

I am pleased to confirm that **HRA Approval** has been given for the above referenced study, on the basis described in the application form, protocol, supporting documentation and any clarifications received. You should not expect to receive anything further from the HRA.

How should I continue to work with participating NHS organisations in England?
You should now provide a copy of this letter to all participating NHS organisations in England, as well as any documentation that has been updated as a result of the assessment.

The HRA has determined that participating NHS organisations in England **will not** be required to formally confirm capacity and capability before you may commence research activity at site. As such, you may commence the research at each organisation immediately following sponsor provision to the site of the local information pack, so long as:

- You have contacted participating NHS organisations (see below for details)
- The NHS organisation has not provided a reason as to why they cannot participate
- The NHS organisation has not requested additional time to confirm.

You may start the research prior to the above deadline if the site positively confirms that the research may proceed.

If not already done so, you should now provide the local information pack for your study to your participating NHS organisations. A current list of R&D contacts is accessible at the NHS RD Forum website and these contacts MUST be used for this purpose. After entering your IRAS ID you will be able to access a password protected document (password: **Spring24**). The password is updated on a monthly basis so please obtain the relevant contact information as soon as possible; please do not hesitate to contact me should you encounter any issues.

Commencing research activities at any NHS organisation before providing them with the full local information pack and allowing them the agreed duration to opt-out, or to request additional time (unless you have received from their R&D department notification that you may commence), is a breach of the terms of HRA Approval. Further information is provided in the "*summary of HRA assessment*" section towards the end of this document.

IRAS project ID	243374

It is important that you involve both the research management function (e.g. R&D office) supporting each organisation and the local research team (where there is one) in setting up your study. Contact details of the research management function for each organisation can be accessed here.

How should I work with participating NHS/HSC organisations in Northern Ireland, Scotland and Wales?
HRA Approval does not apply to NHS/HSC organisations within the devolved administrations of Northern Ireland, Scotland and Wales.

If you indicated in your IRAS form that you do have participating organisations in one or more devolved administration, the HRA has sent the final document set and the study wide governance report (including this letter) to the coordinating centre of each participating nation. You should work with the relevant national coordinating functions to ensure any nation specific checks are complete, and with each site so that they are able to give management permission for the study to begin.

Please see IRAS Help for information on working with Northern Ireland, Scotland and Wales.

How should I work with participating non-NHS organisations?
HRA Approval does not apply to non-NHS organisations. You should work with your non-NHS organisations to obtain local agreement in accordance with their procedures.

What are my notification responsibilities during the study?
The attached document *"After HRA Approval – guidance for sponsors and investigators"* gives detailed guidance on reporting expectations for studies with HRA Approval, including:

- Registration of Research
- Notifying amendments
- Notifying the end of the study

The HRA website also provides guidance on these topics and is updated in the light of changes in reporting expectations or procedures.

I am a participating NHS organisation in England. What should I do once I receive this letter?
You should work with the applicant and sponsor to complete any outstanding arrangements so you are able to confirm capacity and capability in line with the information provided in this letter.

The sponsor contact for this application is as follows:

Name: Miss Jodie Finch
Tel: 01603 876 067
Email: jodie.finch@uea.ac.uk

Who should I contact for further information?
Please do not hesitate to contact me for assistance with this application. My contact details are below.

Your IRAS project ID is **243374**. Please quote this on all correspondence.

Yours sincerely

Michael Higgs
Assessor

Copy to: *Dr Richard Meiser-Stedman, University of East Anglia (Sponsor contact)*
Dr Bonnie Teague, Norfolk and Suffolk NHS Foundation Trust (Lead NHS R&D office)

IRAS project ID	243374

List of Documents

The final document set assessed and approved by HRA Approval is listed below.

Document	Version	Date
Confirmation of any other Regulatory Approvals (e.g. CAG) and all correspondence [Thesis Proposal Feedback]		10 July 2017
Confirmation of any other Regulatory Approvals (e.g. CAG) and all correspondence [Ethics Committee Feedback - Amendments]		02 October 2017
Confirmation of any other Regulatory Approvals (e.g. CAG) and all correspondence [Response to Ethics Committee]		06 October 2017
Confirmation of any other Regulatory Approvals (e.g. CAG) and all correspondence [Ethical Approval UEA FMH]		13 October 2017
Copies of advertisement materials for research participants [Study Advert]	1	05 February 2018
Costing template (commercial projects) [Funding Contract NIHR]		01 August 2016
Evidence of Sponsor insurance or indemnity (non NHS Sponsors only)		03 May 2017
HRA Schedule of Events	1	28 March 2018
HRA Statement of Activities	1	28 March 2018
IRAS Application Form [IRAS_Form_09032018]		09 March 2018
Letter from funder [Thesis Funding Approved Form]		16 January 2018
Letters of invitation to participant [Recruitment Email]	1	22 June 2017
Non-validated questionnaire [Main Survey Questionnaire]	2	31 August 2017
Non-validated questionnaire [Questionnaire Barriers to Evidence Based Practice]	2	31 August 2017
Non-validated questionnaire [Material Case Studies]	1	22 June 2017
Participant consent form [Participant Consent]	1	22 June 2017
Participant information sheet (PIS) [Participant Information Sheet]	2	04 October 2017
Participant information sheet (PIS) [Participant Information End of Phase One]	1	22 June 2017
Participant information sheet (PIS) [Participant Debrief Information]	1	22 June 2017
Research protocol or project proposal	2	04 October 2017
Summary CV for Chief Investigator (CI) [Jodie Finch]		
Summary CV for supervisor (student research) [Richard Meiser-Stedman]		
Validated questionnaire [Professional Quality of Life]	1	04 October 2017

IRAS project ID	243374

Summary of HRA assessment

The following information provides assurance to you, the sponsor and the NHS in England that the study, as assessed for HRA Approval, is compliant with relevant standards. It also provides information and clarification, where appropriate, to participating NHS organisations in England to assist in assessing, arranging and confirming capacity and capability.

HRA assessment criteria

Section	HRA Assessment Criteria	Compliant with Standards	Comments
1.1	IRAS application completed correctly	Yes	No comments
2.1	Participant information/ consent documents and consent process	Yes	No comments
3.1	Protocol assessment	Yes	No comments
4.1	Allocation of responsibilities and rights are agreed and documented	Yes	Formal confirmation of capacity and capability is not expected for this study. A Statement of Activities and Schedule of Events have been provided for the benefit of participating organisations.
4.2	Insurance/indemnity arrangements assessed	Yes	Where applicable, independent contractors (e.g. General Practitioners) should ensure that the professional indemnity provided by their medical defence organisation covers the activities expected of them for this research study
4.3	Financial arrangements assessed	Yes	The study will be funded as part of an NIHR Career Development Fellowship. The sponsor does not intend to make funds available to participating NHS organisations.
5.1	Compliance with the Data Protection Act and data security issues assessed	Yes	No comments
5.2	CTIMPS – Arrangements for compliance with the Clinical Trials Regulations assessed	Not Applicable	No comments
5.3	Compliance with any applicable laws or regulations	Yes	No comments
6.1	NHS Research Ethics Committee favourable opinion received for applicable studies	Not Applicable	This study does not require ethical review by an NHS REC because it is limited to the involvement of staff as participants.

IRAS project ID	243374

Section	HRA Assessment Criteria	Compliant with Standards	Comments
6.2	CTIMPS – Clinical Trials Authorisation (CTA) letter received	Not Applicable	No comments
6.3	Devices – MHRA notice of no objection received	Not Applicable	No comments
6.4	Other regulatory approvals and authorisations received	Not Applicable	No comments

Participating NHS Organisations in England

This provides detail on the types of participating NHS organisations in the study and a statement as to whether the activities at all organisations are the same or different.

There is a single type of participating NHS organisation, i.e. activity at all sites shall be the same. Local service managers will email an invitation to participate to relevant staff groups. NHS staff who are interested in participating would then complete an online questionnaire.

Study documents will not be shared with participating NHS organisations in England because the study is an online questionnaire with limited involvement of local sites. No specific arrangements are expected to be put in place at each organisation to deliver the study.

If chief investigators, sponsors or principal investigators are asked to complete site level forms for participating NHS organisations in England which are not provided in IRAS or on the HRA website, the chief investigator, sponsor or principal investigator should notify the HRA immediately at hra.approval@nhs.net. The HRA will work with these organisations to achieve a consistent approach to information provision.

Principal Investigator Suitability

This confirms whether the sponsor position on whether a PI, LC or neither should be in place is correct for each type of participating NHS organisation in England and the minimum expectations for education, training and experience that PIs should meet (where applicable).

There is no expectation for a principal investigator or local collaborator at NHS sites. GCP training is not a generic training expectation, in line with the HRA/MHRA statement on training expectations.

HR Good Practice Resource Pack Expectations

This confirms the HR Good Practice Resource Pack expectations for the study and the pre-engagement checks that should and should not be undertaken

There are no expectations for pre-engagement checks or access arrangements.

Other Information to Aid Study Set-up

This details any other information that may be helpful to sponsors and participating NHS organisations in England to aid study set-up.

The applicant has indicated that they intend to apply for inclusion on the NIHR CRN Portfolio.

Appendix P

FMH Approval Letter

Faculty of Medicine and Health Sciences Research Ethics Committee

Research & Innovation Services
Floor 1, The Registry
University of East Anglia
Norwich Research Park
Norwich, NR4 7TJ

Email: fmh.ethics@uea.ac.uk

Web: www.uea.ac.uk/researchandenterprise

Jodie Finch
MED

13.10.17

Dear Jodie,

Title: Post-Traumatic Stress Disorder in Childhood and Adolescence: A Survey of the Training Needs of Clinicians and Predictors of Evidence-Based Practice
Reference: 2017/8 - 7

The amendments to your above proposal have been considered by the Faculty Research Ethics Committee and we can confirm that your proposal has been approved.

Please could you ensure that any further amendments to either the protocol or documents submitted are notified to us in advance and also that any adverse events which occur during your project are reported to the Committee. Please could you also arrange to send us a report once your project is completed.

Yours sincerely,

Professor M J Wilkinson
Chair
FMH Research Ethics Committee

CC Richard Meiser-Stedman

Appendix Q

Recruitment Email

Are you a clinician working with children and adolescents?

Would you be interested in taking part in our online research study?

We would like to invite you to take part in an online research study exploring the training and supervision needs of clinicians working with children and adolescents experiencing Post-traumatic stress disorder (PTSD).

To better understand the treatment needs of young people with PTSD and the clinicians working with them, we are conducting an online survey to collect information about the training and supervision currently received, alongside the treatment strategies currently being used.

Taking part would involve completing some questionnaires via an online survey that will take just five minutes to complete.

**********Win a £25 Amazon Voucher**********

Following completion of the initial survey, clinicians will be offered an opportunity to take part in a follow up study, which will enable you to be entered into a prize draw to win a £25 Amazon Voucher!

If you are interested in taking part in our study, please follow the link below.

https://ueapsych.eu.qualtrics.com/jfe/form/SV_72nY5HfdE8QDhs1

If you would like to receive more information, please contact the researcher by email at Jodie.Finch@uea.ac.uk.

Thank you for your time.

Appendix R

Social Media Recruitment Advert

Appendix S

G*Power Output Confidence Regressions

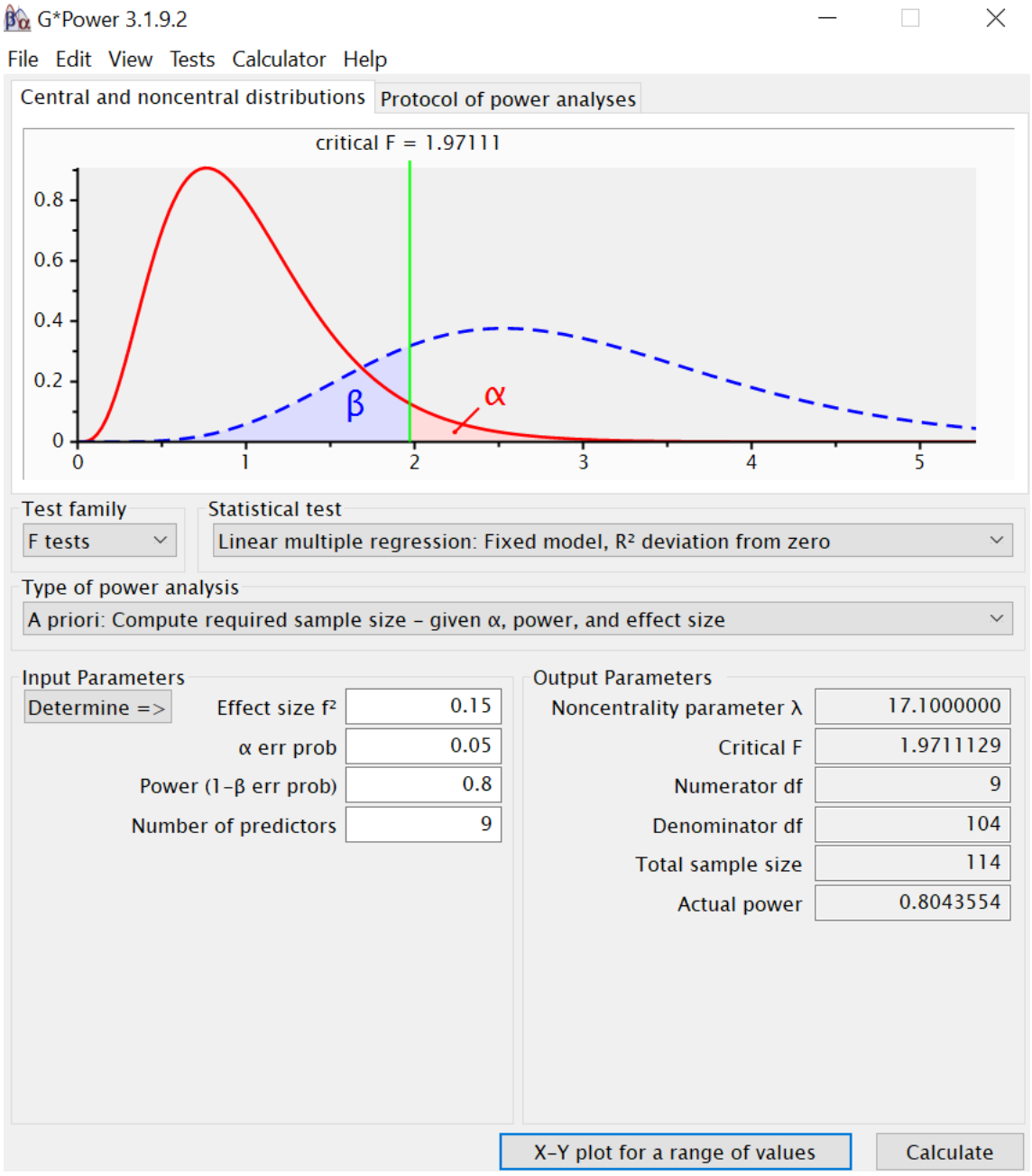

Figure A2. G*Power Output Sample Size Estimate for Confidence Regressions

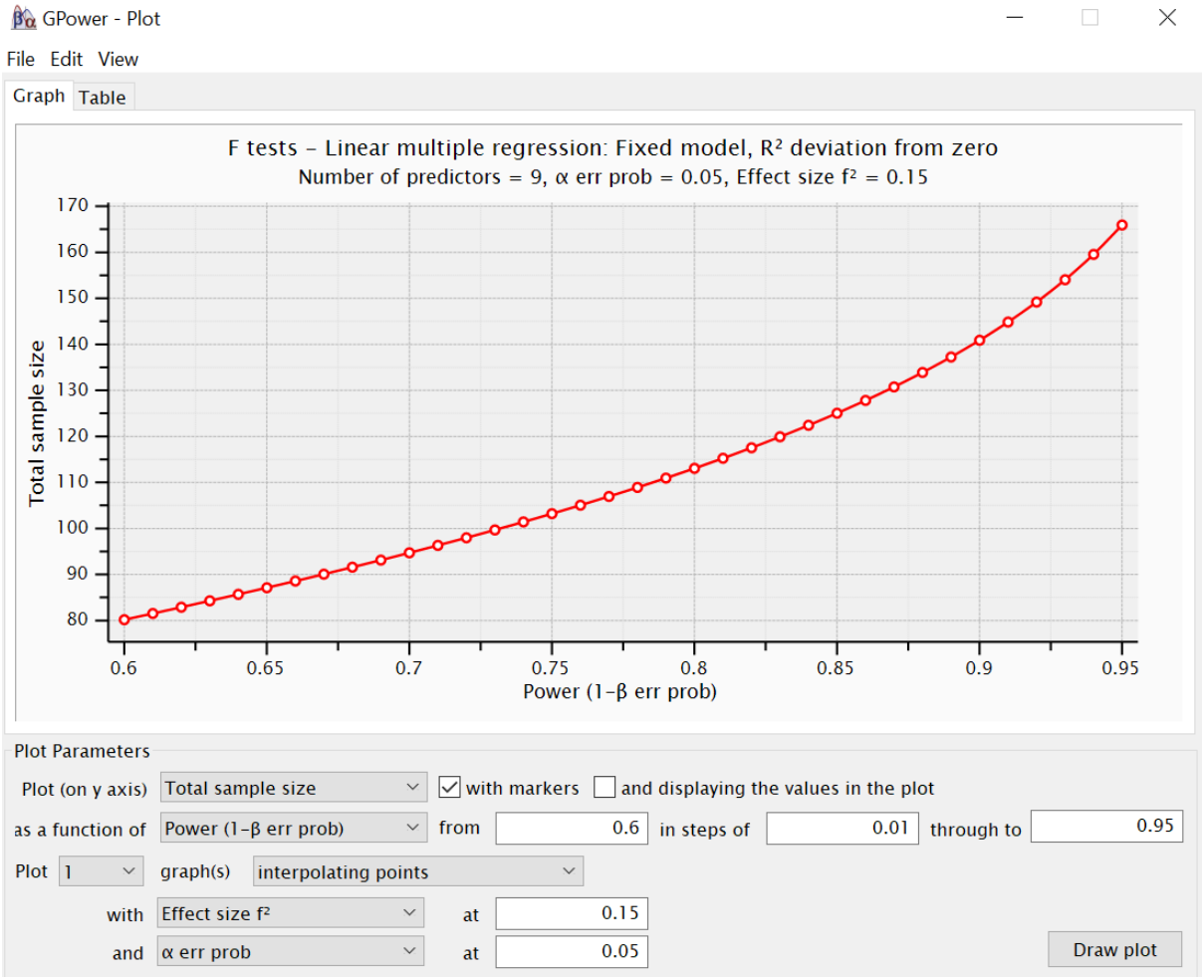

Figure A3. G*Power Plot Sample Size Estimate for Confidence Regressions

Appendix T

G*Power Output Logistic Regressions

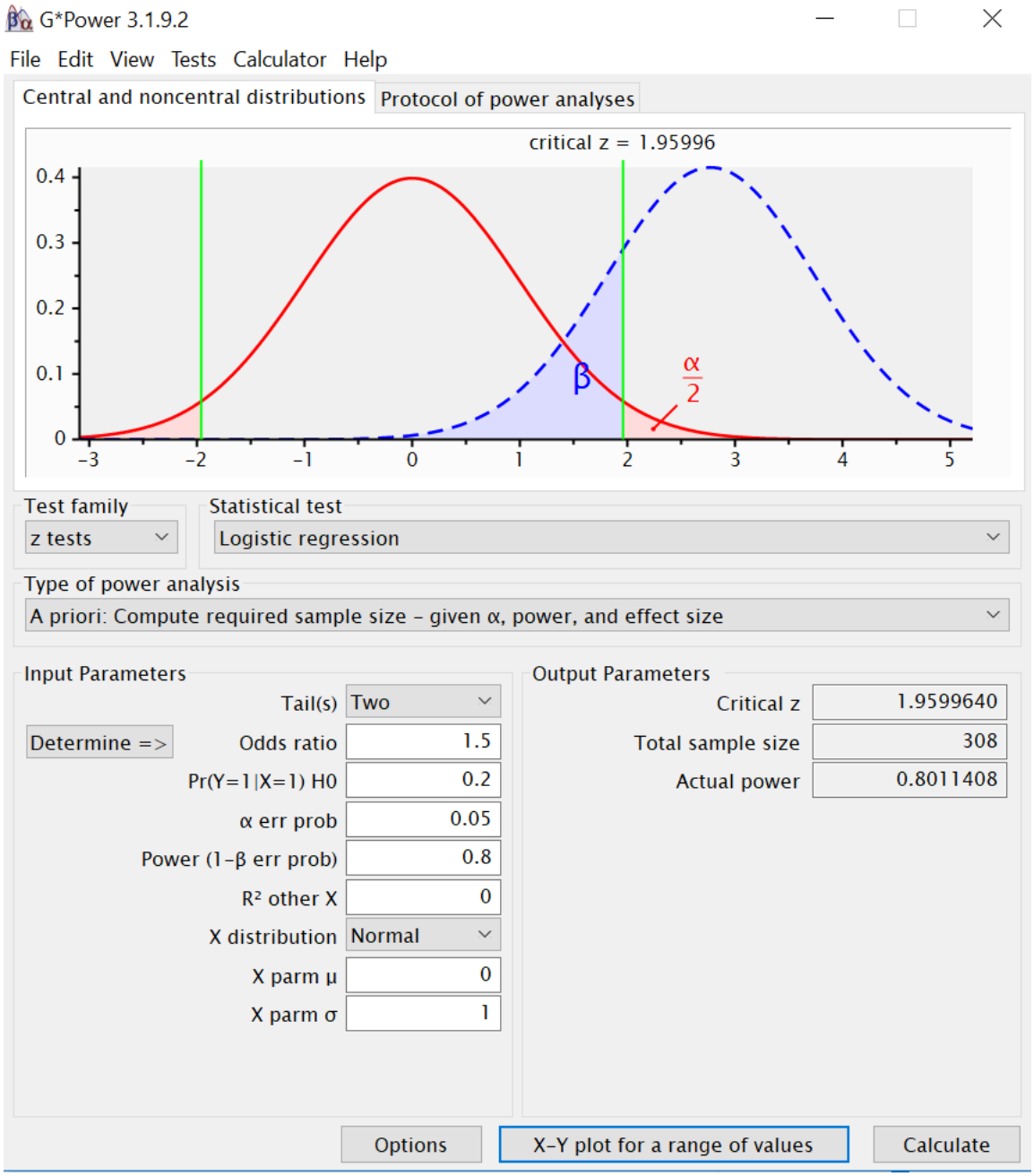

Figure A4. G*Power Output Sample Size Estimate for Logistic Regressions

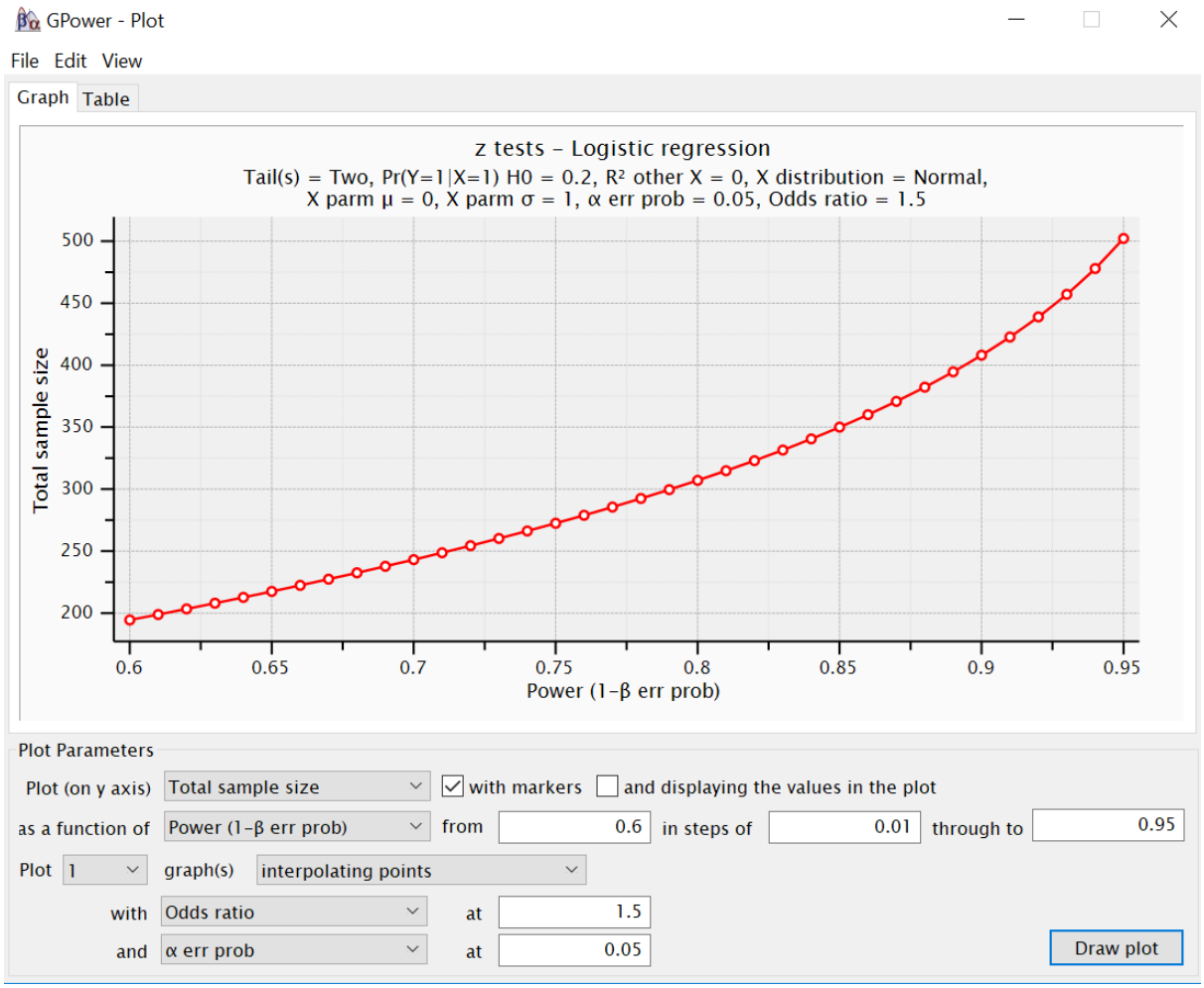

Figure A5. G*Power Plot Sample Size Estimate for Logistic Regressions

Appendix U

G*Power Output Barriers Regression

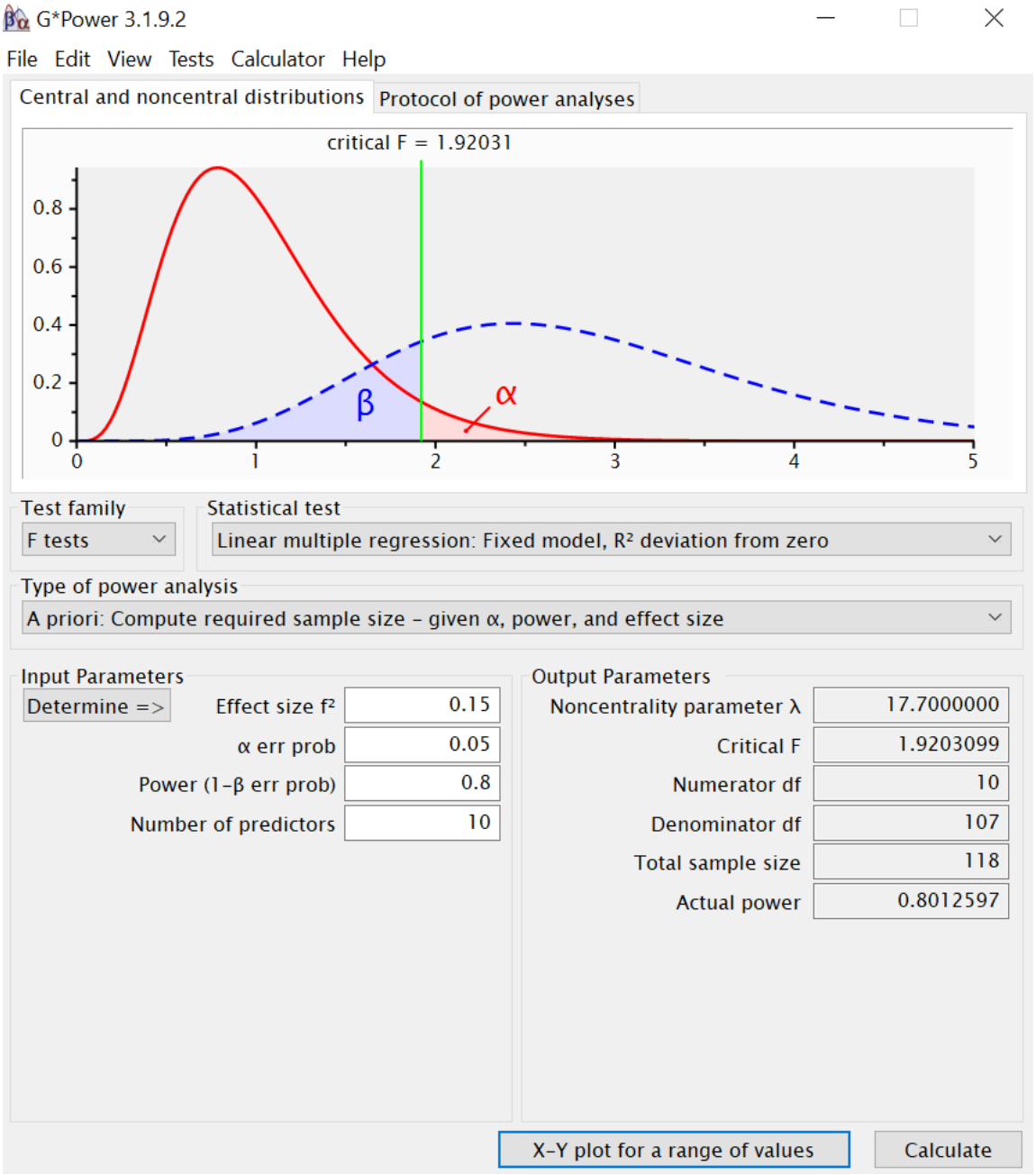

Figure A6. G*Power Output Sample Size Estimate for Barrier Regression

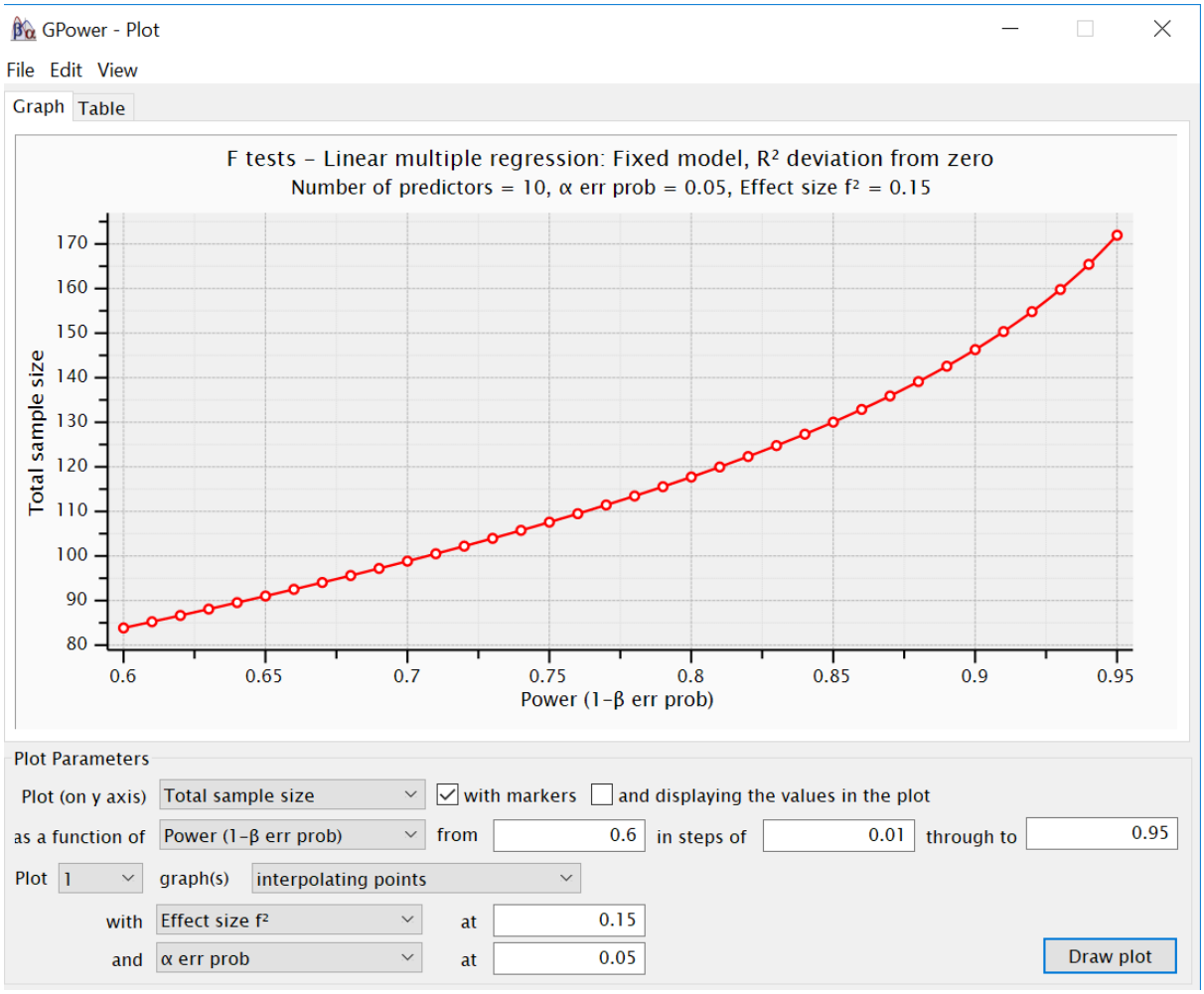

Figure A7. G*Power Plot Sample Size Estimate for Confidence Regressions