Disturbances in Self-Organisation and Trauma Exposure in Children and Young People

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Thesis Portfolio Abstract

Background: Over two-thirds of children worldwide experience trauma (Copeland et al., 2007) with some developing subsequent mental health difficulties following exposure (Alisic et al., 2014; Kessler et al., 2005). Complex Post-Traumatic Stress Disorder (PTSD), a new diagnosis, has been added to the International Classification of Diseases (ICD-11; WHO, 2018) following trauma exposure. It includes three additional symptom criteria: affect dysregulation, negative self-concept, and interpersonal difficulties, known as disturbances in self-organisation (DSO). The thesis portfolio aims to explore DSO in children and adolescents.

Method: A meta-analysis was conducted to understand the relationship between trauma and maltreatment and negative self-concept in children and adolescents. An empirical study sought to explore the psychometric properties of a new measure of DSO and its related correlates using a cross-sectional questionnaire design.

Results: Ninety-five studies were included in the meta-analysis. A small relationship was found between trauma exposure and negative self-concept. Moderator analyses found that type of trauma, multiple trauma exposure, and country's lower socioeconomic status had a larger effect. The empirical paper included 278 adolescents and found good internal consistency and adequate factor structure for the new measure of DSO. DSO was significantly correlated with mood difficulties, lower well-being, and trauma exposure. Regression analysis found that increased DSO symptoms and mood difficulties uniquely contributed to lower well-being.

Conclusions: This thesis portfolio provides valuable understanding and background about disturbances in self-organisation, as defined by the ICD-11, in young people. Clinical and theoretical implications bring into question the meaning of DSO as a unique construct, theorising whether DSO may be linked to other outcomes not exclusive to Complex PTSD. Strengths and limitations for both papers are discussed with further implications for clinical practice and directions for future research identified.

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CHAPTER ONE

Introduction to the Thesis Portfolio

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Introduction to the Thesis Portfolio

The psychological impact of trauma has been widely studied. More than 66% of children worldwide will experience one or more traumatic event in their lifetime (Copeland et al., 2007); these can include events such as natural disasters and terrorist attacks to maltreatment, physical, emotional, and sexual abuse. The World Health Organization (2020) estimates that nearly three quarters of children between the ages of two to four years old regularly experience psychological and physical violence. In the United Kingdom, specifically, one in five children are estimated to have experienced severe trauma or maltreatment before the age of 16 years old and one in three children who are sexually abused do not share this with anyone (ONS, 2019; Radford et al., 2011). The scope of this problem is likely to be larger than these figures report due to the likelihood of under-reporting, the fears and complexities around sharing these experiences, and insufficient data from many countries (WHO, 2020).

A large proportion of children who experience maltreatment will develop maladaptive psychological responses to their experiences. While the majority of individuals will experience a range of different reactions such as difficulty sleeping, irritability, and increased awareness of danger in the immediate aftermath of the event, between 12 to 47% of children and adolescents will develop a range of mental health difficulties that can be persistent, such as anxiety and depressive disorders (Attanayake et al., 2009; Kar & Bastia, 2006; Kessler et al., 2005; Vibhakar et al., 2019). A common mental health difficulty following a traumatic event is Post-Traumatic Stress Disorder (PTSD). PTSD was introduced to the Diagnostic and Statistical Manual in 1980 and has been widely studied in the literature. According to the fifth version of the Diagnostic and Statistical Manual (DSM-5) (APA, 2013), PTSD develops following the exposure to actual or threatened death, injury, or violence. The DSM-5 (APA, 2013) defines this exposure as directly experiencing the event, witnessing the event, learning that the event occurred to a close friend or family member, and/or experiencing repeated exposure to details of a traumatic event, such as being a first responder. According to the DSM-5 the symptoms underlying PTSD can be divided into the following four symptom clusters: 1) experiencing intrusive thoughts, memories, or flashbacks, 2) avoidance of reminders of the event, 3) changes in mood and cognition (e.g. difficulties with memory, negative thoughts), and 4) changes to one's state of arousal (e.g. hypervigilance and irritability) (APA, 2013). Research has found that PTSD is more common in women and girls and it is thought that increased exposure to the event may heighten or increase the severity of one's PTSD response (Tolin & Foa, 2008). PTSD is one of the most commonly researched areas of post-traumatic psychopathology for children and adolescents, and many studies have investigated the mechanisms underpinning the links between trauma and the development of PTSD in this population (Dyregrov & Yule, 2006; Foy et al., 1996; Kilic et al., 2008).

The World Health Organization's (WHO) classification and coding system for health information, causes of illness and death, The International Classification of Diseases (ICD), makes reference to PTSD as a diagnosis. The ICD is used worldwide and provides a framework for identification and treatment of conditions. The 11th version of the ICD was originally published in 2018 and will eventually replace its previous version. The ICD-11 highlights two diagnoses following exposure to traumatic events. As previously mentioned, the first one is PTSD; the ICD-11 defines this similarly to the DSM-5 (APA, 2013) and outlines three symptom clusters that characterise the diagnosis. These symptom clusters include: 1) re-experiencing the traumatic event(s) in the form of nightmares, flashbacks or intrusive memories accompanied by strong emotions and physical sensations, 2) avoidance of memories, thoughts, or places that are reminders of the event(s) and 3) a persistent hypervigilance or awareness of current threat in one's environment (WHO, 2018).

The second post-trauma diagnosis is a new addition to the 11th version of the ICD: Complex PTSD. According to the ICD-11 (2018), Complex PTSD can develop after being exposed to traumatic event(s) that are prolonged or repetitive, extremely threatening, or where escape can be difficult. All criteria for PTSD must be met to receive this diagnosis with the addition of three symptom clusters. These three symptom clusters are characterised as the following: 1) difficulties in affect regulation, 2) beliefs about oneself as worthless with feelings of guilt or shame related to the event, and 3) difficulties with sustaining relationships (WHO, 2018). These three symptom clusters are otherwise known as affect dysregulation, negative self-concept, and interpersonal difficulties. They have been referred to in the literature as disturbances in self-organisation or DSO.

Since the ICD-11 was published in 2018, research into Complex PTSD expanded. Complex PTSD has been explored in the adult literature with studies focusing particularly on understanding its prevalence in the community and developing questionnaires to measure this, such as the International Trauma Questionnaire (ITQ) (Brewin et al., 2017; Cloitre et al., 2018; Shevlin et al., 2018; Wolf et al., 2015).

However, given the relatively new introduction of this diagnosis, little research investigating this concept has been done with children and adolescents. More specifically, little is known about these three additional symptom clusters or DSO in younger populations and whether these uniquely and accurately encapsulate Complex PTSD.

The thesis portfolio therefore aims to investigate DSO in children and adolescents. The second chapter presents the systematic review and meta-analysis which focuses on investigating one of the three DSO criteria in detail: negative self-concept. This paper aims to understand the size of the relationship between trauma and maltreatment and self-concept in children and adolescents under the age of 18 years old. While self-concept has been widely studied as a mediator between trauma exposure and future psychopathology, the thesis aims to specifically investigate its link to trauma exposure directly in children and adolescents. Chapter three will provide a brief summary of the findings from the meta-analysis and detail how this links to the empirical study. Chapter four then presents the empirical study which will focus on gaining an understanding of the psychometric properties of a new measure aimed to assess DSO in younger populations. This chapter additionally aims to understand the correlates related to DSO, as assessed using this new measure, and report on the prevalence of DSO specifically in this sample of adolescents. The final chapter includes a wider discussion and critical reflection of the thesis portfolio. It will detail the overall conclusions and aims for future research as well as provide reflections on the process of completing the piece of work with particular focus on strengths, limitations, and clinical implications for the wider context.

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CHAPTER TWO

Systematic Review and Meta-Analysis

Written for Publication to the Journal of Clinical Child & Adolescent Psychology

(Author guidelines in Appendix A)

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The relationship between negative self-concept, trauma and maltreatment in children and adolescents: A systematic review and meta-analysis

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Abstract

Objective: Experiencing trauma in childhood is a global issue linked to worse physical and mental health outcomes (Nelson et al., 2017), such as Complex Post-Traumatic Stress Disorder (PTSD) (WHO, 2018). One of the symptom clusters of Complex PTSD is negative self-concept. Self-concept is a transdiagnostic concept linked to various psychopathologies (Evans et al., 2015) and understanding its unique relationship to trauma is important. This meta-analysis aimed to understand the size of the effect between trauma and maltreatment and self-concept in children and adolescents.

Method: The current meta-analysis searched PubMed, PILOTS, PsycINFO, Web of Science databases. Inclusion criteria involved studies with defined trauma exposure, valid measures of self-concept, and participants' mean age under 18 years old. Exclusion criteria involved studies with at risk or mental health samples and with only trauma-exposed youth.

Results: Ninety-five studies were included in the meta-analysis with a total of 170,268 participants. A random effects meta-analysis was performed and a small negative effect was found for the relationship between trauma exposure and self-concept (r=-0.19, 95% CI = -0.21, -0.17). Moderation analyses found a significant relationship between some variables (type and nature of trauma, country economic status) and not others (participant gender, type of self-concept measure, quality of studies).

Conclusions: Overall, the meta-analysis found a small relationship between trauma exposure and negative self-concept in children and adolescents, with repeated and type of trauma and country status moderating this relationship. This provides important directions for clinical practice around providing support for those exposed or most vulnerable to experiencing trauma.

Keywords: Trauma; Maltreatment; Negative Self-concept; Children; Adolescents

The relationship between negative self-concept, trauma and maltreatment in children and adolescents: A systematic review and meta-analysis

Child trauma or maltreatment is an issue that impacts children worldwide. Childhood maltreatment can refer to any type of abuse that has the potential to cause harm to individuals (Krug et al., 2002; Gardner et al., 2019); this can include physical, emotional and sexual abuse and neglect. Approximately 36%, 22%, and 16% of children have experienced emotional abuse, physical abuse, and neglect, respectively, worldwide (World Health Organization, 2014). The prevalence of poly-victimisation has been reported to be between 38% in children from Low-Middle Income Countries (Le et al., 2016). The prevalence of certain types of maltreatment, such as sexual abuse, is reported to be higher amongst girls compared to boys (Stoltenborgh et al. 2011). Many studies have explored the long term effects of childhood trauma and maltreatment. Meta-analyses looking at the impact of childhood maltreatment in adulthood have found that experiencing maltreatment significantly increases the risk of developing chronic illnesses (Nelson et al., 2017) and other physical health outcomes, such as obesity and persistent physical symptoms (Afari et al., 2014; Danese & Tan, 2014) over the lifespan.

Other studies have found that having experienced physical and sexual abuse significantly increases the risk of receiving a diagnosis of anxiety and depressive disorders in adulthood (Gardner et al., 2019). This association is reported to be larger for women than for men (Gallo et al., 2018). Additionally, those who experienced physical and sexual abuse in childhood have an over 70% risk of drug abuse in adulthood, with women additionally being at a greater risk than men (Halpern et al., 2018). The association between childhood trauma and mental health outcomes is found to be larger in those with greater exposure, with a particularly increased risk for those exposed to emotional abuse and neglect (Humphreys et al., 2020). Therefore a strong link exists between exposure to trauma in childhood and later life mental and physical outcomes, with greater exposure to trauma and being female increasing this risk.

There is additionally a body of literature that has explored this relationship between trauma and mental and physical health in childhood. Evans et al.'s (2008) meta-analysis found a medium effect between children's exposure to domestic violence and trauma symptoms, internalizing behaviours, such as anxiety, and externalizing behaviours, such as aggression in childhood. Other studies have found that childhood trauma is linked to poor educational outcomes (Romano et al., 2015) and many studies have found that victimisation in adolescence has been linked to increased post-traumatic stress symptoms (Soler, 2012) and linked to a decrease in self-compassion (Tanaka et al., 2011). Research has found that up to 25% of children exposed to a traumatic event met threshold for a diagnosis of post-traumatic stress disorder, with rates increased for children exposed to interpersonal traumas (Alisic et al., 2014; Peltonen & Punamaki, 2010; Punamaki, 2008; Taylor & Chemto, 2004).

A particular outcome that has been explored in the literature is the relationship between childhood trauma and self-concept. The term self-concept is an umbrella term which refers to a collection of beliefs, ideas, and perceptions about oneself; it refers to one's own self-image (Burnett, 1994). This umbrella term encompasses concepts such as self-esteem and self-identity. Self-concept is additionally an important transdiagnostic concept in mental health, often linked to various psychopathologies

(Zeigler-Hill, 2011). According to the International Classification of Diseases-11th version (ICD-11) (WHO, 2018), negative self-concept encompasses one of the three additional criteria needed to meet the diagnosis of Complex Post-Traumatic Stress Disorder (PTSD). The ICD-11 more specifically refers to this concept as beliefs about oneself as being worthless or diminished with accompanying feelings of guilt or shame (WHO, 2018). It has been widely studied in the literature and most notably Rosenberg's Self-Esteem Scale (1965) has been used internationally to measure this.

Longitudinal and retrospective studies have looked at this relationship between self-concept and trauma more specifically. Research suggests that trauma in an individual's early years has an impact on ones sense of self (Silvern et al., 1995). As noted earlier, childhood trauma has been linked to various psychopathologies and poor outcomes later in life. Many studies have evaluated the relationship between childhood trauma and self-esteem retrospectively (Kuo et al., 2012; Luszczynska et al., 2009). Some studies have explored self-concept as a moderator between trauma and mental health outcomes, where self-concept has been found to significantly moderate the relationship between trauma exposure and PTSD (Salami, 2010). Pacheco's (2014) systematic review investigated the effect of child maltreatment on school performance, peer relationships, social competence, and self-esteem in both adults and children and found that exposure to trauma increased difficulties in all of those areas. However, to the authors' knowledge there is no published meta-analysis that specifically explores the size of the relationship between trauma and self-concept in children and adolescents. Given previous research that has suggested that the effect of this relationship is larger for women than for men and is larger with increased trauma exposure, it is important to study these potentially moderating effects in children and adolescents. Additionally, trauma is experienced by children worldwide and further understanding of the extent to which country status may also moderate this relationship is important to explore.

Aim of Meta-Analysis

Therefore, the aim of the current review was to systemically examine and meta-analyse studies to explore the relationship between trauma and maltreatment and its association with self-concept in children and adolescents.

The main research questions are as follows:

i. What is the size of the effect of the relationship between negative self-concept and trauma and maltreatment exposure in children and adolescents?

ii. What factors moderate this relationship specifically?

Methods

Registration

The current meta-analysis was prospectively registered with PROSPERO on 12th October 2020 (CRD42020200148) (see Appendix B). No similar research protocols were identified through PROSPERO and to the authors' knowledge no previous meta-analysis was published on this topic. The PROSPERO protocol included an additional research question looking at the relationship between trauma and mental health in only trauma exposed children and adolescents. The current review solely focuses on question one due to the large amount of studies included in the final review; the second question will be explored separately.

Selection of Studies

Studies were selected following a systematic search for relevant publications from 1980 (when PTSD was first introduced in the DSM) in PubMed, PILOTS (International Literature on Traumatic Stress; US Department of Veterans Affairs, 2015), PsycINFO, and Web of Science to the 31st of October 2020, when the search was completed. The following search terms were used in the study to answer the research questions: adolescent* OR child* OR teen*" AND "physical abuse" OR "sexual abuse" OR neglect OR "emotional abuse" OR maltreatment* OR trauma AND "self esteem" OR "self-concept" OR "sense of self" OR "self perception" OR "self worth".

Inclusion and Exclusion Criteria

To be included in the analysis, studies were required to meet all the following inclusion criteria: participants' mean age was less than 18 years old; the study included a measure of trauma exposure or there was a defined trauma-exposed group and non-exposed group; and outcomes were reported on a validated measure of self-concept. For the purpose of this study, trauma was defined using DSM-5 (APA, 2013) criteria. Studies were excluded if they only provided qualitative data on self-concept, if they were not in English, or if the mean age was above 18 years old. We also excluded studies for the following reasons which were determined after the review was registered on PROSPERO: those that included orphan status or if participants came from a sample which was selected for having a mental health difficulty, was an at risk sample or had a substance abuse problem, if the self-concept measure used did not measure self-worth. These were not planned exclusion criteria but when screening studies it was decided to exclude these post-hoc.

Screening Method

The process for selection of peer-reviewed articles were conducted according to the Preferred Reporting Items of Systematic Reviews and Meta-Analyses (PRISMA) guidelines (Moher et al., 2009) and is outlined in the PRISMA diagram in Figure 1.

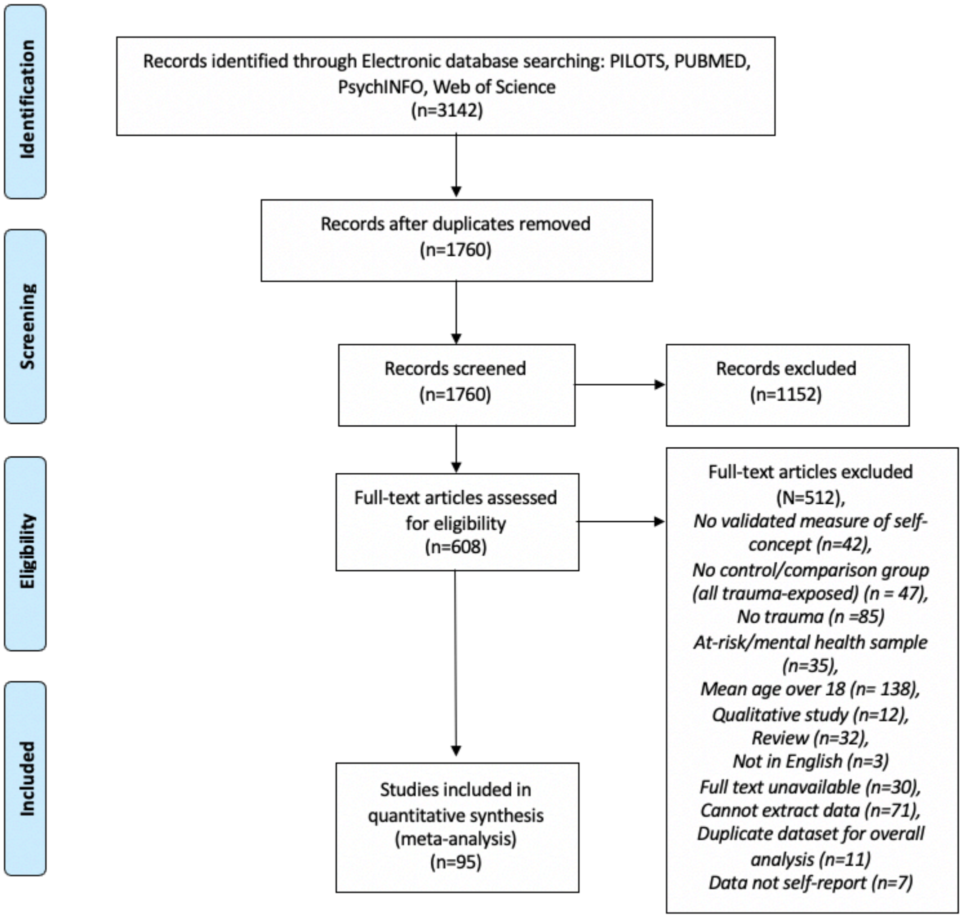

Figure 1. PRISMA Diagram of Screening Methods

Data Extraction

A stepwise approach was used to identify the studies that met inclusion criteria. Duplicate records were identified and removed by the first author. Titles and abstracts identified in the search were initially screened using the above inclusion and exclusion criteria. This was done to exclude articles that were not relevant to the question. Titles and abstracts of the excluded articles were reviewed to ensure these were appropriately excluded. Full texts were screened by two independent researchers. This was done systematically where questions and difference in scores were discussed until consensus was reached.

A data extraction spreadsheet was used to collate the following information from each study: type of study design, total number of participants, mean age of study participants, type of trauma exposure, participant characteristics (e.g. gender, age, socioeconomic status, etc.), information on the measures used, mean scores and standard deviations on measures and/or relevant statistics reported on the relationship between the variables of interest.

Quality Assessment

Quality assessment was rated using an adapted version of the STROBE Statement: Checklist of items that should be included in reports of cross-sectional studies (Von Elm et al., 2014) to fit the research question (see Appendix C). Each study could be awarded a maximum of 14 points. Studies that had less than four points were labelled as “low quality”, studies that had between four and nine points were labeled as “medium quality” and studies that had over nine points were labeled as “high quality”. To assess the moderating effect of the quality of studies, studies with medium and low quality were coded as “0” and those that were high quality were coded as “1”. Quality ratings for each study are reported in Appendix D. The first author rated each of the studies and an independent rater assessed 62% of studies. Inter-rater reliability was assessed using Single Score Intraclass Correlation Coefficients and 95% intervals. There was moderate moderator agreement (McHugh, 2012) between the raters (ICC=0.71, 95% CI 0.56, 0.81).

Data Synthesis

A random effects meta-analysis was conducted using MAVIS Version 1.1.3 (Hamilton & Mizumoto, 2015) which uses metafor in R. Pearson’s correlation coefficient, ‘r’ was used as the effect size of interest for the current meta-analysis as it is most easily interpretable (Field, 2001). This correlation was the most common statistic reported across the various studies. Studies that reported other statistics such as p-values, and t-tests, could be more easily converted to an ‘r’ effect size. Correlation coefficients were pooled where there were multiple outcomes for each study. The 95% confidence intervals (CI) for each outcome were used to demonstrate the certainty of results. Effect sizes were combined using Fisher’s Z transformation; this method used a weighted average to take into account differing sample sizes (Borenstein et al., 2009). Estimates of the extent of heterogeneity or differences in the studies were determined using the I^2 statistic; values of around 25%, 50%, and 75% demonstrate low, moderate and high heterogeneity, respectively (Higgins & Thompson, 2002).

Moderator Analysis

It was decided when planning the review that moderator analyses would be undertaken if ten studies or more were identified in order to examine possible sources of heterogeneity. Variables were identified prospectively to examine as study level moderator variables. These study level factors included type of trauma for the sample, mean age at which trauma happened for the sample, sample gender, mean age of participants, sample socioeconomic status, country of study, and measurement of self-concept and trauma. Not all studies provided consistent data on socioeconomic status and age at trauma. Additionally, there was a lot of difference between how trauma was measured between the studies. Due to these large discrepancies in moderator variables, a decision was made to exclude socioeconomic status, age at trauma, and measurement of trauma as moderator variables.

Ten different moderator analyses were performed. The first was whether the type of trauma was sexual abuse only or any other mix or type of trauma. This was explored as sexual abuse is thought to have a particularly strong relationship with mental health outcomes (Gardner et al., 2019). Given the amount of heterogeneity with how sexual abuse was measured across studies, it was not consistently possible to separate sexual abuse from the “mix trauma” group e.g. for studies that used a continuous trauma score. Therefore, the “mix trauma” group includes studies that looked at sexual abuse combined with any other types of traumas. The second moderator was whether self-concept was measured using the Rosenberg Self-Esteem Scale (RSES, 1965), which is the most commonly used measure of self-concept, or any other valid measure of self-concept. Single event versus multiple or repeated trauma was looked at in two ways. This moderator was explored as previous literature suggests that multiple or repeated exposure to trauma is linked to worse outcomes (Humphreys et al., 2020). The first approach looked at if trauma exposure was a single incident or repeated and multiple trauma. The second approach or fourth moderator limited single or multiple trauma exposure to only case-control studies to gain a clearer understanding of the trauma. The fifth moderator analysis was done on type of study. This was divided into case-control studies, where there was a clear trauma exposed group and a control or comparison group, and cross-sectional studies which included any community study including longitudinal and prospective studies.

The sixth moderator looked at country status as defined by the World Health Organization, e.g. Low-Middle Income country (LMICs) or High Income country (HICs). This moderator was explored as LMICs are more likely to have elevated rates of environmental stressors, high prevalence of mental health difficulties, and less resources for support (Yatham et al., 2017). Additionally, there may be cultural differences to how those in LMICs view and cope with trauma and, therefore, understanding the potentially moderating effect of country status on this relationship seems to be important. It was decided that dividing the studies into LMICs and HICs, as defined by the World Health Organization, would be an appropriate way to measure this. The seventh and eighth moderators look at gender defined as the sample being either 100% or over 50% female, respectively. This moderator was explored as it has been suggested that females are more likely to be exposed to trauma and experience worse outcomes as compared to males (Gallo et al., 2018; Holbrook et al., 2002). The ninth moderator looked at age, with a cut off mean age for the sample of 16 years old. The Office of National Statistics (2019) reports approximately one in five children are estimated to have experienced severe trauma or maltreatment before 16 years old and this moderator, therefore, was explored to reflect those younger populations compared to older adolescents. The tenth moderator looked at whether the relationship was moderated by high quality or low to medium quality studies.

Publication Bias

Publication bias refers to the relationship between the choice to publish a paper and the results (Begg, 1994). To evaluate publication bias an inspection of the funnel plots and their statistical asymmetry tests were used. The funnel plots were used to graphically explore publication bias and the following tests were used to evaluate this statistically: Egger's test of intercept (Egger et al., 1997) and Weight-Function Model for publication bias (Vevea & Hedges, 1995*)*.

Results

Search Results

Overall, 3,142 studies were identified, and 95 met inclusion criteria (see Figure 1). Reasons for inclusion and exclusion for full-text studies reviewed are provided in Figure 1.

Study Characteristics

Ninety-five studies were included in the final review which yielded a total of 95 independent effect sizes. The total sample size was 170,268 participants with sample sizes from individual studies ranging from 14 to 81,247 participants. Characteristics of the studies included in the meta-analysis (sample size, mean age, percent female, type of study, country, type of trauma, single or repeated trauma, and measure of trauma and self-concept) are included in Table 1.

Table 1. Study Characteristics of all studies included in the meta-analysis

First Author and Year	N	Mean Age or Age Range	Female (%)	Type of Study	Country	Type of Trauma	Single or Multiple/ repeated Trauma	Measure of Trauma Exposure	Measure of Self-concept
Ackard (2002)	81247	9th & 12th Grade	50%	CS	USA	Date Related Violence	M/R	Records	Adapted RSES
Aloba (2020)	1337	15.2	55%	CS	Nigeria	PA, EA, CSA, PN, EN	M/R	Questionnaire	RSES
Arslan (2016)	1352	16.5	54%	CS	Turkey	PsM	M/R	Questionnaire	RSES
Asgeirsdottir (2010)	9113	17.2	51%	CS	Iceland	CSA	M/R	Questionnaire	RSES
Baeg (2020)	605	7th to 9th grade	49%	Longitudinal	South Korea	Peer Victimization	M/R	Questionnaire	RSES
Bagley (1992)	369	14 to 16	N/A	CS	Canada	Abuse at Home	M/R	Questionnaire	CSEI
Bailey (2005)	43 trauma, 107 control	14.6	100%	Longitudinal	USA	CSA	M/R	Questionnaire	RSES
Bernard-Bonnin (2008)	67 trauma, 67 control	9.0, 9.3	100%	CC	Canada	CSA	M/R	Records	SPPC
Bolger (1998)	107 trauma, 107 control	8 to10	48%	Longitudinal	USA	PA, CSA, EM, N (failure to provide, lack of supervision)	M/R	Records	SPPC
Brown (2019)	3070 trauma, 2796 control	14.3 & 14.8	48%	CC	Canada	Wildfire	Single	Records	RSES
Burack (2006)	49 trauma, 49 control	10.3, 15	23%	CC	Canada	PA, N (lack of supervision), CSA,	M/R	Records	SPPA & SPPC

						PN, exposure to violence			
Cecil (2001)	249	16.5,	100%	CS	USA	CSA	M/R	Questionnaire	RSES
Chang (2012)	14	12.4	100%	CS	Nicaragua	PA	M/R	Questionnaire	Questionnaire
Chen (2019)	580	11.7	49%	CS	China	EA	M/R	Questionnaire	RSES
Choi (2016)	92 trauma, 351 control	5 to 13	77 %& 52%	CC	Korea	CSA	M/R	Records	RSES
Daniel (2016)	259 trauma, 281 control	16.2, 16.1	57% & 28.%	Longitudinal	Israel	Terrorist attack	Single	Recruitment	RSES
Deb (2016)	370	16.7	51%	CS	India	Violence (psychological, physical, sexual), multiple abuse	M/R	Records	SCS
Egan (1998)	189	3rd to 7th grade	51%	CS	USA	Peer Victimization	M/R	Questionnaire	PHSCS
Elliott (1990)	17 trauma, 17 control	6 to 13	71% & 65%	CC	USA	CSA	M/R	Records	PHSCS
Esparza (1996)	54 trauma, 69 control	13 to 20	100%	CC	USA	CSA	M/R	Questionnaire	Questionnaire
Flynn (2014)	635	13 to 15	41%	Longitudinal	USA	CSA, PA, EM, N	M/R	Records	SPPA
Genç (2018)	3193		55%	Longitudinal	USA	CM	M/R	Questionnaire	Questionnaire
German (1990)	40	14.4	100%	CC	USA	CSA	M/R	Records	PHSCS
Gesinde (2011)	480	NR	53%	CS	Nigeria	EM	M/R	Questionnaire	Questionnaire
Gewirtz-Meydan (2020)	828	15.5	38%	longitudinal	USA	CSA	M/R	Questionnaire	RSES & Questionnaire

Grayston (1992)	34 trauma, 35 control	7 to 12	100%	CC	Canada	CSA	M/R	Records	SEI
Greger (2016)	237 trauma, 1017 control	17, 14.1	65%, 45%	CC	Norway	Witness Violence, Family & Community Violence	M/R	Questionnaire	Questionnaire
Greger (2017)	400	16.8	58%	CS	Norway	CM, CSA, Witness Violence, Family & Violence	M/R	CAPA	SPPA
Gunnlaughsson (2013)	3515	14 to 15	49%	CS	Iceland	Physical violence at home	M/R	Questionnaire	RSES
Haj-Yahia (2002)	1640	17.2	52%	CS	Israel	PA	M/R	Questionnaire	RSES
Hibbard (1988)	712	13.5	50%	CS	USA	CSA, PA	M/R	Questionnaire	RSES
Hibbard (1992)	82	14.5	50% & 46%	Prospective	USA	N, CSA, PA, EA,	M/R	Records	Questionnaire
Jezl (1996)	257	9th and 12th grade	50% & 51%	CS	USA	PsM, PA	M/R	Questionnaire	RSES
Johnson (2001)	60 trauma, 60 control	17	100%	CC	USA	CSA	M/R	Recruitment	SEI
Jonsson (2019)	5715	18	55%	CS	Sweden	CSA, EA, PA	M/R	Records	RSES
Ju (2018)	2844	4th grade	NR	Longitudinal	Korea	PhM	M/R	Records	Questionnaire
Kaufman (1989)	70 trauma, 67 control	5 to 11	NR	CC	USA	N, EA, PA	Multiple/ Repeated	Questionnaire	Questionnaire
Kim (2017)	802	14.1	35%	CS	South Korea	PA, EA, CSA,	M/R	Questionnaire	RSES
Kim (2004)	206 trauma, 139 control	9.2	36%	CC	USA	CSA, PA, PN, EM	M/R	Records	CSEI
Kim (2006)	251	8.5	36%	Longitudinal	USA	EM, PN, PA, CSA	M/R	Records	CSEI

Kocturk (2017)	210	15.9	100%	CC	Turkey	CSA, sexual revictimisation	M/R	forensic interviews	Questionnaire
Lam (2015)	980	14.8	51%	CS	Hong Kong	CSA	M/R	Questionnaire	CF-SEI
Lau (2003)	489	13 to 15	38%	CS	Hong Kong	PM	M/R	Questionnaire	SPPA
Leeson (2011)	50	11.2	54%	CC	Australia	CM	M/R	Questionnaire	CSEI
Li (2009)	1625	12.9	49%	CS	China	21 different types of trauma (HIV-related)	M/R	Questionnaire	RSES
Lim (2017)	2351	middle school students	48%	Longitudinal	Korea	PA, N	M/R	Questionnaire	RSES
Lin (2011)	683	12.9	52%	CS	China	CSA	M/R	Questionnaire	RSES
Luo (2020)	1302	11.3	50%	CS	China	PsM	M/R	Questionnaire	RSES
Lynch (1998)	188 trauma, 134 control	8.7, 8.8	43% & 34%	Longitudinal	USA	CSA, PA, PN, EM	M/R	Questionnaire	CSEI
Ma (2014)	165 trauma, 201 control	9 to 15	54%, 51% & 60%	CC	Hong Kong	CSA, PA, abuse	M/R	Records	CF-SEI
Malik (2016)	400	16.1	50%	CS	India	EM	M/R	Questionnaire	RSES
Mannarino (1989)	94 trauma, 75 control	6 to 12	100%	CC	USA	CSA	M/R	Records	PHSCS
Maskell (2013)	66 trauma, 1387 control	12.7	75%	CC	Australia, New Zealand, USA	burn injury	Single	Records	PHSCS

Matejcek (1983)	228	12.2	49%	CS	Czech Republic	parental neglect & rejection aggression	M/R	Questionnaire	Questionnaire
Medora (1993)	121	12 to 19	100%	CS	USA	CSA	M/R	Records	Questionnaire
Mennena (1994)	117 trauma, 1774 standardization	13.8, 13.1, 13.05	100%	CC	USA	CSA	M/R	Records	SPPC
Mennenb (1994)	75 trauma, 1174 standardization	12.9	100%	CC	USA	CSA	M/R	Records	SPPC
Mennen (1993)	54	15.6	100%	CS	USA	CSA	M/R	Records	SPPC
Moyer (1997)	63 trauma, 131 control	14 to 18	100%	CC	USA	CSA	M/R	Records	PHSCS
Mwakanyamale (2019)	1000	16.5	55%	CS	Tanzania	PM	M/R	Questionnaire	RSES
Nguyen (2019)	1149	16.1	64%	CS	Vietnam	PA, EA	M/R	Questionnaire	RSES
Nguyen (2010)	2591	15	52%	CS	Vietnam	EA, PA, CSA, Neglect	M/R	Questionnaire	RSES
Oates (1994)	130	9.7, 8.3	74%	CC	Australia	CSA	M/R	Records	Questionnaire, PHSCS
Oates (1985)	74	8.9	38%	CC	Australia	CA	M/R	Records	PHSCS
O'Keefe (1998)	939	16.9	49%	CS	USA	Violence	M/R	Modified CTS	RSES
Orr (1985)	22	12.9, 14.1	100%	CC	USA	CSA	M/R	Rec	Questionnaire

Park (2018)	1796	2nd and 3rd grade	48%	Longitudinal	Korea	PA, Neglect	M/R	Questionnaire	RSES
Reyes (2008)	63 trauma, 432 control	10.8	64%	CC	USA	CSA	M/R	Records	SPPC
Rust (1991)	25 trauma, 25 control	12.5, 12.8	100%	CC	USA	CSA	M/R	Records	PHSCS
Saigh (2008)	92 trauma, 41 control	14.4, 13.2, 12.5	43% 33%, 59%	CC	USA	Mixed trauma DSM-4 criteria	M/R	Records	PHSCS
Salazar (2004)	522	16.2	100%	CS	USA	Dating Violence	M/R	Questionnaire	RSES
Sayar (2005)	173	15.2	26%	CS	Turkey	PA	M/R	Questionnaire	RSES
Shen (2015)	736	12 to 15	52%	CS	China	EA, CSA, PA, EN, PN	M/R	Questionnaire	RSES
Skeen (2016)	989	8.9	51%	Longitudinal	Malawi & South Africa	Violence (domestic, community, physical, psychological)	M/R	Questionnaire	RSES
Smith (2018)	190	15.8	56%	CS	Canada	Cyber Dating Violence	M/R	Questionnaire	Questionnaire
Soler (2012)	722	14 to 18	64%	CS	Spain	Victimization (sexual), CM,	M/R	Questionnaire	RSES
Stern (1995)	84	9.3	74%	CC	Australia	CSA	M/R	Records	PHSC
Sturkie (1987)	40 trauma, 54 control	NR	NR	CC	USA	PA, EA, PN, EN, CSA	M/R	Questionnaire	Questionnaire
Suzuki (2015)	342	13.5	56%	CS	Japan	PA, CSA, EA, EN	M/R	Questionnaire	RSES
Swanston (1997)	84 trauma, 84 control	15.1	74%	CC	Australia	CSA	M/R	Records	PHSCS
Tocker (2017)	27 trauma, 27 control	14.9	89%	CC	Finland	CSA	M/R	Records	RSES

Tong (1987)	90	11.5	76%	CC	Australia	CSA	M/R	Structured Interview	PHSCS
Toth (1992)	81 trauma, 72 control	7 to 12	40%	CC	USA	PA, PN	M/R	Records	Questionnaire
Trickett (2011)	303 trauma, 151 control	10.9	50%	Longitudinal	USA	EA, PA, CSA, Neglect	M/R	Records	Questionnaire
Turner (2010)	523	11 to 18	53%	Longitudinal	USA	nonsexual maltreatment, sexual victimization, peer victimization	M/R	Questionnaire	modified RSES
Vigil (2008)	50 trauma, 31 control	14.4	72%	CC	USA	Hurricane	Single	Questionnaire	RSES
Wang (2020)	9704	15.6	NR	CS	China	EA, PA, CSA, EN, PN, CM	M/R	Questionnaire	RSES
Weiler (2019)	144	10.4	51%	Randomised Control Trial	USA	PA, CSA , exposure to community violence	M/R	Questionnaire	SPPC
Wodarski (1990)	69 trauma, 70 control	12.5, 12.4, 11.9	59% 57% 26%	CC	USA	PA, N	M/R	Records	PHSCS
Wonderlich (2001)	40	10 to 15	100%	CC	USA	CSA	M/R	Questionnaire	PHSCS
Wondie (2011)	318 trauma, 318 control	NR	100%,	CC	Ethiopia	CSA	M/R	Records	RSES
Wu (2020)	4790	16.8	49%	CS	China	Bullying Victimisation	M/R	Questionnaire	RSES
Yoder (2005)	501	14.9	52%	CS	USA	PA	M/R	Questionnaire	RSES
Zhou (2019)	397	16.4	61%	CS	China	Earthquake	Single	Questionnaire	RSES

Zeller (2015)	177	16.0	81%	CS	USA	EA, PA, CSA, EN, PN	M/R	Questionnaire	SPPA

Note: Only first authors reported

NR=Not reported, CC= case-control, CS=cross-sectional, PA=physical abuse, EA = emotional abuse, CSA= sexual abuse, PN= physical neglect, EN= emotional neglect, PsM=psychological maltreatment, EM=emotional maltreatment, CM=childhood maltreatment PhM=physical maltreatment, N=neglect, CS=cross-sectional, M/R= multiple or repeated trauma, RSES=Rosenberg Self-Esteem Scale, CAPA=Child and Adolescent Psychiatric Assessment, CF-SEI=Culture Free Self Esteem Scale CSEI=Coopersmith Self-Esteem Inventory, PHSCS=Piers-Harris children's Self-Concept Scale, SPPC=Self-Perception Profile for Children, SPPA=Self-Perception Profile for Adolescents, SEI= Self-Esteem Inventory, questionnaire= any other self-concept measure/trauma measure

Meta-Analysis of all data

A random-effects meta-analysis of 95 independent effect sizes from 95 studies indicated a small effect size for the relationship between trauma exposure and self-concept, (r=-0.19, 95% CI = -0.21, -0.17). There was significant heterogeneity, Q = 981.25, df=94, $p < 0.001$, $I^2 =$ 90.4%. Effect sizes for each individual study are reported in Appendix E.

Moderator Analysis

There were enough studies (more than 10) to conduct moderator analysis. Ten potential moderators were identified and subsequent analysis was conducted. Table 2 shows the results of all the moderator analyses. This includes correlation coefficients, standard errors, 95% confidence intervals, I^2 values, and their significance. There were only four significant moderating effects found for the relationship between trauma exposure and negative self-concept. A significantly stronger effect size was found for studies looking at only sexual abuse (r = -0.24, 95% CI -0.27*,* -0.20*;* k=30) compared to any other trauma (r = -0.17, 95% CI -0.20, -0,15; k=65). A significantly stronger effect size was found for studies looking at multiple or repeated trauma (r = -0.20, 95% CI -0.22*,* -0.18*;* k=90) compared to single event trauma (r = -0.08, 95% CI -0.16*,* 0.01*;* k=5). This significantly stronger effect size for multiple or repeated trauma (r = -0.22, 95% CI -0.26*,* -0.18*;* k=40) compared to single event trauma (r = -0.09, 95% CI -0.20*,* 0.04*;* k=4) was maintained when limiting to only case-control studies. Additionally a significantly stronger effect was found for studies in Low-Middle Income countries (r = -0.23, 95% CI -0.27*,* -0.19*;* k=21) compared to High Income Countries (r = -0.18, 95% CI -0.20*,* -0.15*;* k=74).

No significant moderator effect was found for the relationship between trauma exposure and negative self-concept with gender, self-concept measure used, or mean age over 16 years old. Additionally, there was no significant moderating effect between low and medium quality studies compared to high quality studies.

Table 2. Results of regression analysis for relationship between trauma exposure and self-concept (including moderators)

	k	*N*	*Pooled Correlation Coefficient (r)*	*SE*	*l.CI*	*u.CI*	*I^2*	*Moderator p-value*
Overall	*95*	*170,268*	*-0.19*	*-0.01*	*-0.21*	*-0.17*	*90%*	
Trauma Type								
CSA	*30*	*19,835*	*-0.24*	*-0.02*	*-0.27*	*-0.20*	*80%*	*0.01*
Mixed	*65*	*150,433*	*-0.17*	*-0.01*	*-0.20*	*-0.15*	*92%*	
Measure Type								
RSES	*141*	*147,714*	*-0.18*	*0.02*	*-0.21*	*-0.15*	*94%*	*0.44*
Non-RSES	*54*	*22,554*	*-0.20*	*0.02*	*-0.23*	*-0.17*	*83%*	
Type of Trauma								
Single	*5*	*8,337*	*-0.08*	*0.04*	*-0.16*	*0.01*	*93%*	*0.01*
Multiple/Repeated	*90*	*161,931*	*-0.20*	*0.01*	*-0.22*	*-0.18*	*90%*	
Type of Trauma (CC)								
Single	4	*7,940*	*-0.09*	*0.06*	*-0.21*	*0.04*	*95%*	*0.04*
Multiple/Repeated	40	*10,884*	*-0.22*	*0.02*	*-0.26*	*-0.18*	*75%*	
Type of Study								
Case-Control	*44*	*20,000*	*-0.20*	*0.02*	*-0.23*	*-0.17*	*81%*	*0.49*
Cross-sectional	*51*	*150,268*	*-0.18*	*0.01*	*-0.21*	*-0.16*	*93%*	
Country Status								
LMIC	*21*	*30,103*	*-0.23*	*0.02*	*-0.27*	*-0.19*	*94%*	*0.03*
High Income	*74*	*140,165*	*-0.18*	*0.01*	*-0.20*	*-0.15*	*88%*	
Gender								
50% female	*66*	*130,732*	*-0.20*	*0.01*	*-0.22*	*-0.17*	*91%*	*0.43*
Mix	*22*	*25,766*	*-0.18*	*0.02*	*-0.22*	*-0.13*	*87%*	
Gender								
100% female	*21*	*6,394*	*-0.22*	*0.03*	*-0.27*	*-0.17*	*77%*	*0.15*
Mix	*67*	*150,525*	*-0.18*	*0.01*	*-0.20*	*-0.15*	*92%*	
Age								
Up to 16 years old	*56*	*41,006*	*-0.18*	*0.02*	*-0.21*	*-0.15*	*84%*	
16 years old or greater	*17*	*28,458*	*-0.20*	*0.03*	*-0.25*	*-0.14*	*96%*	*0.63*

Quality of Studies								
High	*50*	*140,617*	*-0.19*	*0.01*	*-0.21*	*-0.16*	*93%*	*0.82*
Medium or Low	*45*	*29,651*	*-0.19*	*0.02*	*-0.23*	*-0.16*	*84%*	

Publication Bias

The results of the analysis found a mixed picture of publication bias in the sample as determined by funnel plots, which show a lack of positive studies, Egger's (Egger et al., 1997) tests for asymmetry (t = -2.05, df = 93, *p* = 0.04) which shows evidence of publication bias, and the weight-function test (Vevea & Hedges, 1995) which does not show evidence of publication bias (intercept= -0.20).

Discussion

The current meta-analysis sought to explore the relationship between trauma exposure and self-concept in children and adolescents. To the authors knowledge, this is the largest and only study to meta-analyse this relationship in children and adolescents. Results from pooling 95 independent effect sizes from the same number of studies found a significant negative effect of the relationship between trauma exposure and self-concept; this size of the effect was found to be small (r = -.19). Further analysis was done to understand what study level characteristics may be moderating this relationship. Analysis of moderators found that four study level factors moderated this relationship. The size of the effect was larger for studies that looked at multiple and repeated trauma compared to single event trauma, such as an earthquake. This size of the effect was larger for multiple and repeated trauma studies when this was limited to only case-control studies. This means that those with greater exposure to trauma had a larger association with negative self-concept, however it is important to point out that there were only five single incident trauma studies in the review. This is line with findings in the adult literature that says that increased exposure to trauma is related to poorer outcomes (Sowder et al., 2018).

Another interesting finding was that the relationship between trauma and self-concept was also moderated by studies that only looked at child sexual abuse compared to any other mix of trauma. These results suggest that it is not only the amount of exposure to the trauma, but the nature of the trauma that has a relationship with one's self-concept, which is a particularly important finding; this is supported by findings in the adult literature that state that child sexual abuse is linked to worse outcomes later in life, relative to other trauma types (Maniglio, 2009).

The finding that country economic status moderated the relationship between trauma exposure and negative self-concept is a novel finding. Country economic status significantly moderated this relationship where the effect was stronger for those in Low-Middle Income countries compared to those in high income countries. Low-Middle Income countries (LMIC) have the largest proportion of the world's youth and tend to have high rates of environmental stressors and conflict; research has found that prevalence rates of mental health difficulties in these countries ranges from 28 to 87% with LMIC tending to have limited resources to provide interventions and services (Yatham et al., 2017). The finding that the effect is stronger for LMIC particularly highlights the potential impact of these events on young people and the need to provide these resources.

What is noteworthy is that no other study level characteristics moderated this relationship between trauma and maltreatment and self-concept. While females are more likely to be exposed to trauma and maltreatment (Gallo et al., 2018; Gwadz et al., 2007; Halpern et al., 2018) and previous research has found that females are more likely to experience negative outcomes following trauma when compared to males (Holbrook et al., 2002), in the current meta-analysis gender (whether 100% female or 50% female compared to a mix) did not moderate this relationship. This suggests that girls are no more likely than boys to have a worse impact on self-concept after exposure to trauma or vice versa. Finally, while the Rosenberg self-esteem scale (1965) has been most commonly used to measure self-concept, there was no moderating effect between using this measure compared to any other measure of self-concept. Another important finding was that study quality did not affect the pattern of results; the difference between high versus low and medium quality studies did not change the size of the effect. This is an important finding as it suggests that regardless of study quality, the relationship remains between trauma and negative self-concept.

It is also important to note the issue of publication bias in the current sample. The two tests for publication bias show differing results which suggests there may be a possibility of publication bias affecting the results, particularly with a lack of studies in the positive direction. The confidence intervals around the size of the effect are small and, therefore, show a relatively precise estimate. Given this relatively precise estimate of the effect of maltreatment and self-concept, publication bias may have an effect on the results but it is unlikely to be a large effect. Additionally, given the heterogeneity in the results, the tests of asymmetry may not be the most appropriate way to interpret publication bias (Ioannidis & Trikalinos, 2007).

Additionally, it is important to highlight the direction of the effect. As the current review looked at the relationship between trauma and negative self-concept using correlations, it is not possible to show causation, e.g. that trauma exposure causes negative self-concept. While it may be plausible to suggest that increased trauma exposure may lead to negative self-concept, it is also possible that children and adolescents with lower self-concept may be more vulnerable to trauma exposure. The size of the relationship is another interesting finding; the magnitude of the relationship between trauma exposure and negative self-concept is relatively small. While this could be explained by the large number of studies included in the analysis and the large variation between them, this suggests that trauma and maltreatment may not have as detrimental of a relationship to one's sense of self as one may expect. Nasvytiene et al. (2012) found that resilience may play a role here; in their meta-analysis they found that individual characteristics, such as self-esteem, contributed to resilience following maltreatment. While the effect of this relationship in the current review was found to be significant, it can be suggested that resilience may factor in to why the effect was not so large. It is also important to consider how the effect of this relationship may be dispersed. It is possible that many children and adolescents do not have an effect between trauma exposure and negative self-concept. However, some children may get a larger impact and may go on to develop mental health difficulties after trauma exposure. The current meta-analysis, however, does not capture and is not able to determine these nuances of the relationship between trauma exposure and negative self-concept; the analysis treats these samples of children and adolescents as one group.

Limitations

The present study had some limitations. Firstly, before the meta-analysis could be conducted, data had to be transformed for a large number of studies to make direct comparisons. While this transformation was done systematically, it is important to highlight this as a potential limitation to the effect sizes calculated. It is important to highlight that the current findings found large heterogeneity in the main meta-analysis and moderator analyses. There are many factors which have likely contributed to this large heterogeneity; this includes differing methodological procedures used, large differences in the number of participants in each study, and different measures used. Moderator analysis was performed to understand the source of the heterogeneity; however this did not completely resolve this issue and, therefore, it is still unclear what the cause to this heterogeneity is. It may be that the type of trauma measure could have contributed to this but it was not possible to explore this in the current analysis.

A further limitation is the large discrepancies and amount of missing information in some of the studies pertaining to study characteristics; many studies did not report age at trauma or details on sociodemographic factors which meant not all of the prospective moderators identified could be evaluated. Additionally the coding of studies for the purpose of the moderator analyses as 'repeated or multiple' in terms of nature of trauma is a limitation. In particular, there were inconsistencies amongst the studies in the reporting of trauma. For example some studies reported trauma as a continuous variable where the higher the number, the more exposure to trauma. In these cases it was not possible to pick apart those individuals who had scores of "0" indicating no trauma exposure within the study and therefore the study as a whole was coded as "multiple or repeated trauma". To account for these inconsistencies a further moderator analysis was done limiting the analysis to only case-control studies. A final point to highlight is that a number of studies, which are identified in Figure 1, had to be excluded as full texts were not available to the authors.

Clinical Implications and Future Research

Despite these limitations, the current meta-analysis has implications for practice. To the authors' knowledge, this is the first study exploring the relationship between trauma and self-concept in children and adolescents, directly. A large number of studies were included, which provides a degree of certainty into the strength of the relationship. The significant but small effect found between trauma exposure and negative self-concept in children and adolescents provides an understanding into the potential role that self-concept may play. Given this significant effect and the finding that the nature of trauma and increased exposure to trauma has a stronger impact, it is important to identify earlier those who have been exposed to or are at an increased risk of exposure to trauma and maltreatment. Given the mediating role that self-concept has on future psychopathology, it is imperative to understand the role that being exposed to trauma may have on the self-concept of children and adolescents.

These findings additionally highlight how self-concept may be an important mechanism to consider after exposure to a traumatic event(s), especially considering its mediating relationship and link to further mental health difficulties (Evans et al., 2015). This highlights a need to provide tools and interventions to directly target negative self-concept as a means to potentially help with other post-trauma reactions. These can include resources such as access to psychological therapies, such as Trauma-Focused Cognitive-Behavioural Therapy (Cohen et al., 2016) and psychoeducation resources as well as more cost-effective tools to take into consideration both cultural factors and the nature of the trauma. Focus should be given to help children and adolescents who have been exposed to trauma.

The current meta-analysis highlighted a lack of studies measuring single-event trauma. To gain a more in depth and accurate understanding of the effect of self-concept with single event trauma more studies are needed in children and adolescents to evaluate this relationship. Given the scope of the current review, studies were not restricted based on age at trauma. A further meta-analysis looking at trauma and self-concept with a focus on age at trauma may help give further indication of this relationship.

These findings suggest that negative self-concept is likely affected by trauma exposure; these findings seem to be robust. The finding that sexual abuse in childhood and multiple and repeated trauma yielded a statistically strong effect is broadly consistent with ICD-11’s (WHO, 2018) definition of trauma exposure for the diagnosis of Complex PTSD. However, these stronger effects were not very large, which suggests that it may be that a broader range of trauma exposure, not just trauma that is severe and recurrent, have a significant impact on self-concept. This gives important clinical implications for the importance of focusing on the impact of the trauma for the individual rather than the just those who experienced more severe and recurrent forms of trauma.

Conclusions

In summary, the current meta-analysis found that a significant relationship was found between trauma exposure and self-concept in children and adolescents under 18 years old, where increased trauma exposure was related to negative or lower self-concept. This relationship was moderated by type of trauma (sexual abuse or any mixed trauma), whether this was single event trauma or a multiple and repeated trauma, and studies' country socioeconomic status. This relationship was not moderated by gender, type of self-concept measure used, or quality of studies. There was heterogeneity in the results with a mixed picture of publication bias. Overall, while it is not plausible to suggest causation from these results, the findings highlight a need to focus on all types of trauma and provide resources and interventions to help improve the self-concept of those exposed or at risk of trauma and maltreatment.

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CHAPTER THREE

Bridging Chapter

Word count: 226

Bridging Chapter

The aim of the meta-analysis was to focus on one of the symptom clusters for disturbances in self-organisation (DSO) and understand the relationship and the size of the effect to trauma and maltreatment in children and adolescents. Negative self-concept has been widely studied for decades (Demo, 1992) however research has mainly focused on this concept as a mediator between trauma and other mental health outcomes (Yoon et al., 2019). While it is theorised that trauma may have an impact on one's self-concept, to the authors' knowledge there was no published meta-analysis that has explored the relationship between trauma exposure and self-concept in this population. Overall, a small effect was found between trauma exposure and maltreatment, with this effect being larger for studies looking at child sexual abuse, repeated and multiple trauma, and studies in low-middle income countries. The size of the effect provides valuable information that while a relationship was found between the two variables, it may not be as strong as predicted. While the meta-analysis provided an account of the relationship between one of the three symptom clusters of DSO and trauma, it is important to understand DSO as a broader and less studied construct on its own. The empirical research project, therefore, aims to understand the psychometric properties of a new measure of DSO and understand its related correlates in older adolescents.

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CHAPTER FOUR

Empirical Paper

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(Author guidelines in Appendix F)

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Affect Dysregulation, Negative Self-Concept, and Interpersonal Difficulties: Understanding a new measure of Disturbances in Self-Organisation in UK adolescents

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Abstract

Background: Disturbances in self-organisation (DSO) encompass the three additional symptom criteria needed to meet a diagnosis of Complex Post-Traumatic Stress Disorder (WHO, 2018): affect dysregulation, negative self-concept, interpersonal difficulties. Little is known about DSO in adolescents and what factors they are associated with. The current study sought to understand the psychometric properties of a novel measure of DSO for adolescents and explore correlates of this construct including socioeconomic factors, trauma exposure, mood difficulties, and well-being.

Method: The study used a cross-sectional design and included 278 participants with a mean age of 16.8 years old recruited from social media and sixth forms in the UK.

Results: Around 52% of the sample endorsed all three DSO symptoms. The new measure of DSO (Complex Reactions to Life Events Scale) had an appropriate factor structure and showed high internal consistency (α=0.89). DSO was significantly correlated to gender, having and receiving support for a prior mental health difficulty, increased mood difficulties, increased trauma exposure, and decreased well-being. It was not correlated with age, ethnicity, and socioeconomic status. Linear regression analysis found that increased DSO symptoms and mood difficulties predicted well-being scores.

Conclusions: Overall, the study's findings suggest that DSO may be fairly widespread in young people. While the sample size was too small to be representative, these findings help contribute to the literature surrounding DSO and add to widespread debate around DSO's potential link to other mental health outcomes, such as well-being and depression, and not uniquely to Post-Traumatic Stress Disorder.

Keywords: Disturbances in Self-Organisation; Well-being, Mood Difficulties; Adolescents

Affect Dysregulation, Negative Self-Concept, and Interpersonal Difficulties: Understanding a new measure of Disturbances in Self-Organisation in UK adolescents

Traumatic events can be defined as one or more incident(s) that cause physical, emotional and/or psychological harm (Copeland et al., 2007). More than two-thirds of children have been exposed to as least one traumatic event before the age of 16 years old (Copeland et al., 2007; McLaughlin et al., 2013) and previous research indicates that multiple, repeated, and prolonged exposure to trauma in childhood is a predictor of increased mental health difficulties in adulthood (Cloitre et al., 2009; Sachser et al., 2016; van der Kolk et al., 2005).

Whilst exposure to traumatic events is a relatively common occurrence, not everyone will develop clinical symptoms. According to the ICD-11 (WHO, 2018), Post-Traumatic Stress Disorder (PTSD) develops following exposure to threatening and horrific traumatic event(s) and is characterised by symptoms such as re-experiencing followed by overwhelming emotions, avoidance of situations, people, or memories about the traumatic event and a heightened sense of threat (WHO, 2018). The National Comorbidity Study found a lifetime prevalence rate of PTSD to be 7.8% in adulthood, with rates being twice as high in women (10.4%) compared to men (5%) (Kessler et al., 1997). The lifetime prevalence of PTSD in 13 to 18 year old children exposed to traumatic events ranges from 3-16%, with a prevalence of 6% from a community sample of older adolescents (Alisic et al. 2014; Merikangas et al., 2010; National Collaborating Centre for Mental Health, 2005).

A new diagnosis, Complex Post-Traumatic Stress Disorder (Complex PTSD) has been recently added to the ICD-11 (WHO, 2018). According to the ICD-11 (WHO, 2018), Complex PTSD develops following the exposure to threatening or horrific event(s) that are often prolonged or repetitive in nature where escaping can be difficult, such as domestic abuse, childhood abuse, slavery, or genocide. To meet criteria for a diagnosis of Complex PTSD, all diagnostic criteria for PTSD must be met with three additional symptom clusters that are severe and persistent. These are: “1) problems in affect regulation; 2) beliefs about oneself as diminished, defeated or worthless, accompanied by feelings of shame, guilt or failure related to the traumatic event; and 3) difficulties in sustaining relationships and in feeling close to others” (WHO, 2018). These are known as disturbances in self-organisation (DSO) and are thought to cause severe impairments in many areas of functioning, including social, educational, personal, and family functioning (WHO, 2018). Whilst PTSD is generally known and researched in the population, the prevalence of this new Complex PTSD diagnosis has not been widely studied.

Mood Disorders

Little research has addressed the profile of Complex PTSD and what factors it is associated with. However, given the diagnostic overlap between PTSD and Complex PTSD, both disorders could have similar profiles. PTSD is highly comorbid with anxiety and mood disorders; 74 to 80% of adult veterans with a primary PTSD diagnosis have co-morbid anxiety, depression, or both disorders (Ginzburg et al., 2010). Research has found a strong association between PTSD, depression, and anxiety amongst children and adolescents who experienced trauma, such as earthquakes, natural disasters, and war (Kar & Bastia, 2006; Elbedour et al., 2007; Fan et al., 2011). Therefore, it may be plausible to suggest that Complex PTSD could be associated with anxiety and mood disorders.

A potential problem for the Complex PTSD diagnosis is the strong overlap between the three symptom clusters specific to Complex PTSD of affect dysregulation, negative self-concept, and interpersonal difficulties (DSO) and depression. Research has found that childhood trauma may increase the risk of mood disorders, such as depression and suicide (Fergusson et al., 1996; Putnam, 2003). Therefore, it could be alternatively hypothesised that these DSO could be more similar to mood disorders, such as depression, than to PTSD.

Well-Being

Additionally, DSO could be a reflection of overall lower well-being. Previous research has found that experiencing childhood trauma, such as sexual abuse, is associated with lower well-being later in life (Corso et al., 2008; Hovens et al., 2010). Having anxiety and depressive disorders has also been found to predict impairment in physical functioning and mental health in adulthood (Evren et al, 2011). For this reason, it could be hypothesised that through exposure to adverse childhood experiences an individual may develop these DSO that contribute to a low well-being, e.g. DSO themselves may not necessarily increase problems with functioning or well-being, but may serve as a risk factor for other outcomes. With little research about these DSO and previous evidence suggesting a link to early adversity and reduced well-being, assessing the extent of this relationship could further improve understanding of these difficulties in young people.

Prevalence, Correlates and Importance of Complex PTSD

Though it is possible to theorise about ICD-11's (WHO, 2018) proposed diagnostic algorithm for Complex PTSD, little is known about its prevalence, particularly in the UK. Using ICD-11 criteria that was under-development, US and German studies have found the prevalence of Complex PTSD to be between 0.5 to 3.3% in large samples of adults (Maercker et al., 2018; Wolf et al., 2015). However, to measure Complex PTSD symptoms these studies have only used structured interviews based on ICD-11 criteria (Palic et al., 2016) and self-report measures, such as the International Trauma Questionnaire (ITQ), which has largely been validated in adult populations; using these methods of measuring Complex PTSD symptoms may lead to interviewer bias and may not be accurate representations of adolescent experiences (Cloitre et al., 2015; Hyland et al., 2017).

Even less still is known about the prevalence of Complex PTSD in younger populations, particularly in community samples in the UK. International validation studies, using a modified version of the ITQ for children and adolescents, and studies of children in foster care exposed to trauma reported the prevalence of Complex PTSD to be 22.8% (Haselgruber et al., 2020; Kazlauskas et al., 2020). Tian et al. (2020) found that 13.4% met criteria for Complex PTSD in their sample of university students in China. However, currently there are no validation studies in the UK using a self-report assessment tool, other than the modified ITQ for children, to accurately measure DSO in children and adolescents. Given the relatively small amount of research into Complex PTSD, it is plausible that the proposed DSO could be more indicative of widespread difficulties rather than a diagnosis of Complex PTSD. Given this gap in the literature, the impact of early life adversity on both physical and mental health outcomes, and the little knowledge about ICD-11's proposed DSO specific to Complex PTSD, it is particularly important to have an understanding of how common these experiences are in a community sample of adolescents and the risk factors associated with them. This need can be addressed by having a brief reliable and valid measure to accurately evaluate these difficulties. By measuring the prevalence of these difficulties, a knowledge base can be developed to inform and target appropriate interventions and treatment plans for this population group.

Research Questions

This study's primary objectives are to examine the reliability of a measure of DSO (affect dysregulation, negative self-concept, interpersonal difficulties) specific to Complex PTSD as proposed by the ICD-11 (WHO, 2018). This measure has not been previously validated and, therefore, as a first step to validation, the current study will explore reliability of the measure and the factor structure of the measure. The study will not explore criterion validity as, to the authors' knowledge, there currently is no gold standard measure only assessing DSO. The primary research questions are, therefore, as follows:

i. What are the psychometric properties of a 12-item measure of DSO in a community sample of adolescents?
ii. Do the 12 items of this measure have appropriate factor structure?

This study's secondary objectives are to examine the correlates of this measure and their relationship to well-being for the purpose of assessing construct validity as theoretically suggested by previous research. The secondary research questions are as follows:

i. To what extent are sociodemographic factors, well-being, trauma exposure and mood difficulties related to these DSO?
ii. Do socioeconomic status, mood difficulties, and DSO predict lower well-being?

Method

Design

The current study used an observational cross-sectional questionnaire design. Test re-test design was considered but was decided this would not be appropriate given the logistical issues of maintaining confidentiality when matching participant's responses. Additionally a decision was made not to measure Post-Traumatic Stress Disorder (PTSD) for various reasons. Firstly, the research questions were focused on understanding DSO as a separate construct, how it is measured and its correlates and not directly understanding its link to PTSD. Consideration was made to include a basic and least intrusive measure of trauma exposure that did not involve too much disclosure. Additionally the questionnaire was anonymous and assessing PTSD would raise ethical concerns as it would not be possible to provide the necessary support. There were additional concerns about the feasibility, acceptability and appropriateness of including further assessment of PTSD. Therefore, the questionnaire pack was not inclusive of a measure of PTSD.

Participants

Participants were 278 adolescents living in the UK. Two-hundred ten adolescents were recruited from sixth form colleges (Stream A) and 68 adolescents were recruited through social media (Stream B). Inclusion in the study involved living in the UK and being proficient in reading and answering questions in English. For Stream A inclusion criteria included an age limit of 16 to 20 years old to be inclusive of older students attending sixth form colleges. Stream B inclusion criteria were young people ages 16 to 18 years old.

Measures

The questionnaire pack in the online survey included basic sociodemographic questions, such as age, ethnicity, and gender.

Complex Reactions to Life Events Scale

DSO specific to Complex PTSD (affect dysregulation, negative self-concept, interpersonal difficulties) was measured using the Complex Reactions to Life Events Scale (CRLES) (DECRYPT, 2016; Hiller et al., 2021) (see Appendix G). The CRLES was developed as part of a National Institute for Health Research funded randomised control trial (RCT) (RCT number: ISRCTN12077707) of cognitive therapy for young people after trauma and first used in a study in young people in out-of-home care (Hiller et al., 2021). The CRLES does not include any specific reference to trauma exposure. The measure was developed in accordance with the three additional difficulties of the ICD-11 criteria for Complex PTSD by expert trauma researchers and clinicians. This is a 12-item questionnaire (4 items per DSO) asking how much each statement is true for the individual in the past two weeks using a 4-point Likert scale ranging from ‘never’, ‘once in a while’, ‘half the time,’ ‘almost always’. It includes statements, such as ‘When I am upset, it takes me a long time to calm down’, ‘I feel like I am no good’, and ‘I don’t feel close to anyone’. For the purpose of this study and to make this scale user-friendly, the CRLES was referred to as the ‘How I feel about myself and others scale’ in the online survey.

Short Mood and Feelings Questionnaire

Mood difficulties were measured using the Short Mood and Feelings Questionnaire (SMFQ) (Angold et al., 1995). The SMFQ is a 13-item self-report measure assessing symptoms of depression over the past two weeks (see Appendix H). The SMFQ uses a 3-point Likert scale, where 0=not true, 1=sometimes, 2=true. Total scores are derived where higher scores indicate increased mood difficulties. This measure has been validated in older adolescent non-clinical populations (α=0.87) (Turner et al. 2014).

Child Trauma Screen

The Child Trauma Screen (CTS) (Lang & Connell, 2017) is a 10-item self-report measure of trauma events and reactions in children and adolescents (see Appendix I). The CTS was only completed by participants in Stream A. The CTS includes four items relating to trauma exposure and six items relating to PTSD symptoms. For the purpose of the current study, only the four items relating to trauma exposure were used. For the purpose of maintaining confidentiality and brevity of the questionnaire, item 4a, asking participants to explain the type of trauma experienced, was excluded. The four items are summed to obtain one exposure score ranging from 0 to 4, where higher scores indicate increased trauma exposure. The CTS has been validated in younger populations (Lang & Connell, 2018) and has good internal consistency (α=0.78) (Lang & Connell, 2017).

The Short Warwick-Edinburgh Mental Well-Being Scale (SWEMWBS)

The Short Warwick-Edinburgh Mental Well-Being Scale (SWEMWBS) (Stewart-Brown & Janmohamed, 2008) is a 7-item self-report measure of mental well-being representing aspects of psychological and positive well-being (Stewart-Brown et al., 2009) (see Appendix J). Total scores are derived and are transformed to metric scores using a conversation table; higher scores indicate higher well-being. It is the short version of the Warwick-Edinburgh Mental Well-Being Scale and has been validated in UK community samples of adults 16 years and older; it has good internal consistency and reliability (α =0.84) (Fat et al., 2017; Haver et al., 2015).

Procedure

The current study had two recruitment streams. All materials were available electronically.

Stream A

Potential participants were recruited through three sixth form colleges across the UK using populistic sampling. A Schools and Colleges information sheet (see Appendix K) was given to colleges detailing the study and opportunities were provided to answer questions about their involvement. Following agreement by the gatekeeper, colleges sent an email to students with the link to the Participant Information Sheet (see Appendix L); an easy-read version of the Participant Information Sheet was made available for colleges that requested this (see Appendix M). A second email was sent at least 48 hours later with a link to the Participant Information

Sheet and a link to the Participant Consent form (see Appendix N) followed by the Questionnaire Pack (see Appendix O). Email templates were used for both emails (see Appendix P). A Participant Aftercare and Debrief Sheet (see Appendix Q) was provided after study completion and available at all times, even if students did not take part in the study. A separate link with an optional prize draw was available after the study (see Appendix R) was complete.

Stream B

Eligible participants were recruited through several social media platforms. Study advertisement materials (see Appendix S) with the link to the study were posted through the study's social media account. The link provided included the Participant Information Sheet (see Appendix T) followed by the Participant Consent Form (see Appendix U) and the questionnaire pack (see Appendix V). The Participant Aftercare and Debrief Sheet (see Appendix W) was available at all points in the study.

Ethics

Full ethical approval was obtained from The University of East Anglia Faculty of Medicine and Health Sciences Research Ethics Committee (reference number: 2019/20-015). Careful consideration was made to the ethical procedures of the study.

Consent

According to the Mental Capacity Act (2005), children 16 years and older are presumed to have the capacity to consent for themselves to research. Therefore, only consent from young people was obtained. Full details of the study were provided through the Participant Information Sheet, providing information about the study and detailing that participation was voluntary. Consent to participate in the research was obtained through the Participant Consent Form which was available electronically. Participants in Stream A had a minimum of 48 hours to decide if they would like to participate with researchers' contact information provided.

Confidentiality

To ensure confidentiality was maintained all participants were assigned a randomised participant identification number to be associated with their data instead of using identifiable information. All data confidentiality procedures followed the local UEA confidentiality code of practice, the General Data Protection Regulations (GDPR) (2018) and the Data Protection Act (2018).

Data Keeping

All data was handled in accordance with GDPR (2018), the Data Protection Act (2018), and the Ethics Guidelines for Internet-Mediated Research (BPS, 2017). Data were collected electronically using a secure online survey platform, onlinesurveys.ac.uk, created in accordance with GDPR (2018) and only used for university research purposes. All participant responses and data were stored on an encrypted memory stick in accordance with UEA policy and the national legal requirements and plan to be stored for ten years in accordance with this (BPS, 2017; Cooper et al., 2005; GPDR, 2018).

Analysis Plan

Data were analysed using Statistical Package of the Social Sciences (SPSS) Version 27 and Lavaan in R (Rosseel, 2012). The α-level for all analyses was set at 0.05 and was powered at 80% to detect a large effect size which is based on clinical relevance and previous existing literature (Clark-Carter, 2009). Assumptions of normality were explored and adjustments for non-normally distributed data were made appropriately.

Preliminary power calculations using G Power Analysis (Faul et al., 2007) to detect a medium effect size based on cross-sectional and correlational analysis and linear multiple regression suggested a minimum of 82 and 395 participants, respectively, should be recruited to have enough power. Research suggests recruiting 10-20 participants per item on new measures (Nunnally et al., 1967; Bentler & Chou, 1987); with a 12-item measure, 120 to 240 participants are needed. Therefore, the current sample size was in line with previous research and had enough power to detect a medium effect size.

Descriptive statistics, including the distribution of scores, means, and standard deviations (SDs) of the CRLES were used to address the first research questions. Cronbach's alpha was used to test for internal consistency and confirmatory factor analysis (CFA) was used to understand the factor structure of the CRLES. The following values for CFA show a good model fit: chi-square value above five, p-value greater than 0.05, Tucker-Lewis Index (TLI) above 0.9, standardized root mean squared residual (SRMR) less than 0.09, root mean square of error of approximation (RMSEA) less than 0.10 (Bentler & Bonnett, 1980; Hu & Bentler, 1999). To address the secondary research questions, correlations between CRLES scores with sociodemographic factors, SMFQ scores, well-being scores, and trauma exposure scores were evaluated. Linear multiple regression modelling was explored to evaluate if nine possible predictors (gender, ethnicity, who individuals' live with, rental status of home, previous mental health difficulties, previous support for difficulties, trauma exposure, SMFQ scores, and DSO or CRLES scores) predicted well-being scores. Assumptions for conducting linear multiple regression analysis, including multicollinearity, were explored appropriately.

Results

Descriptive statistics are presented in Table 1. Overall, the total sample consisted of 278 young people with an overall mean age of 16.8 years old, SD=0.83 (school mean age=16.8, social media mean age=16.9). Approximately 74% and 90% of the sample were female and white British, respectively. Around 65% of the total sample had a self-reported mental health difficulty, with approximately 29% and 27% of those individuals seeking NHS and other support, respectively.

Table 1. Descriptive Statistics of the current sample

	Total (N=278) *Frequency (%)*	**School Sample (n= 210)** *Frequency (%)*	**Social Media (n=68)** *Frequency (%)*
Gender			
Male	68 (24.5%)	154 (73.3%)	51 (75.0%)
Female	205 (73.7%)	53 (25.2%)	15 (22.1%)
Transgender	2 (0.7%)	1 (0.5%)	1 (1.5%)
Non-binary	2 (0.7%)	1 (0.5%)	1 (1.5%)
Prefer not to say	1 (0.4%)	1 (0.5%)	0 (0.0%)
Ethnicity			
White British	249 (89.6%)	187 (89.0%)	62(91.2%)
White Other	12 (4.3%)	10 (4.8%)	2 (2.9%)
Asian/Asian British	6 (2.2%)	6 (2.9%)	0 (0.0%)
Black British/African/Afro-Caribbean	4 (1.4%)	2 (1.0%)	2 (2.9%)
Black Other	1 (0.4%)	0 (0.0%)	1 (1.5%)
Other	6 (2.1%)	5 (2.4%)	1 (1.5%)
Age			
16	101 (36.3%)	75 (35.7%)	26 (38.2%)
17	106 (38.1%)	84 (40.0%)	22 (32.4%)
18	61 (21.9%)	41 (19.5%)	20 (29.4%)
19	9 (3.2%)	9 (4.3%)	0 (0.0%)
20	1 (0.4%)	1 (0.5%)	0 (0.0%)
Mental Health Difficulty	176 (63.3%)	131 (62.4%)	45 (66.2%)
NHS Support[a]	80 (45.5%)	61 (46.6%)	19 (42.2%)
School Support[a]	97 (58.8%)	67 (55.8%)	30 (66.7%)
Live with			
Parents	271 (97.5%)	205 (97.6%)	66 (97.1%)
Foster Care	3 (1.1%)	3 (1.4%)	0 (0.0%)
Independently	4 (1.4%)	2 (1.0%)	2 (2.9%)
Home			
Own	185 (66.5%)	133 (63.3%)	52 (76.5%)
Rent	81 (29.1%)	69 (32.9%)	12 (17.6%)
Do not know	11 (4.0%)	8 (3.8%)	3 (4.4%)
Trauma exposure			
Witness Violence		126 (60.6%)	
Physical Violence		55 (26.3%)	
Sexual Violence		55 (26.2%)	
Any other trauma		152 (72.4%)	

CRLES Total Scores[b]	18.00 (13.0)	18.00 (13.0)	17.00 (11.0)
SMFQ Total Scores[b]	12.00 (12.0)	12.00 (13.0)	13.00 (10.0)
SWEMWEBS Total Scores[b]	18.59 (3.9)	18.59 (4.4)	18.59 (3.3)
CTS Total Scores[b]		2.00 (2.00)	
All three DSO symptoms endorsed	147 (52.9%)	116 (55.2%)	31 (45.6%)
Affect Dysregulation	231 (83.1%)	174 (82.9%)	57 (83.8%)
Negative Self-Concept	203 (73.0%)	152 (72.4%)	51 (75.0%)
Interpersonal difficulties	180 (64.8%)	146 (69.5%)	34 (50.0%)

Note. [a] *Percentages are with respect to participants endorsing prior mental health difficulty, not the whole sample.*
Note. [b]*These are reported as medians and interquartile ranges instead of means and standard deviations as data is non-normally distributed; no between groups differences were observed.*

Prevalence of DSO

Prevalence of DSO within the sample is reported in Table 1 and the distribution of total scores for DSO are shown in Supplementary Table 1 (see Appendix X). Prevalence for DSO was determined using ICD-11 criteria for Complex PTSD. Affect dysregulation, negative self-concept, and interpersonal difficulty symptom endorsement were derived by answering either ‘half of the time’ or ‘almost always’ to one or more of the questions within each symptom cluster category on the CRLES. Those who met the symptom criteria for all three symptom categories met DSO criteria. Overall, 52.9% of the current sample met criteria for DSO, 83.1%. 73.0%, and 64.8% of the population met criteria for affect dysregulation difficulties, negative self-concept, interpersonal difficulties, respectively. While the graph of distribution of scores (see Appendix X) seems to show a broadly normal distribution for CRLES scores, formal statistics using Shapiro-Wilk’s (1965) test for normality were significant and, therefore, show that CRLES scores are non-normality distributed. Therefore, non-parametric tests were used for the analysis.

Primary Research Questions

Psychometric Properties of DSO

Internal consistency analysis using Cronbach's alpha coefficients was used to determine the reliability of the items within the CRLES. The CRLES showed high internal consistency for total scores, α=0.89, affect dysregulation α=0.75, negative self-concept α=0.90, and interpersonal difficulties α=0.83, within the sample.

Confirmatory factor analysis using a diagonally weighted least squares (DWLS) estimation analysis was performed to confirm the factor structure of the CRLES. In line with the hypothesis, the three-factor model is a good fit and superior (χ^2= 65.29, df=51, RMSEA= 0.03

SRMR= 0.05, CFI= 1.00, TLI=1.00) to the single factor model (χ^2= 260.17*, df=54, RMSEA= 0.12, SRMR= 0.10, CFI= 0.95, TLI=0.93) of the CRLES. Individual factor loadings for the three DSO are reported in Figure 1.

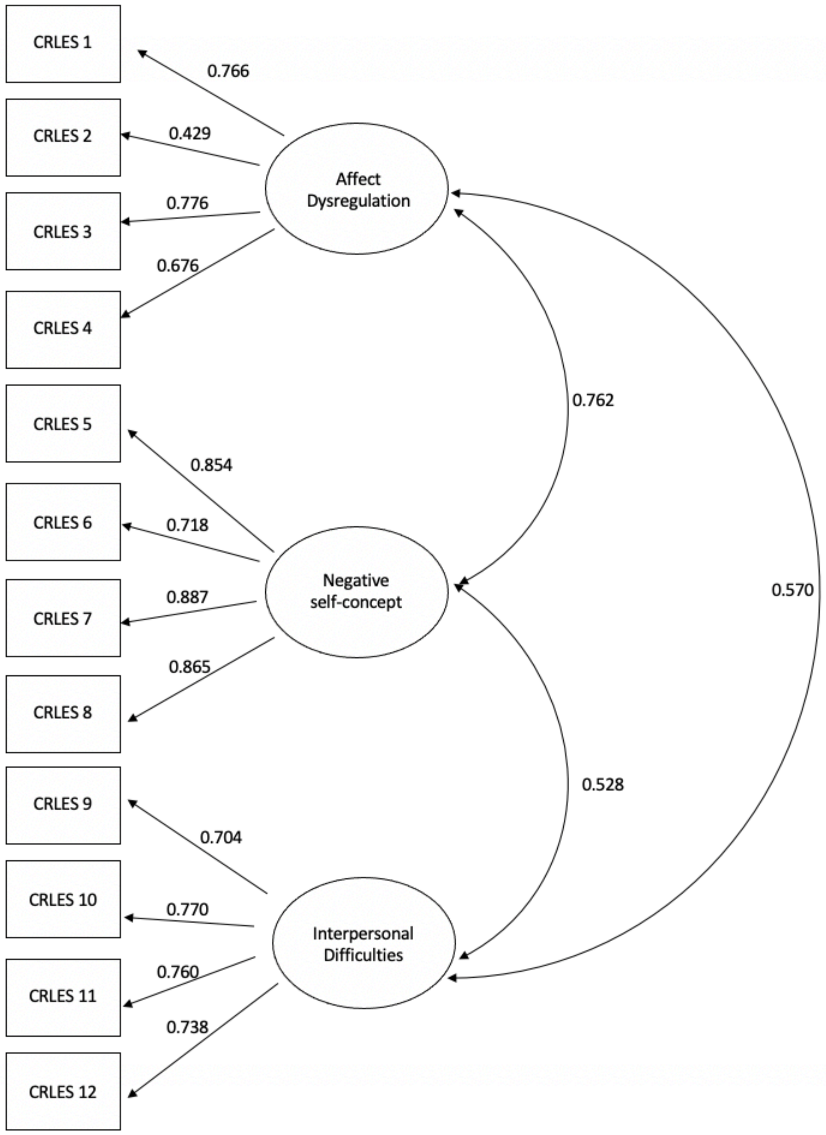

Figure 1. Three-factor structure of the CRLES

Secondary Research Questions

Correlates of DSO

Table 2 shows the non-parametric relationships between DSO symptoms (as measured by the CRLES) and all other variables considered here. There was a large (Spearman's rho >.5) and statistically significant relationship between DSO severity, increased mood difficulties and lower well-being; a medium sized relationship (Spearman's rho > .3) between DSO severity and having a prior mental health difficulty, receiving mental health support, experiencing any sexual violence, physical violence, and any other trauma, and total violence scores; and a small (Spearman's rho >.1) and statistically significant relationship between DSO severity and being female and witnessing violence. DSO was not significantly correlated with age, ethnicity and socioeconomic factors (living with parents or anyone else and owning or renting a home). Further analysis was done to understand the difference in DSO severity between those who endorsed trauma experiences (trauma-exposed) to those who did not endorse trauma experiences (non-exposed). Table 3 shows that there is a significant difference in DSO severity between trauma-exposed compared to non-exposed young people with respect to each trauma, with sexual abuse showing the biggest difference.

Table 2. Correlation Coefficients (Spearman's rho) for the Relationships Between Variables

	1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*14*
1. CRLES total scores	1													
2. Gender	-.13*	1												
3. Age	0.08	0.04	1											
4. Ethnicity (White or BAME and other)	-0.05	-0.04	-0.06	1										
5. Live with parents or other	-0.001	0.01	0.10	-0.04	1									
6. Own home or rent	-0.03	0.04	0.07	0.002	-0.01	1								
7. Prior mental health difficulty	.49**	-.12*	0.06	0.01	0.03	0.03	1							
8. MH Support	-.35**	0.09	0	0.02	-0.02	0.05	.88**	1						
9. Witness violence[a] (CTS 1)	.16*	.20**	0.05	0.09	0.06	0.15*	0.11	-0.04	1					
10. Physical Violence[a] (CTS 2)	.28**	0.13	0.05	0.03	.19**	0.07	.15*	-0.09	.35**	1				
11. Sexual Violence[a] (CTS 3)	.41**	-.22**	0.06	0.03	0.05	-0.02	.28**	-.20**	.19**	.28**	1			
12. Other Trauma[a] (CTS 4)	.27**	-0.08	0.04	-0.06	0.03	0.10	.22**	-0.07	0.12	.20**	.27**	1		
13. Trauma[a] (CTS Total)	.43**	0.04	0.07	0.04	0.12	0.12	.30**	-.15*	.67**	.678**	.63**	.62**	1	
14. Mood Difficulties (SMFQ)	.83**	-.13*	0.10	-0.05	-0.04	0.01	.47**	-.37**	.20**	.21**	.35**	.26**	.39**	1
15. Well-Being (SWEMWEBS)	-.66**	0.12	-0.12	0.08	0.06	0.002	-.35**	.29**	-.20**	-.17*	-.26**	-.15*	-.30**	-.67**

*Note. N=278. [a] N=209. ** p<0.05 *level. ** p<.01.*

Table 3. Mann-Whitney U Test for CRLES Total Scores and Types of Trauma

	U	P	Median (Interquartile Range)	
			Exposed	Non-Exposed
1. Witness violence	4192.0	0.02	20.5 (13.0)	16.0 (13.3)
2. Physical violence	2663.5	<0.001	23.0 (11.0)	16.0 (13.0)
3. Sexual violence	1958.5	<0.001	24.0 (10.0)	16.0 (14.0)
4. Any other trauma	2902.0	<0.001	21.0 (13.0)	14.5 (10.3)

N=210; Witness violence (trauma-exposed n=126); Physical violence (trauma-exposed n=55); Sexual Violence (trauma-exposed n=55); Any other trauma (trauma-exposed n=152),

Factors predicting Well-being

A hierarchical multiple linear regression was used to determine what factors predict well-being scores. Demographic factors (see Table 4) were entered into the first step and mental health factors were entered into the second step. The model variables statistically significantly predicted well-being total scores $F(9, 250) = 25.63$ $p < .001$, R^2=0.46. These results mean that 46% of the variance in well-being total scores is explained. CLRES and SMFQ total scores each statistically significantly added to the prediction of well-being scores (p<0.001). Tests of the assumption of multicollinearity of the variables in this model found that multicollinearity was not a large concern with all variables showing a Tolerance > 0.1 and a Variance Inflation Factor (VIF) <10 (Clark-Carter, 2019), with CRLES (VIF=3.29) and SMFQ (VIF=3.29) scores showing a moderately higher VIF. A further model was run in 210 participants for whom data on trauma exposure was collected, where trauma exposure was entered into the third set. A similar pattern of results was found; however, trauma did not account for unique variance in the model. Tests of the assumption of multicollinearity in this further model found similar results with all variables having a Tolerance > 0.1 and a VIF <10, with CRLES (VIF=3.70) and SMFQ (VIF=3.54) showing a moderately higher VIF.

Table 4. Linear Multiple Regression Models for Variables Predicting Well-being scores

	All participants			**School Participants only**		
Variable	***B***	***SE B***	**β**	***B***	***SE B***	**β**
Step 1	*Step* $F(7, 252)=p<0.001,\Delta R^2=0.14$			*Step* $F(7,190)=p<0.001, \Delta R^2=0.15$		
Age	-.28	.21	-.06	-.27	.24	-.06
Gender	.40	.41	.05	.09	.49	.01
Ethnicity	.62	.75	.04	.79	.89	.05
Mental Health Status	-3.05	2.90	-.40	-3.21	2.99	-.38
Mental Health Support	.003	.003	.36	.003	.003	.35
Living with caregiver(s)Status	1.34	1.08	.06	1.55	1.36	.06
Home Status	.13	.38	.02	.24	.46	.03
Step 2	*Step* $F(9,250)= p<0.001, \Delta R^2=0.34$			*Step* $F(9,188)= p<0.001, \Delta R^2=0.36$		
Disturbances in self-organisation (CRLES)	-.17*	.05	-.37	-.19*	.05	-.39
Mood Difficulties (SMFQ)	-.19*	.05	-.35	-.20*	.05	-.36
Step 3				*Step* $F(10,187)=p<0.001, \Delta R^2=0.00$		
Trauma exposure (CTS) [a]				.07	.20	.02
Overall model R^2		.46			.48	
Overall Model F		25.63*			19.48*	

[a] entered into school participants model only

$*p<0.001$

Note: B, SE, β Regression coefficients are for the final step

Discussion

The current study explored the reliability and factor structure of a measure of DSO and its association with related risk factors in a UK community sample of adolescents.

Primary Questions

The current study found that 52.9% of adolescents in this sample endorsed DSO symptoms (endorsed at least one item for each of the three symptom clusters) as measured using the CRLES. The CRLES had high internal consistency for total scores and the three DSO criteria; this is comparable with Hiller et al.'s (2021) research using this measure with young people in out-of-home care. In line with the hypothesis, the three-factor structure of the CRLES was superior to the univariate model, suggesting that the CRLES adequately structures itself around the three DSO criteria. Therefore, results of the primary research questions suggest that the CRLES is an appropriate measure capturing the three DSO criteria specific to Complex PTSD in adolescents in the UK.

Secondary Questions

In line with our hypotheses, DSO symptoms moderately correlated with increased trauma exposure and highly correlated with lower well-being and particularly, increased mood difficulties. Regression analysis found that those with increased mood difficulties and increased DSO predicted lower well-being. However, none of the sociodemographic factors or having had a previous mental health difficulty predicted overall well-being. Interestingly, increased trauma exposure in the second model did not predict lower well-being scores and the model stayed, largely, consistent when trauma exposure was factored in. This is in contrast to research in adults which have found that cumulative and increased exposure to trauma itself is predictive of complexity (Cloitre et al., 2013; Frost et al., 2019; Van der Kolk et al., 2005). The current study's results suggest that one's reaction to a traumatic event, rather than the trauma itself, may be indicative of overall lower well-being. This reaction may be captured through DSO itself and through mood difficulties. These findings highlight that DSO is largely predictive of well-being and linked to mood difficulties. This is in line with some of the adult literature on Complex PTSD which has found that increased DSO endorsement is linked to increased functional impairment, including internalizing symptoms, such as depression and anxiety and externalizing problems, such as aggression (Brewin et al., 2017; Elklit et al., 2014; Karatzias et al., 2017; Zerach et al., 2019).

These findings also highlight an important link between mood difficulties and DSO. Both were highly correlated and both were predictive of well-being. This is line with previous research on DSO in children in foster care which found a strong correlation between DSO and depression (Haselgruber et al., 2021). While the proportion of self-reported mental health difficulties was high in the sample, it is plausible to suggest that DSO may be its own construct, that is closely linked to well-being and mood difficulties, rather than being a distinctive extreme expression of PTSD. This is highlighted through Achterhof et al.'s (2019) study that suggested that Complex PTSD and PTSD may reflect two distinctive groups; instead of Complex PTSD being on a continuum with PTSD, it is plausible that these are actually two distinct separate constructs that may partially overlap. Given the very strong relationship (Spearman's rho > .8) between DSO symptoms and low mood in this sample, DSO may be another index of low mood or depression.

A strong relationship between PTSD and mood difficulties in youth has been widely reported (Claxton et al., 2021; Wang et al., 2020). According to this viewpoint, Complex PTSD could therefore reflect presentations of PTSD with moderate to severe comorbid depression.

However, in this sample DSO symptoms accounted for variance in well-being over and above the impact of mood difficulties, suggesting that this newer construct is capturing difficulties that are distinct from depression. This adds to questions around the overlap between DSO, or Complex PTSD specifically, with other psychopathologies (Moller et al., 2020; Jowett et al., 2020), such as Borderline Personality Disorder which is characterised by experiences similar to DSO, such as emotion regulation difficulties (Lieb et al., 2004). While not every individual will develop PTSD from traumatic experience(s), some individuals may still develop DSO. DSO could, therefore, may be a predictor of overall functional impairment rather than the trauma itself. Additionally, given the high prevalence of DSO in this sample, it is suggested that DSO symptomology may be more widespread and fairly normally distributed in young adults. This adds to the wider debate around the Complex PTSD topic, bringing into question the meaning and unique significance of DSO.

Limitations

It is important to note the various limitations with the current study. While the current recruitment strategy allowed for the sample to be geographically representative, the sample was predominately female white British. While this is not widely generalisable, this is roughly in line with the ethnicity demographics of the UK (ONS, 2018). Approximately 65% of the overall sample had a previous mental health difficulty, which remained consistent across both the school and social media samples. This is a relatively high proportion of mental health difficulties in this community sample and therefore may have caused a degree of bias in the findings and could explain why scores on the questionnaires may be relatively high for a community sample. It is possible that those with mental health difficulties also may be more likely to participate in this type of research. Additionally, recruitment took place within the COVID-19 pandemic, which may also explain the increase in mental health difficulties within the sample at the time of data collection.

The sample size was relatively small for a community of sample of adolescents. However, the sample size was still in line with a priori power calculations; approximately 18 participants per item were recruited for the CRLES measure which follows the research on new measures (Bentler & Chou, 1987; Nunnally et al., 1967). Additionally, total scores on the CRLES were used for the analysis, which is in line with the analysis from the previous study using the same measure (Hiller et al., 2021). However, given the adequate three factor structure of the CRLES, data could have been analysed using three subscale DSO scores instead.

Implications for Clinical Practice

The findings suggest that the CRLES as a measure of DSO is a reliable measure to use within community samples of adolescents, given its adequate factor structure and internal consistency. Test re-test analysis of the current measure should be explored in future studies to understand the validity of this measure in younger samples. Larger scale community samples across multiple countries are needed to fully understand the prevalence of DSO in younger populations, with particular emphasis on its link to other mental health symptomology. Further studies are needed to understand this link between DSO, mood difficulties, and well-being more closely and understand if interventions targeting DSO will help improve overall well-being and mood difficulties.

Conclusion

Overall, the current study found that in this sample approximately half of the participants endorsed DSO or disturbances in self-organisation as defined by the ICD-11 (WHO, 2018). This was measured using the Complex Reactions to Life Events Scale (CRLES) which showed high internal consistency within the sample and showed that its three-factor structure, encompassing the three symptom clusters, was superior to a unifactorial model. The findings also showed that increased DSO and mood difficulties predicted lower well-being scores. When trauma was added, this did not add to the model. This suggests that trauma itself may not impact overall well-being, but it may be the reaction to the trauma rather than the event that has the greatest impact. While the sample size was too small to be truly representative and while there was a high proportion of mental health difficulties in the sample, this study highlights that DSO itself could be linked to mood difficulties and be a prediction of functioning rather than the trauma itself. The study, therefore, highlights the importance of understanding and addressing the wider impact of these DSO difficulties.

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CHAPTER FIVE

Discussion and Critical Evaluation

Word count: 2,835

Discussion and Critical Evaluation

The overall aim of the thesis was to explore the three additional criteria unique to Complex Post-Traumatic Stress Disorder (PTSD) otherwise known as disturbances in self-organisation (DSO) in children and adolescents. The introduction of the new Complex PTSD diagnosis to the International Classification of Diseases-11th Version (ICD-11, WHO, 2018) brought on a breadth of research focused on understanding and measuring this concept. Studies have focused on understanding DSO's link to various psychopathologies, including borderline personality disorder, as well as understanding its unique nature as a separate diagnosis to PTSD (Ford & Courtois, 2014; Ford & Courtois, 2021; Knefel et al., 2016). Since the proposal of this diagnosis, research has largely focused on the adult population exposed to a range of traumatic experiences (Ben-Ezra et al., 2018; Bottche et al., 2018; Kararzias et al., 2019), however little attention has been paid to understanding DSO as a unique construct and, particularly, how it presents in younger populations. This thesis portfolio aimed to address these gaps in the literature by seeking to understand this concept and provide a reliable tool of measurement for DSO in children and adolescents as well as contributing to the wider understanding of how this concept relates to trauma within this population.

To the authors' knowledge, the meta-analysis presented in this thesis portfolio is the first review to evaluate the relationship between trauma and maltreatment and negative self-concept, one of the three DSO symptom clusters, in children and adolescents. Using a random-effects model, data from ninety-five studies were extracted and analysed. Moderator analyses were conducted to explore heterogeneity and the potential factors influencing this relationship. Overall, the findings from the meta-analysis suggested that there is a small relationship between trauma and maltreatment and negative self-concept. This relationship is larger for studies that look at child sexual abuse compared to a mix of traumas, for studies looking at multiple and repeated trauma compared to single event trauma, and for studies that are conducted in low-middle income countries compared to high income countries.

Following on from this was the empirical paper which aimed to evaluate a new measure of DSO in adolescents. This research aimed to understand the psychometric properties of a new measure of DSO to be used in this younger population and explored the correlates related to this measure. A cross-sectional questionnaire design was used with 278 participants recruited. Findings from this study showed that this new measure of DSO showed good internal consistency within the sample. Confirmatory factor analysis additionally found that the three-factor structure of the measure, assessing the three symptom clusters of DSO, was favourable to the unifactorial model. Analysis of its correlates found that trauma exposure, having a previous mental health difficulty, gender, mood difficulties, and lower well-being were correlated with DSO. The study also found that in this sample DSO was quite prevalent, with over half of the sample endorsing all three symptoms. A final analysis found that DSO and mood difficulties, and not trauma exposure and sociodemographic factors, predicted lower well-being, suggesting that trauma exposure alone may not uniquely contribute to one's overall level of functioning.

Strengths and Limitations

The systematic review and meta-analysis offered a comprehensive review into the relationship between trauma exposure and negative self-concept. It included a large number of studies and a large number of participants overall. This enabled a fairly robust evaluation of the relationship between the variables. Moderator analysis based on study level characteristics provided a consistent approach across the studies and allowed for further understanding of the size of the relationships to be made. While this was done to keep consistency between the studies, especially amongst the amount of discrepancy between the characteristics within the studies in such a large meta-analysis, other approaches could have been used. For example, analysis on individual level characteristics may have provided more information on this relationship, however given the differences between the studies this would provide additional complexity. Future studies could focus on conducting further individual level moderator analyses looking at specific types of traumas, such as physical abuse or neglect. However, a point of concern with this approach is the number of studies that focus on a single measure of trauma, using a questionnaire for example, with an aggregate continuous score of trauma exposure. The current review conducted additional analysis to account for this and it was particularly important for this review to consider a broader range of traumas, however further exploration of trauma, more specifically, could be explored in future studies. The pre-registration of the protocol including a priori identification of moderators and the analysis plan allowed for a transparent and methodologically consistent approach. Identification of the second research question in the protocol paves the way for further exploration of negative self-concept and mental health outcomes in only trauma exposed youth.

In the current review, a decision was made to restrict the search to studies from when PTSD was added to the Diagnostic and Statistical Manual (DSM) (APA, 1980). It is plausible that in doing this, studies that may have been relevant to the questions were excluded. While correlation analysis was used for this review, it is not possible to make definite conclusions around the causation of this relationship. It is clear that there is a small relationship between trauma and negative self-concept in young people, but the causal direction of this relationship is still in question. An important goal for future studies would be to explore the potential causal link between these two concepts by focusing on longitudinal studies. Additionally, future research focusing on the relationship between trauma and the two other symptom clusters of DSO, interpersonal difficulties and affect dysregulation, in children and adolescents may give further indication of DSO and trauma as a whole construct.

The second paper in the thesis portfolio, the empirical study, used a cross-sectional questionnaire study design as the main methodological approach. This study design allowed for a significant amount of data to be collected at one time point which minimised the issue of missing data. This approach lend itself well to recruiting a larger sample size; the questionnaire was relatively brief and conducted online which allowed the platform to be user friendly and accessible. This was also easy to deliver from staff at sixth form colleges as it only required sending an email with a link to potential participants. These factors contributed to reducing participant burden when completing the study. Recruitment occurred in the wider context of the COVID-19 pandemic with the subsequent closure of schools. This presented with various challenges, however given those constraints the study design enabled the researcher to still recruit a relatively large sample size, which was in line with a priori power calculations, in a short period of time. While there were challenges to recruitment which may continue to take place in larger scale studies, focusing on recruitment in sixth form colleges and schools for future studies may be a good avenue to consider. Larger scale studies are still needed to understand the prevalence of DSO in children and adolescents and to be representative of these younger age groups. Recruiting through sixth forms colleges was a useful approach to target this population. Therefore, future studies could focus on recruiting participants on a large scale through education facilities across the United Kingdom. Additionally, the new measure of DSO seems to be a reliable questionnaire that adequately and appropriately picks up the three symptom clusters of

DSO with good factor structure. This measure provides a useful tool for assessing DSO in children and adolescents that can be used widely.

While the study design was a strength, other methodologies were considered. A test-retest design would have provided additional information on the psychometric validity of the new measure of DSO. While this was not possible to explore in a single time point cross-sectional design, this approach may have provided additional valuable data. However, given the ethical complexities of using this design in an anonymous survey and the increase burden on participants, especially in the context of the pandemic, this design was not used. A test re-test approach may have increased the likelihood of participants drop-out rates and missing data, and therefore, it did not seem appropriate for this empirical study.

A methodological point to highlight is the choice of not including a measure of PTSD in the questionnaire pack. The aim of the research was to focus on DSO as a unique construct and not assess PTSD or Complex PTSD as diagnoses. Additionally, given the ethical considerations of asking about trauma, the inability to provide appropriate resources to those who might meet criteria and weighing up keeping participants' anonymity, a decision was made to not include a measure of PTSD in the questionnaire pack. However, this creates an avenue for future research to focus on assessing Complex PTSD with this new DSO measure alongside a measure of PTSD, such as The Children's Revised Impact of Events Scale (Perrin et al., 2005) in this age group. Additionally, a cautious approach was taken when asking questions about trauma to adolescents. A choice was made to include a less intrusive measure of trauma exposure; while there were genuine ethical concerns around asking about trauma in this way, it is plausible that this may have been an overly cautious approach. Future studies could aim to explore the relationship between DSO and type of trauma more closely.

A strength of the current study was the inclusion of older adolescents attending sixth forms colleges where recruitment took place; the minimum age was increased to 20 years old to account for this. Careful consideration was made to keep the minimum participant age to 16 years old to increase the autonomy of participants when consenting to this research. Studies exploring DSO and studies exploring Complex PTSD measures have largely focused on adults (Shevlin et al., 2018; Vang et al., 2021); understanding the DSO construct in older adolescents, therefore, seemed appropriate as a target age group. However, future studies focusing on children and younger adolescents could provide more information about the reliability of this measure and DSO's related correlates in these populations.

Clinical and Theoretical Implications

The overall thesis portfolio provides important clinical and theoretical implications for practice and provides valuable contributions to the evidence-base of DSO linked to Complex PTSD. Many studies have not evaluated DSO in younger groups and this is one of the first studies to do so explicitly. This is an important strength to the literature and provides many potential opportunities for future research. There has been widespread debate and questions surrounding the overlap of a Complex PTSD diagnosis with other diagnoses (Jowett et al., 2020; Moller et al., 2020). It has been theorised in the adult literature that this could be more closely linked to Borderline Personality Disorder, which is characterised by emotional regulation and interpersonal difficulties (Lieb et al., 2004) rather than PTSD or other broad mood and anxiety disorders. Both the meta-analysis and the empirical study bring in to question the meaning of DSO which adds to the broader debate around this Complex PTSD topic.

The findings of the empirical paper highlight an important point about DSO as its own construct. DSO uniquely contributed to well-being, regardless of the impact of trauma. A large overlap was also found between DSO and mood difficulties. While the empirical study only looked at a small proportion of children and adolescents and is not widely representative, it is important to highlight DSO as a potentially distinct construct not necessarily linked only to trauma and potentially PTSD, but potentially linked to overall difficulties in functioning. DSO may not be unique to PTSD; it can be theorised that DSO may be a response linked to various other outcomes. It may be possible that individuals may endorse the three DSO symptom clusters without the presence of trauma. Its strong link to mood and well-being and endorsement of these symptoms in the recruitment stream that did not ask about trauma may partly evidence this finding. While it is important to caveat that this sample had a large proportion of those endorsing previous mental health difficulties, DSO being fairly widespread in this specific population brings into question if it is uniquely linked to one diagnosis. Further research is needed to explore this construct more closely in a range of age groups. This new measure of DSO, therefore, is a reliable tool to spearhead this research. Larger scale studies, potentially using this measure, are needed to understand the true prevalence of DSO both in the UK and worldwide. If DSO is fairly common in younger populations, this may bring into question if the ICD-11 adequately captures what Complex PTSD is in its definition. PTSD may have additional complexities, but this may not be defined in a way that addresses these. Alternatively, this could suggest that similar to a personality disorder diagnosis (Adshead et al., 2012), it may not be meaningful to use this diagnosis in this younger age group.

Additionally these findings bring into question how we look at the term self-concept. While research has mainly looked at this a mediator for more severe psychopathology (Yoon et al., 2019), which may be the case, perhaps it is also a unique factor in overall well-being and functioning in the absence of other mental health difficulties. Given the small effect found between trauma exposure and self-concept, it is also possible that this relationship in younger populations is not as severe as one might think; self-concept may remain relatively stable even in the context of trauma for some children and adolescents and for other individuals it may be significantly and negatively affected. Another possible suggestion is that if this relationship is causal, it may not be the trauma itself that impacts self-concept, but perhaps the presence of other mental health difficulties or other environmental stressors that could contribute to this effect.

The size of the relationship between experiencing trauma or maltreatment and negative self-concept is small. This is a surprising finding as it is often viewed that trauma largely impacts one's sense of self (Briere & Rickards, 2007). This effect is larger with increased trauma exposure and type of trauma; however the relationship still remains relatively small. It is possible that the impact of trauma may not be felt until later in life or that one's sense of self largely remains stable in the presence of other difficulties experienced.

This thesis portfolio also demonstrates that DSO and its symptom clusters are a useful construct, partly linked to trauma but also partly linked to well-being and other difficulties. DSO on its own, in the absence of trauma, may give a good indication of overall well-being and may be a wider phenomenon than the experience of trauma itself. While the literature focuses on DSO's link to trauma in the context of PTSD this thesis provides valuable information about its use as a construct alone. Understanding DSO may be important to predicting overall well-being which stresses the importance of identifying, targeting, and providing interventions to help DSO in young people.

Our findings also suggest that it may not be the trauma event itself that has the greatest impact on a person's coping or well-being, but the way that someone responds to the event that may impact this. Trauma itself may not be a risk factor for poorer well-being but the extent of one's DSO may be. Resilience may play a role here, where some people may be resilient to the event and their self-concept may remain largely stable, while other individuals may have worse outcomes overall. The presence of social support networks, additionally, may also help maintain positive self-concept in the aftermath of a trauma experience. Given the questions that still remain and the possibility of what DSO may largely represent research is still needed to truly understand the risk and relationship between trauma, well-being, and DSO.

Overall Conclusion

The thesis portfolio aimed to explore disturbances in self-organisation (DSO) both as a concept in adolescents, by using a new measure to assess this, and understanding one of DSO's symptom clusters and its relationship to trauma specifically. This thesis provides some interesting background into DSO in adolescents. It firstly suggests that DSO may be linked closely to other mental health difficulties as opposed to trauma itself and puts into question how distinct this may be from other constructs or diagnoses. Given the recent addition of Complex PTSD to the ICD-11 (WHO, 2018), this thesis brings into question what is meant by DSO as a concept and the uniqueness of its role within this novel disorder.

This concept has been much debated in the literature with some suggesting DSO fits the profile of Complex PTSD (Shevlin et al., 2018). Other research suggests that DSO is more widespread (Achterhof et al., 2019) and may not be a unique construct defining Complex PTSD, but perhaps a marker of overall general lower well-being which may increase the risk of developing more severe outcomes. Overall, while these debates may continue further research is needed to explore this concept more widely in children and adolescents.

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Appendix A. Author Guidelines for Journal of Clinical Child & Adolescent Psychology

Instructions for authors

COVID-19 impact on peer review

As a result of the significant disruption that is being caused by the COVID-19 pandemic we understand that many authors and peer reviewers will be making adjustments to their professional and personal lives. As a result they may have difficulty in meeting the timelines associated with our peer review process. Please let the journal editorial office know if you need additional time. Our systems will continue to remind you of the original timelines but we intend to be flexible.

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Contents

About the Journal

Journal of Clinical Child & Adolescent Psychology is an international, peer-reviewed journal publishing high-quality, original research. Please see the journal's Aims & Scope for information about its focus and peer-review policy.

Please note that this journal only publishes manuscripts in English.

Journal of Clinical Child & Adolescent Psychology accepts the following types of article:

- Regular Articles, Brief Reports, Future Directions

The Journal of Clinical Child and Adolescent Psychology (JCCAP) is the official journal for the Society of Clinical Child and Adolescent Psychology, American Psychological Association, Division 53. It publishes original contributions on the following topics: (1) development and evaluation of assessment and intervention techniques for use with clinical child and adolescent populations; (2) development and maintenance of clinical child and adolescent problems; (3) cross-cultural and sociodemographic issues that have a clear bearing on clinical child and adolescent psychology theory, research, or practice; and (4) training and professional practice in clinical child and adolescent psychology as well as child advocacy. Manuscripts that discuss theoretical and/or methodological issues on topics pertinent to clinical child and adolescent psychology also are considered. Authors need not be members of Division 53 to submit articles to JCCAP.

There are several criteria that increase the likelihood that a manuscript will be favorably evaluated in JCCAP: (1) The paper reflects a substantive advance in our understanding of clinical child and adolescent psychology. (2) The paper is of such importance that it likely will influence an area of research. (3) The paper presents new ideas or creative methods. (4) The paper offers theoretically-driven hypotheses. (5) Multiple measures, informants, or procedures are used to collect data. (6) Sophisticated methodologies are carefully employed. (7) Longitudinal methods are used. (8) Data are rigorously and appropriately analyzed. (9) The implications of the findings for clinical child and adolescent psychology are well articulated.

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Preparing Your Paper

Regular Articles, Brief Reports, Future Directions

- Should be written with the following elements in the following order: title page; abstract; main text; references; appendices (as appropriate); table(s) with caption(s) (on individual pages); figures; figure captions (as a list)
- Should contain a structured abstract of 250 words.
- Read making your article more discoverable, including information on choosing a title and search engine optimization.
- A Regular Article may not exceed 11,000 words (i.e., 35 pages), including references, footnotes, figures, and tables. Brief Reports include empirical research that is soundly designed, but may be of specialized interest or narrow focus. Brief Reports may not be submitted in part or whole to another journal of general circulation. Brief Reports may not exceed 4,500 words for text and references. These limits do not include the title page, abstract, author note, footnotes, tables, and figures. Manuscripts that exceed these page limits and that are not prepared according to the guidelines in the Manual will be returned to authors without review. Future Directions submissions are written by leading scholars within the field. These articles provide a brief summary of important advances that are needed within a specific research or practice area pertinent to clinical child and adolescent psychology. Future Directions submissions are by invitation only and undergo peer review.

  All Regular Article and Brief Report submissions must include a title of 15 words or less that identifies the developmental level of the study participants (e.g., children, adolescents, etc.). JCCAP uses an unstructured abstract format. For studies that report randomized clinical trials or meta-analyses, the abstract also must be consistent with the guidelines set forth by CONSORT or MARS, respectively. The Abstract should include up to 250 words, presented in paragraph form. The Abstract should be typed on a separate page (page 2 of the manuscript), and must include each of the following label sections: 1) Objective (i.e., a brief statement of the purpose of the study); 2) Method (i.e., a detailed summary of the participants, N, age, gender, ethnicity, as well as a summary of the study design, measures, and procedures; 3) Results (i.e., a detailed summary of the primary findings that clearly articulate comparison groups (if relevant); 4) Conclusions (i.e., a description of the research and clinical implications of the findings). Avoid abbreviations, diagrams, and reference to the text in the abstract. JCCAP will scrutinize manuscripts for a clear theoretical framework that supports central study hypotheses.

In addition, a clear developmental rationale is required for the selection of participants at a specific age. The Journal is making diligent efforts to insure that there is an appropriately detailed description of the sample, including a) the population from which the sample was drawn; b) the number of participants; c) age, gender, ethnicity, and SES of participants; d) location of sample, including country and community type (rural/urban), e) sample identification/selection; f) how participants were contacted; g) incentives/rewards; h) parent consent/child assent procedures and rates; i) inclusion and exclusion criteria; j) attrition rate. The Discussion section should include a comment regarding the diversity and generality (or lack thereof) of the sample. The Measures section should include details regarding item content and scoring as well as evidence of reliability and validity in similar populations.

All manuscripts must include a discussion of the clinical significance of findings, both in terms of statistical reporting and in the discussion of the meaningfulness and clinical relevance of results. Manuscripts should a) report means and standard deviations for all variables, b) report effect sizes for analyses, and c) provide confidence intervals wherever appropriate (e.g., on figures, in tables), particularly for effect sizes on primary study findings. In addition, when reporting the results of interventions, authors should include indicators of clinically significant change. Authors may use one of several approaches that have been recommended for capturing clinical significance, including (but not limited to) the reliable change index (i.e., whether the amount of change displayed by a treated individual is large enough to be meaningful, the extent to which dysfunctional individuals show movement to the functional distribution).

All manuscripts should conform to the criteria listed in Table 1 of the 2008 APA Publications and Communications Board Working Group on Journal Article Reporting Standards (published in American Psychologist). These reporting standards apply to all empirical papers. In addition, JCCAP requires that reports of randomized clinical trials conform to CONSORT reporting standards (http://www.consort-statement.org/index.aspx?o=2965), including the submission of a flow diagram and checklist. Nonrandomized clinical trials must conform to TREND criteria (see http://www.cdc.gov/trendstatement/docs/AJPH_Mar2004_Trendstatement.pdf) and meta-analyses should conform to MARS standards (see Table 4 in 2008 American Psychologist article).

Style Guidelines

Please refer to these quick style guidelines when preparing your paper, rather than any published articles or a sample copy.

Please use American spelling style consistently throughout your manuscript.

Please use double quotation marks, except where “a quotation is ‘within’ a quotation”. Please note that long quotations should be indented without quotation marks.

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References

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Checklist: What to Include

1. **Author details.** All authors of a manuscript should include their full name and affiliation on the cover page of the manuscript. Where available, please also include ORCiDs and social media handles (Facebook, Twitter or LinkedIn). One author will need to be identified as the corresponding author, with their email address normally displayed in the article PDF (depending on the journal) and the online article. Authors’ affiliations are the affiliations where the research was conducted. If any of the named co-authors moves affiliation during the peer-review process, the new affiliation can be given as a footnote. Please note that no changes to affiliation can be made after your paper is accepted. Read more on authorship.
2. You can opt to include a **video abstract** with your article. Find out how these can help your work reach a wider audience, and what to think about when filming.
3. **Funding details.** Please supply all details required by your funding and grant-awarding bodies as follows:
   For single agency grants
   This work was supported by the [Funding Agency] under Grant [number xxxx].
   For multiple agency grants
   This work was supported by the [Funding Agency #1] under Grant [number xxxx];

[Funding Agency #2] under Grant [number xxxx]; and [Funding Agency #3] under Grant [number xxxx].

4. **Disclosure statement.** This is to acknowledge any financial interest or benefit that has arisen from the direct applications of your research. Further guidance on what is a conflict of interest and how to disclose it.
5. **Data availability statement.** If there is a data set associated with the paper, please provide information about where the data supporting the results or analyses presented in the paper can be found. Where applicable, this should include the hyperlink, DOI or other persistent identifier associated with the data set(s). Templates are also available to support authors.
6. **Data deposition.** If you choose to share or make the data underlying the study open, please deposit your data in a recognized data repository prior to or at the time of submission. You will be asked to provide the DOI, pre-reserved DOI, or other persistent identifier for the data set.
7. **Supplemental online material.** Supplemental material can be a video, dataset, fileset, sound file or anything which supports (and is pertinent to) your paper. We publish supplemental material online via Figshare. Find out more about supplemental material and how to submit it with your article.
8. **Figures.** Figures should be high quality (1200 dpi for line art, 600 dpi for grayscale and 300 dpi for color, at the correct size). Figures should be supplied in one of our preferred file formats: EPS, PDF, PS, JPEG, TIFF, or Microsoft Word (DOC or DOCX) files are acceptable for figures that have been drawn in Word. For information relating to other file types, please consult our Submission of electronic artwork document.
9. **Tables.** Tables should present new information rather than duplicating what is in the text. Readers should be able to interpret the table without reference to the text. Please supply editable files.
10. **Equations.** If you are submitting your manuscript as a Word document, please ensure that equations are editable. More information about mathematical symbols and equations.
11. **Units.** Please use SI units (non-italicized).

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Authors are further encouraged to cite any data sets referenced in the article and provide a Data Availability Statement.

At the point of submission, you will be asked if there is a data set associated with the paper. If you reply yes, you will be asked to provide the DOI, pre-registered DOI, hyperlink, or other persistent identifier associated with the data set(s). If you have selected to provide a pre-registered DOI, please be prepared to share the reviewer URL associated with your data deposit, upon request by reviewers.

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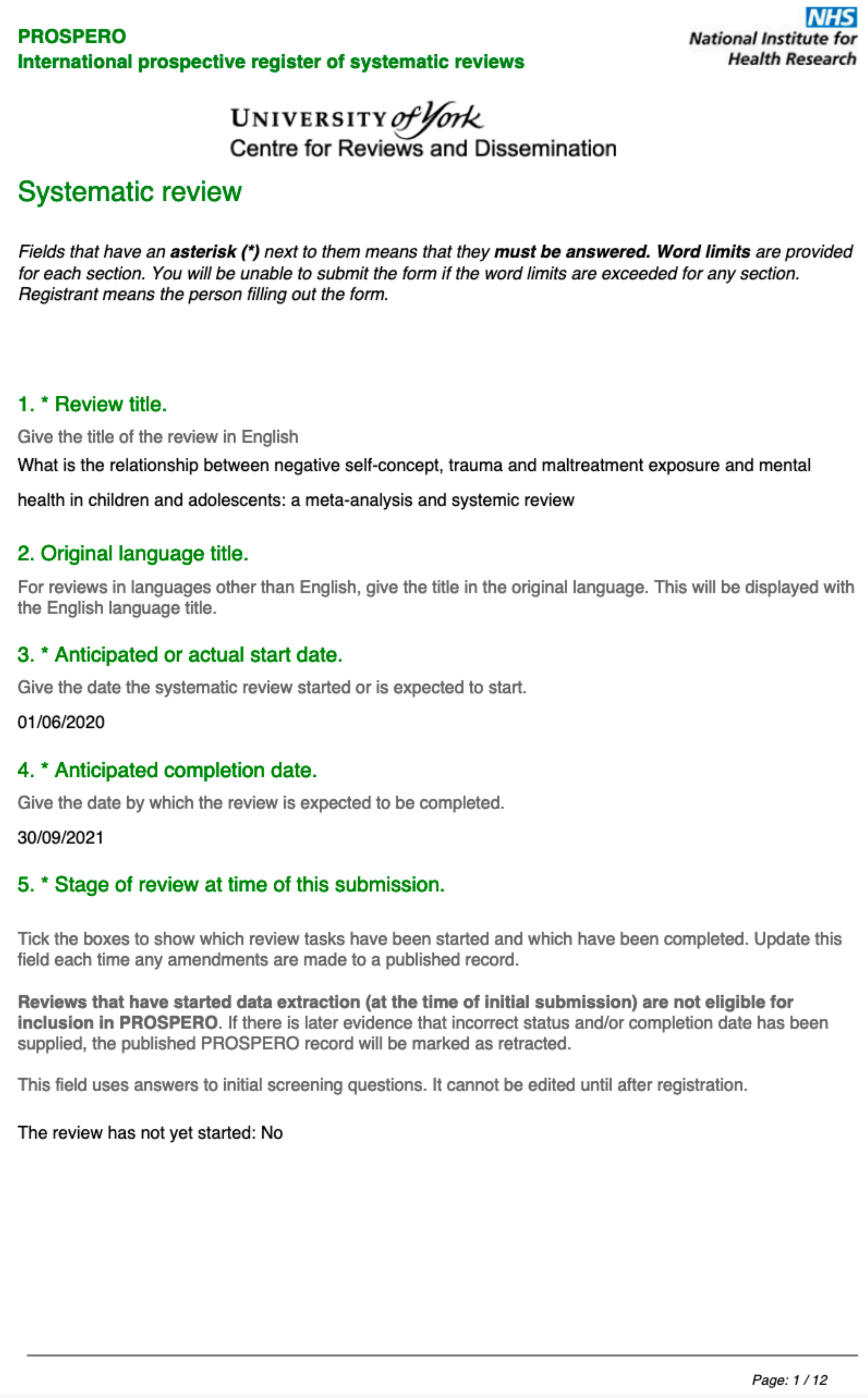
Appendix B. PROSPERO Protocol



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NHS
National Institute for Health Research

UNIVERSITY of York
Centre for Reviews and Dissemination

Systematic review

Fields that have an ***asterisk (*)*** *next to them means that they* ***must be answered. Word limits*** *are provided for each section. You will be unable to submit the form if the word limits are exceeded for any section. Registrant means the person filling out the form.*

1. * Review title.

Give the title of the review in English

What is the relationship between negative self-concept, trauma and maltreatment exposure and mental health in children and adolescents: a meta-analysis and systemic review

2. Original language title.

For reviews in languages other than English, give the title in the original language. This will be displayed with the English language title.

3. * Anticipated or actual start date.

Give the date the systematic review started or is expected to start.

01/06/2020

4. * Anticipated completion date.

Give the date by which the review is expected to be completed.

30/09/2021

5. * Stage of review at time of this submission.

Tick the boxes to show which review tasks have been started and which have been completed. Update this field each time any amendments are made to a published record.

Reviews that have started data extraction (at the time of initial submission) are not eligible for inclusion in PROSPERO. If there is later evidence that incorrect status and/or completion date has been supplied, the published PROSPERO record will be marked as retracted.

This field uses answers to initial screening questions. It cannot be edited until after registration.

The review has not yet started: No

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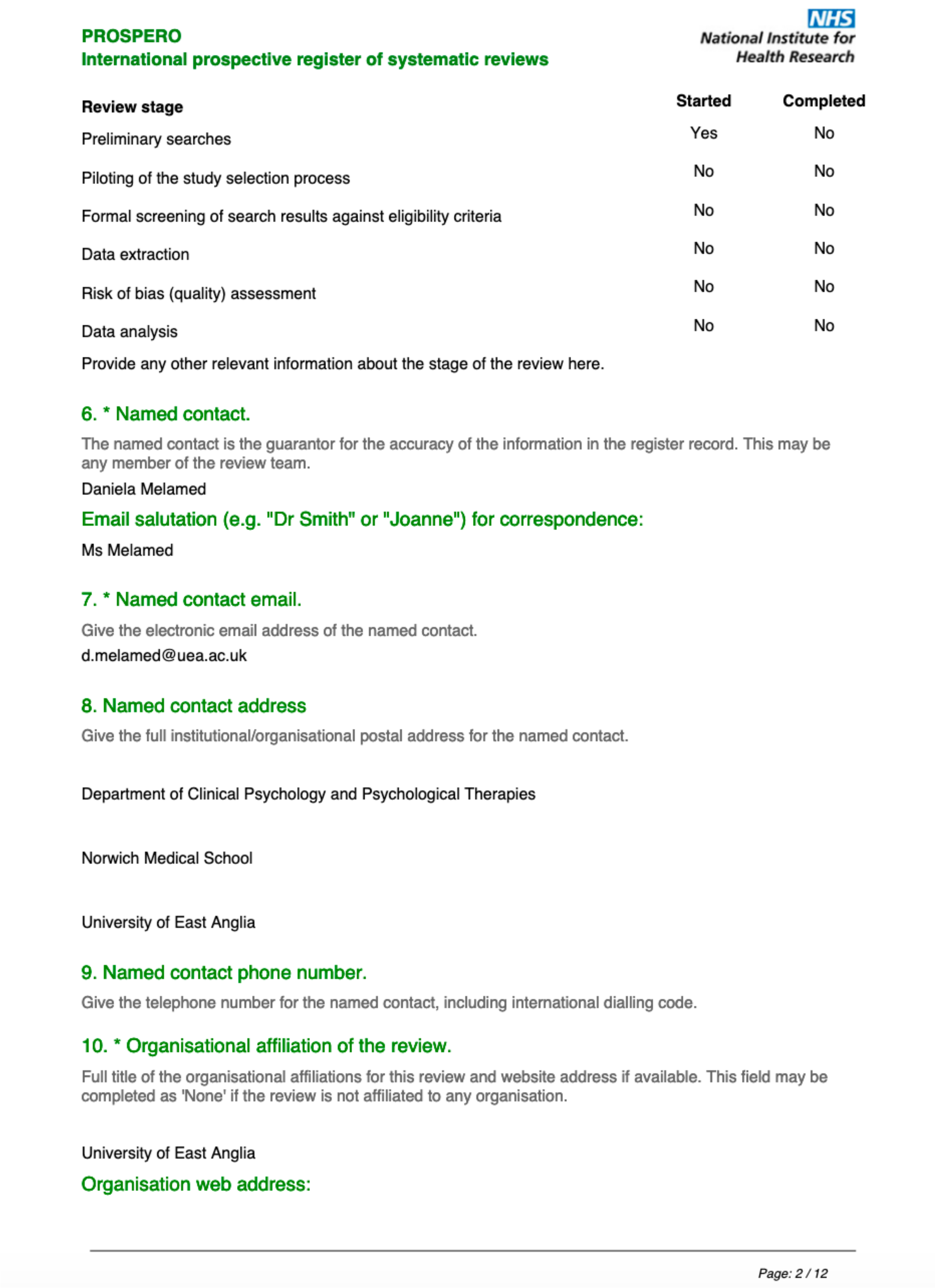


Review stage	Started	Completed
Preliminary searches	Yes	No
Piloting of the study selection process	No	No
Formal screening of search results against eligibility criteria	No	No
Data extraction	No	No
Risk of bias (quality) assessment	No	No
Data analysis	No	No

Provide any other relevant information about the stage of the review here.

6. * Named contact.

The named contact is the guarantor for the accuracy of the information in the register record. This may be any member of the review team.

Daniela Melamed

Email salutation (e.g. "Dr Smith" or "Joanne") for correspondence:

Ms Melamed

7. * Named contact email.

Give the electronic email address of the named contact.

d.melamed@uea.ac.uk

8. Named contact address

Give the full institutional/organisational postal address for the named contact.

Department of Clinical Psychology and Psychological Therapies

Norwich Medical School

University of East Anglia

9. Named contact phone number.

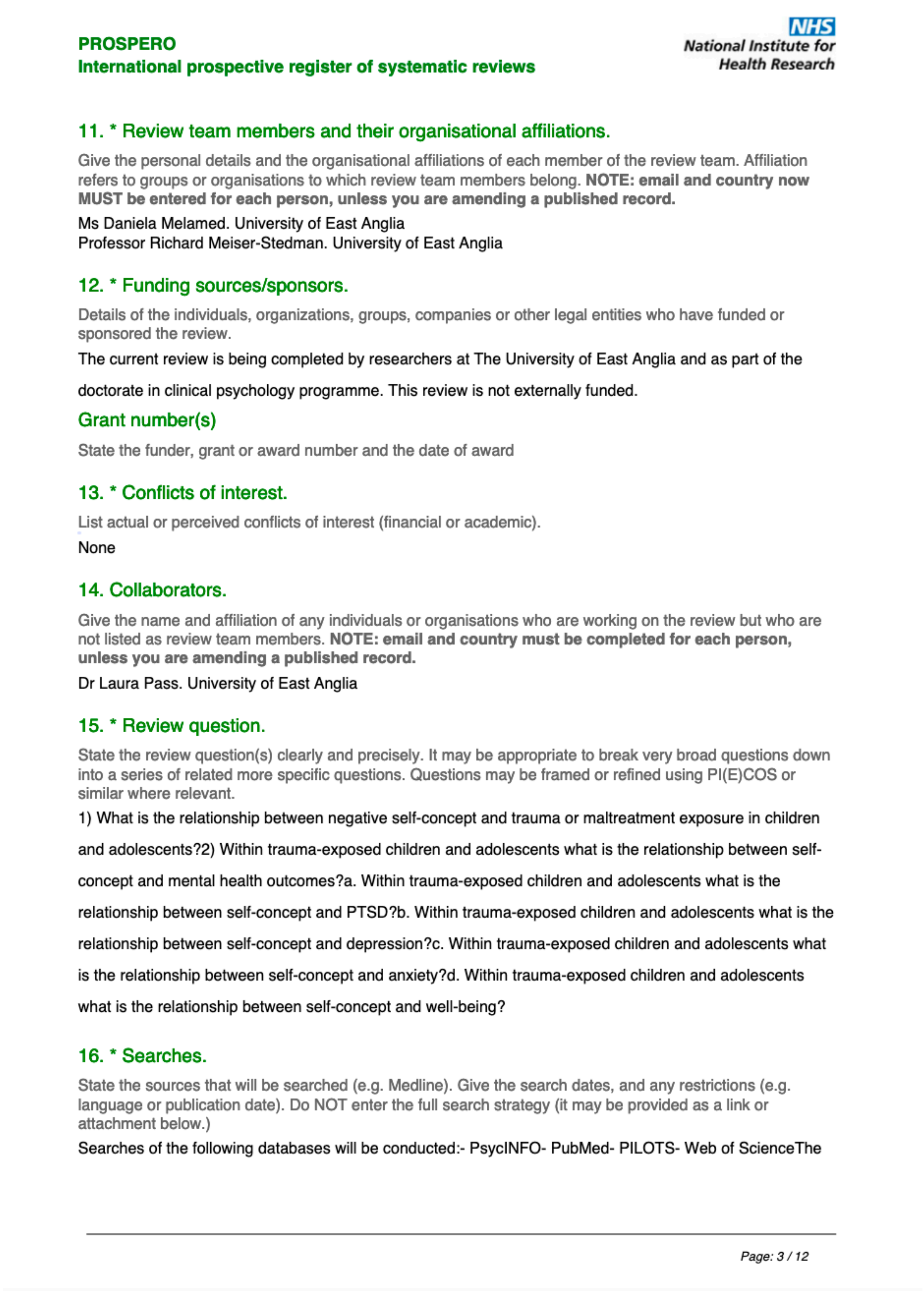
Give the telephone number for the named contact, including international dialling code.

10. * Organisational affiliation of the review.

Full title of the organisational affiliations for this review and website address if available. This field may be completed as 'None' if the review is not affiliated to any organisation.

University of East Anglia

Organisation web address:



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National Institute for Health Research

11. * Review team members and their organisational affiliations.

Give the personal details and the organisational affiliations of each member of the review team. Affiliation refers to groups or organisations to which review team members belong. **NOTE: email and country now MUST be entered for each person, unless you are amending a published record.**

Ms Daniela Melamed. University of East Anglia
Professor Richard Meiser-Stedman. University of East Anglia

12. * Funding sources/sponsors.

Details of the individuals, organizations, groups, companies or other legal entities who have funded or sponsored the review.

The current review is being completed by researchers at The University of East Anglia and as part of the doctorate in clinical psychology programme. This review is not externally funded.

Grant number(s)

State the funder, grant or award number and the date of award

13. * Conflicts of interest.

List actual or perceived conflicts of interest (financial or academic).

None

14. Collaborators.

Give the name and affiliation of any individuals or organisations who are working on the review but who are not listed as review team members. **NOTE: email and country must be completed for each person, unless you are amending a published record.**

Dr Laura Pass. University of East Anglia

15. * Review question.

State the review question(s) clearly and precisely. It may be appropriate to break very broad questions down into a series of related more specific questions. Questions may be framed or refined using PI(E)COS or similar where relevant.

1) What is the relationship between negative self-concept and trauma or maltreatment exposure in children and adolescents?2) Within trauma-exposed children and adolescents what is the relationship between self-concept and mental health outcomes?a. Within trauma-exposed children and adolescents what is the relationship between self-concept and PTSD?b. Within trauma-exposed children and adolescents what is the relationship between self-concept and depression?c. Within trauma-exposed children and adolescents what is the relationship between self-concept and anxiety?d. Within trauma-exposed children and adolescents what is the relationship between self-concept and well-being?

16. * Searches.

State the sources that will be searched (e.g. Medline). Give the search dates, and any restrictions (e.g. language or publication date). Do NOT enter the full search strategy (it may be provided as a link or attachment below.)

Searches of the following databases will be conducted:- PsycINFO- PubMed- PILOTS- Web of ScienceThe

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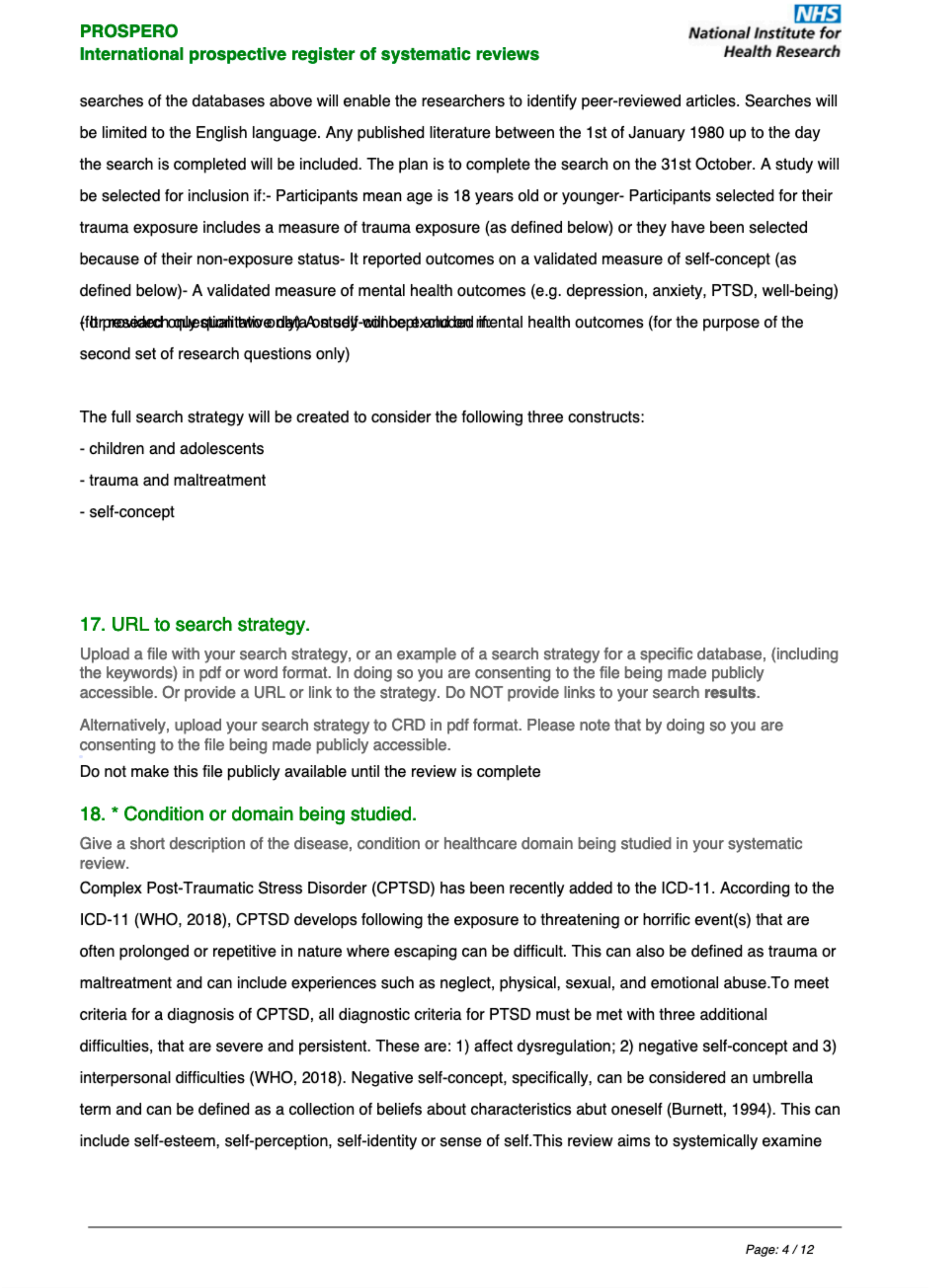


searches of the databases above will enable the researchers to identify peer-reviewed articles. Searches will be limited to the English language. Any published literature between the 1st of January 1980 up to the day the search is completed will be included. The plan is to complete the search on the 31st October. A study will be selected for inclusion if:- Participants mean age is 18 years old or younger- Participants selected for their trauma exposure includes a measure of trauma exposure (as defined below) or they have been selected because of their non-exposure status- It reported outcomes on a validated measure of self-concept (as defined below)- A validated measure of mental health outcomes (e.g. depression, anxiety, PTSD, well-being) (for research questions two only) A study will be excluded if: It provided qualitative data on self-concept and mental health outcomes (for the purpose of the second set of research questions only)

The full search strategy will be created to consider the following three constructs:
- children and adolescents
- trauma and maltreatment
- self-concept

17. URL to search strategy.

Upload a file with your search strategy, or an example of a search strategy for a specific database, (including the keywords) in pdf or word format. In doing so you are consenting to the file being made publicly accessible. Or provide a URL or link to the strategy. Do NOT provide links to your search **results**.

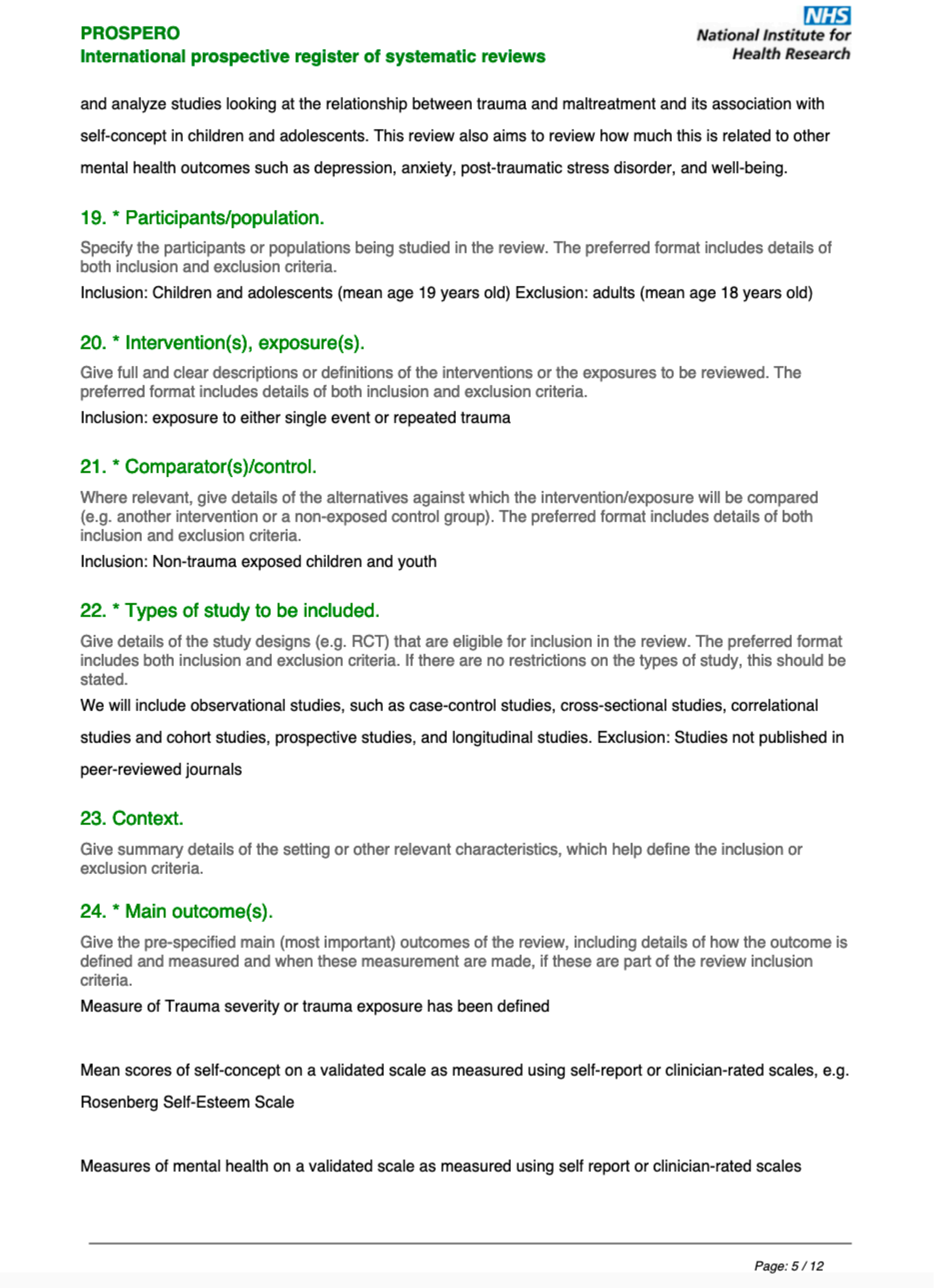
Alternatively, upload your search strategy to CRD in pdf format. Please note that by doing so you are consenting to the file being made publicly accessible.

Do not make this file publicly available until the review is complete

18. * Condition or domain being studied.

Give a short description of the disease, condition or healthcare domain being studied in your systematic review.

Complex Post-Traumatic Stress Disorder (CPTSD) has been recently added to the ICD-11. According to the ICD-11 (WHO, 2018), CPTSD develops following the exposure to threatening or horrific event(s) that are often prolonged or repetitive in nature where escaping can be difficult. This can also be defined as trauma or maltreatment and can include experiences such as neglect, physical, sexual, and emotional abuse.To meet criteria for a diagnosis of CPTSD, all diagnostic criteria for PTSD must be met with three additional difficulties, that are severe and persistent. These are: 1) affect dysregulation; 2) negative self-concept and 3) interpersonal difficulties (WHO, 2018). Negative self-concept, specifically, can be considered an umbrella term and can be defined as a collection of beliefs about characteristics abut oneself (Burnett, 1994). This can include self-esteem, self-perception, self-identity or sense of self.This review aims to systemically examine



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and analyze studies looking at the relationship between trauma and maltreatment and its association with self-concept in children and adolescents. This review also aims to review how much this is related to other mental health outcomes such as depression, anxiety, post-traumatic stress disorder, and well-being.

19. * Participants/population.

Specify the participants or populations being studied in the review. The preferred format includes details of both inclusion and exclusion criteria.

Inclusion: Children and adolescents (mean age 19 years old) Exclusion: adults (mean age 18 years old)

20. * Intervention(s), exposure(s).

Give full and clear descriptions or definitions of the interventions or the exposures to be reviewed. The preferred format includes details of both inclusion and exclusion criteria.

Inclusion: exposure to either single event or repeated trauma

21. * Comparator(s)/control.

Where relevant, give details of the alternatives against which the intervention/exposure will be compared (e.g. another intervention or a non-exposed control group). The preferred format includes details of both inclusion and exclusion criteria.

Inclusion: Non-trauma exposed children and youth

22. * Types of study to be included.

Give details of the study designs (e.g. RCT) that are eligible for inclusion in the review. The preferred format includes both inclusion and exclusion criteria. If there are no restrictions on the types of study, this should be stated.

We will include observational studies, such as case-control studies, cross-sectional studies, correlational studies and cohort studies, prospective studies, and longitudinal studies. Exclusion: Studies not published in peer-reviewed journals

23. Context.

Give summary details of the setting or other relevant characteristics, which help define the inclusion or exclusion criteria.

24. * Main outcome(s).

Give the pre-specified main (most important) outcomes of the review, including details of how the outcome is defined and measured and when these measurement are made, if these are part of the review inclusion criteria.

Measure of Trauma severity or trauma exposure has been defined

Mean scores of self-concept on a validated scale as measured using self-report or clinician-rated scales, e.g. Rosenberg Self-Esteem Scale

Measures of mental health on a validated scale as measured using self report or clinician-rated scales

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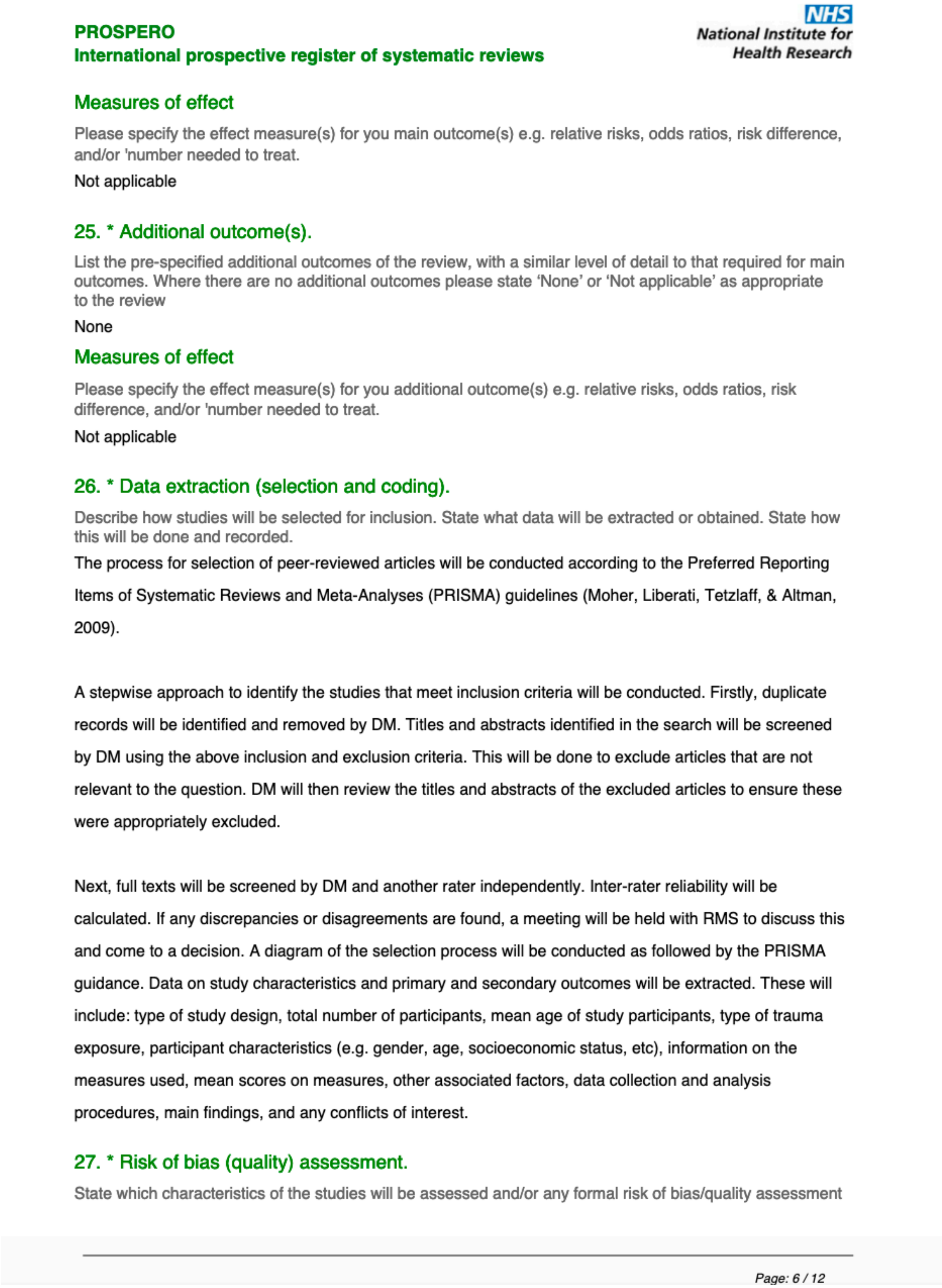


Measures of effect

Please specify the effect measure(s) for you main outcome(s) e.g. relative risks, odds ratios, risk difference, and/or 'number needed to treat.

Not applicable

25. * Additional outcome(s).

List the pre-specified additional outcomes of the review, with a similar level of detail to that required for main outcomes. Where there are no additional outcomes please state 'None' or 'Not applicable' as appropriate to the review

None

Measures of effect

Please specify the effect measure(s) for you additional outcome(s) e.g. relative risks, odds ratios, risk difference, and/or 'number needed to treat.

Not applicable

26. * Data extraction (selection and coding).

Describe how studies will be selected for inclusion. State what data will be extracted or obtained. State how this will be done and recorded.

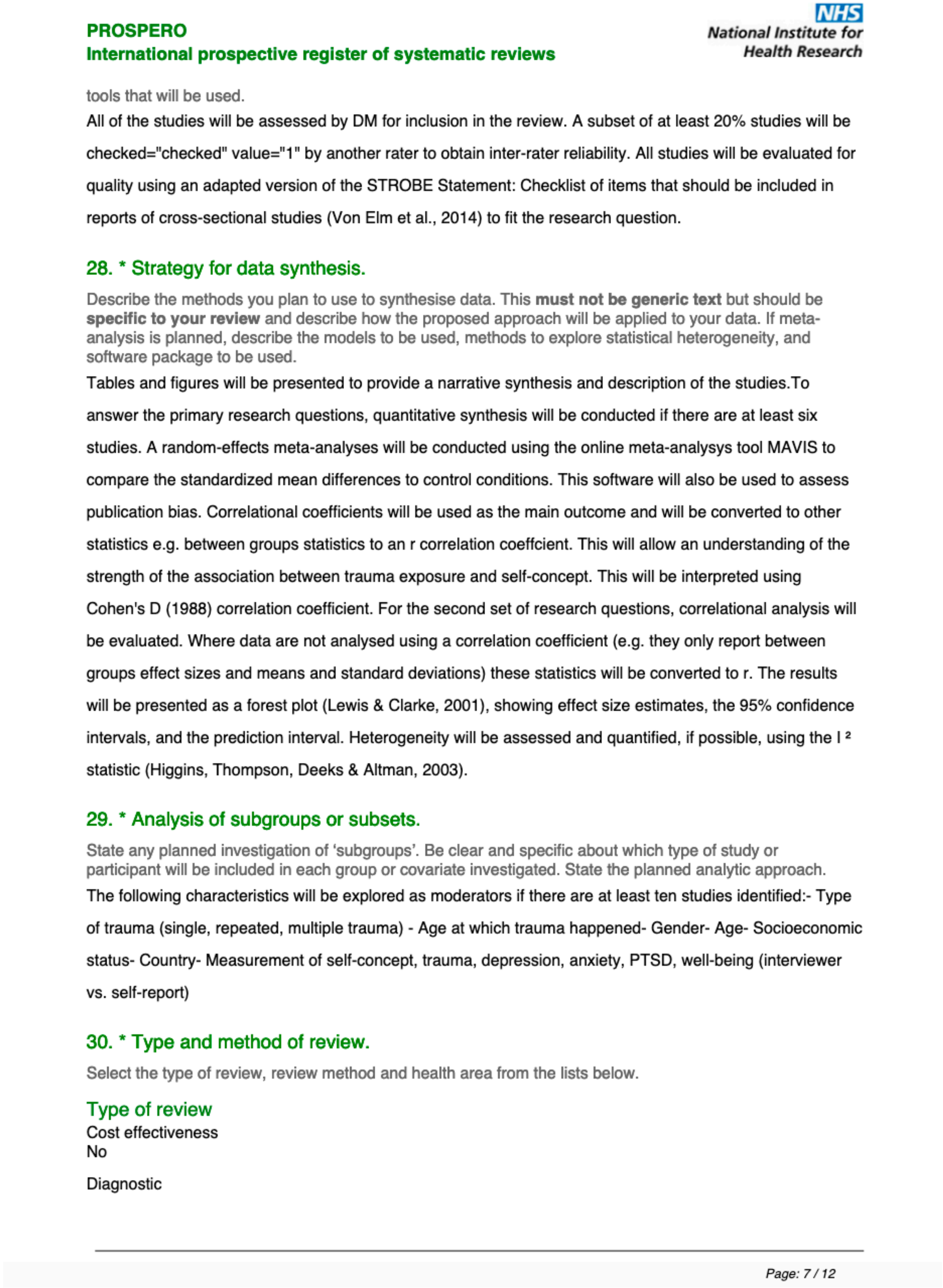
The process for selection of peer-reviewed articles will be conducted according to the Preferred Reporting Items of Systematic Reviews and Meta-Analyses (PRISMA) guidelines (Moher, Liberati, Tetzlaff, & Altman, 2009).

A stepwise approach to identify the studies that meet inclusion criteria will be conducted. Firstly, duplicate records will be identified and removed by DM. Titles and abstracts identified in the search will be screened by DM using the above inclusion and exclusion criteria. This will be done to exclude articles that are not relevant to the question. DM will then review the titles and abstracts of the excluded articles to ensure these were appropriately excluded.

Next, full texts will be screened by DM and another rater independently. Inter-rater reliability will be calculated. If any discrepancies or disagreements are found, a meeting will be held with RMS to discuss this and come to a decision. A diagram of the selection process will be conducted as followed by the PRISMA guidance. Data on study characteristics and primary and secondary outcomes will be extracted. These will include: type of study design, total number of participants, mean age of study participants, type of trauma exposure, participant characteristics (e.g. gender, age, socioeconomic status, etc), information on the measures used, mean scores on measures, other associated factors, data collection and analysis procedures, main findings, and any conflicts of interest.

27. * Risk of bias (quality) assessment.

State which characteristics of the studies will be assessed and/or any formal risk of bias/quality assessment



tools that will be used.

All of the studies will be assessed by DM for inclusion in the review. A subset of at least 20% studies will be checked="checked" value="1" by another rater to obtain inter-rater reliability. All studies will be evaluated for quality using an adapted version of the STROBE Statement: Checklist of items that should be included in reports of cross-sectional studies (Von Elm et al., 2014) to fit the research question.

28. * Strategy for data synthesis.

Describe the methods you plan to use to synthesise data. This **must not be generic text** but should be **specific to your review** and describe how the proposed approach will be applied to your data. If meta-analysis is planned, describe the models to be used, methods to explore statistical heterogeneity, and software package to be used.

Tables and figures will be presented to provide a narrative synthesis and description of the studies.To answer the primary research questions, quantitative synthesis will be conducted if there are at least six studies. A random-effects meta-analyses will be conducted using the online meta-analysys tool MAVIS to compare the standardized mean differences to control conditions. This software will also be used to assess publication bias. Correlational coefficients will be used as the main outcome and will be converted to other statistics e.g. between groups statistics to an r correlation coeffcient. This will allow an understanding of the strength of the association between trauma exposure and self-concept. This will be interpreted using Cohen's D (1988) correlation coefficient. For the second set of research questions, correlational analysis will be evaluated. Where data are not analysed using a correlation coefficient (e.g. they only report between groups effect sizes and means and standard deviations) these statistics will be converted to r. The results will be presented as a forest plot (Lewis & Clarke, 2001), showing effect size estimates, the 95% confidence intervals, and the prediction interval. Heterogeneity will be assessed and quantified, if possible, using the I^2 statistic (Higgins, Thompson, Deeks & Altman, 2003).

29. * Analysis of subgroups or subsets.

State any planned investigation of ‘subgroups’. Be clear and specific about which type of study or participant will be included in each group or covariate investigated. State the planned analytic approach.

The following characteristics will be explored as moderators if there are at least ten studies identified:- Type of trauma (single, repeated, multiple trauma) - Age at which trauma happened- Gender- Age- Socioeconomic status- Country- Measurement of self-concept, trauma, depression, anxiety, PTSD, well-being (interviewer vs. self-report)

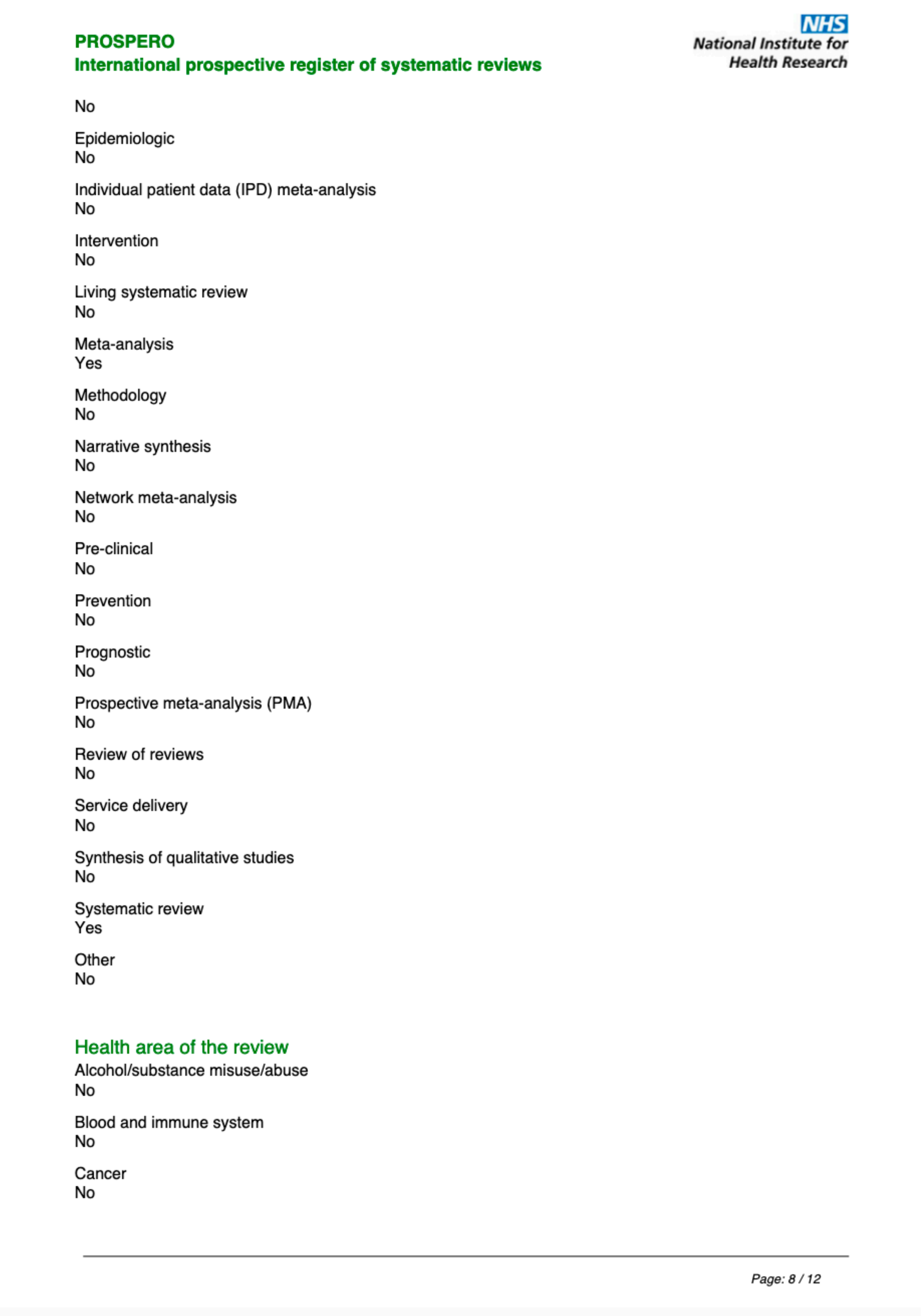
30. * Type and method of review.

Select the type of review, review method and health area from the lists below.

Type of review

Cost effectiveness
No

Diagnostic



No

Epidemiologic
No

Individual patient data (IPD) meta-analysis
No

Intervention
No

Living systematic review
No

Meta-analysis
Yes

Methodology
No

Narrative synthesis
No

Network meta-analysis
No

Pre-clinical
No

Prevention
No

Prognostic
No

Prospective meta-analysis (PMA)
No

Review of reviews
No

Service delivery
No

Synthesis of qualitative studies
No

Systematic review
Yes

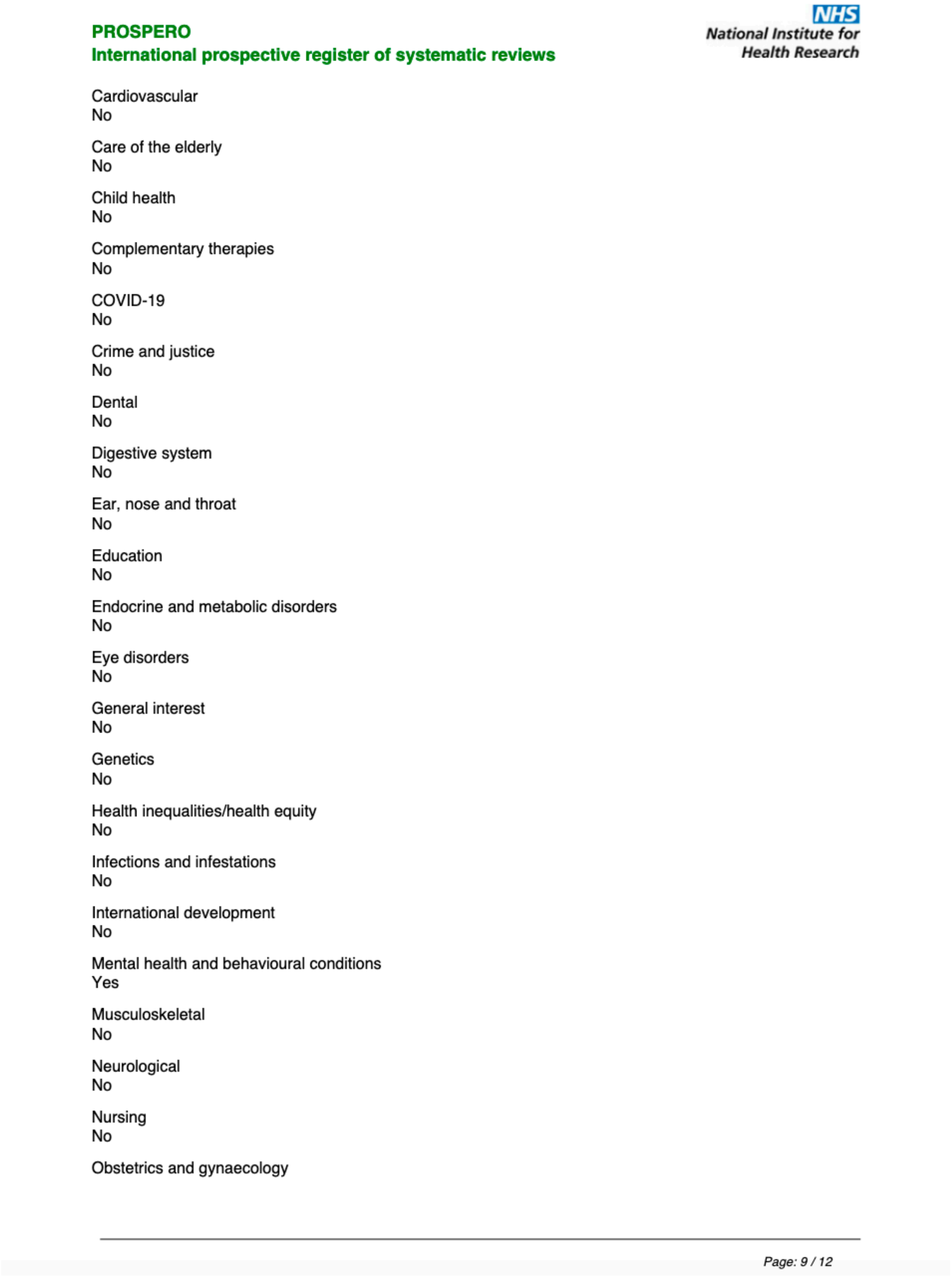
Other
No

Health area of the review

Alcohol/substance misuse/abuse
No

Blood and immune system
No

Cancer
No



PROSPERO
International prospective register of systematic reviews

Cardiovascular
No

Care of the elderly
No

Child health
No

Complementary therapies
No

COVID-19
No

Crime and justice
No

Dental
No

Digestive system
No

Ear, nose and throat
No

Education
No

Endocrine and metabolic disorders
No

Eye disorders
No

General interest
No

Genetics
No

Health inequalities/health equity
No

Infections and infestations
No

International development
No

Mental health and behavioural conditions
Yes

Musculoskeletal
No

Neurological
No

Nursing
No

Obstetrics and gynaecology

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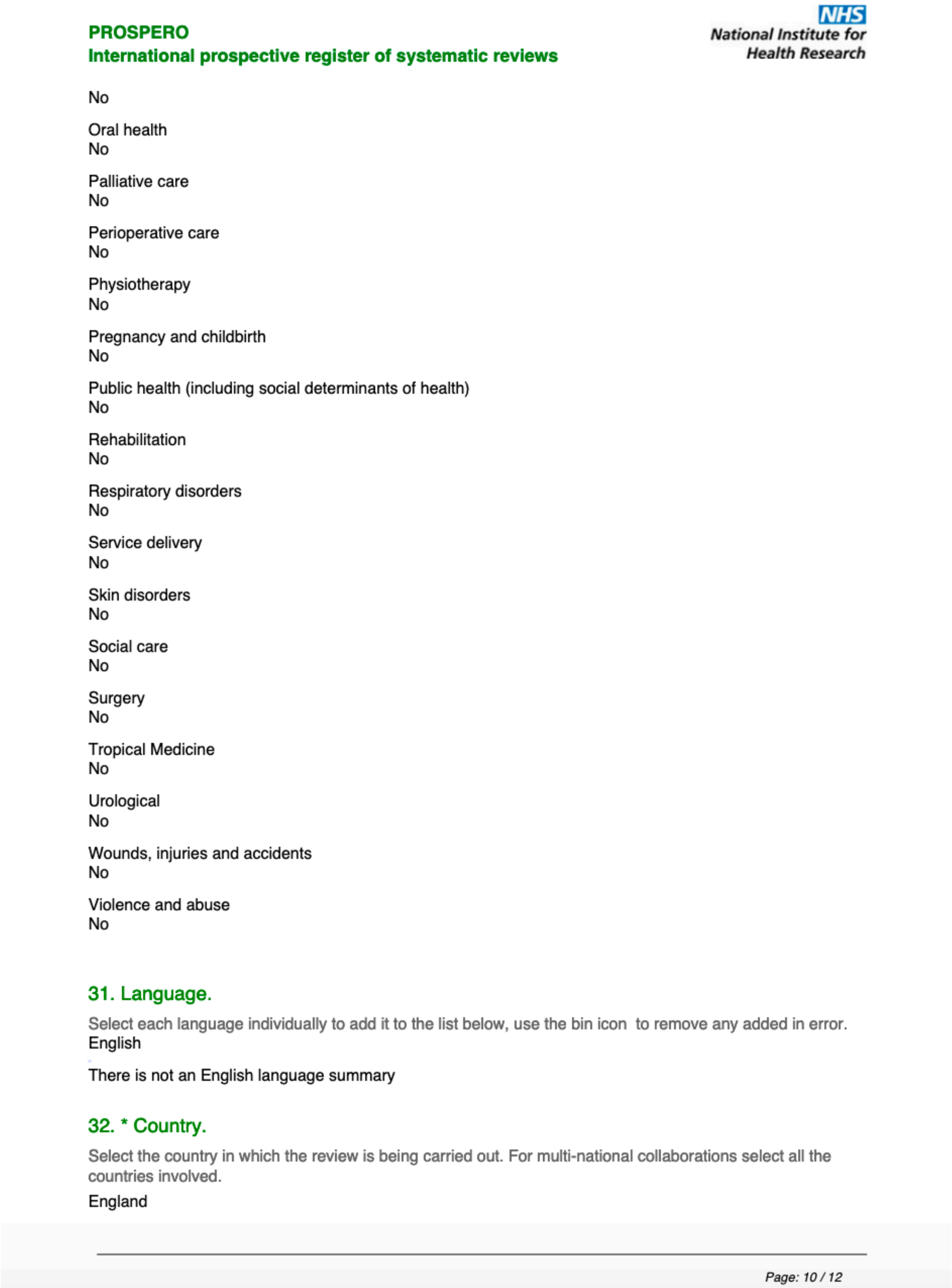


No

Oral health
No

Palliative care
No

Perioperative care
No

Physiotherapy
No

Pregnancy and childbirth
No

Public health (including social determinants of health)
No

Rehabilitation
No

Respiratory disorders
No

Service delivery
No

Skin disorders
No

Social care
No

Surgery
No

Tropical Medicine
No

Urological
No

Wounds, injuries and accidents
No

Violence and abuse
No

31. Language.

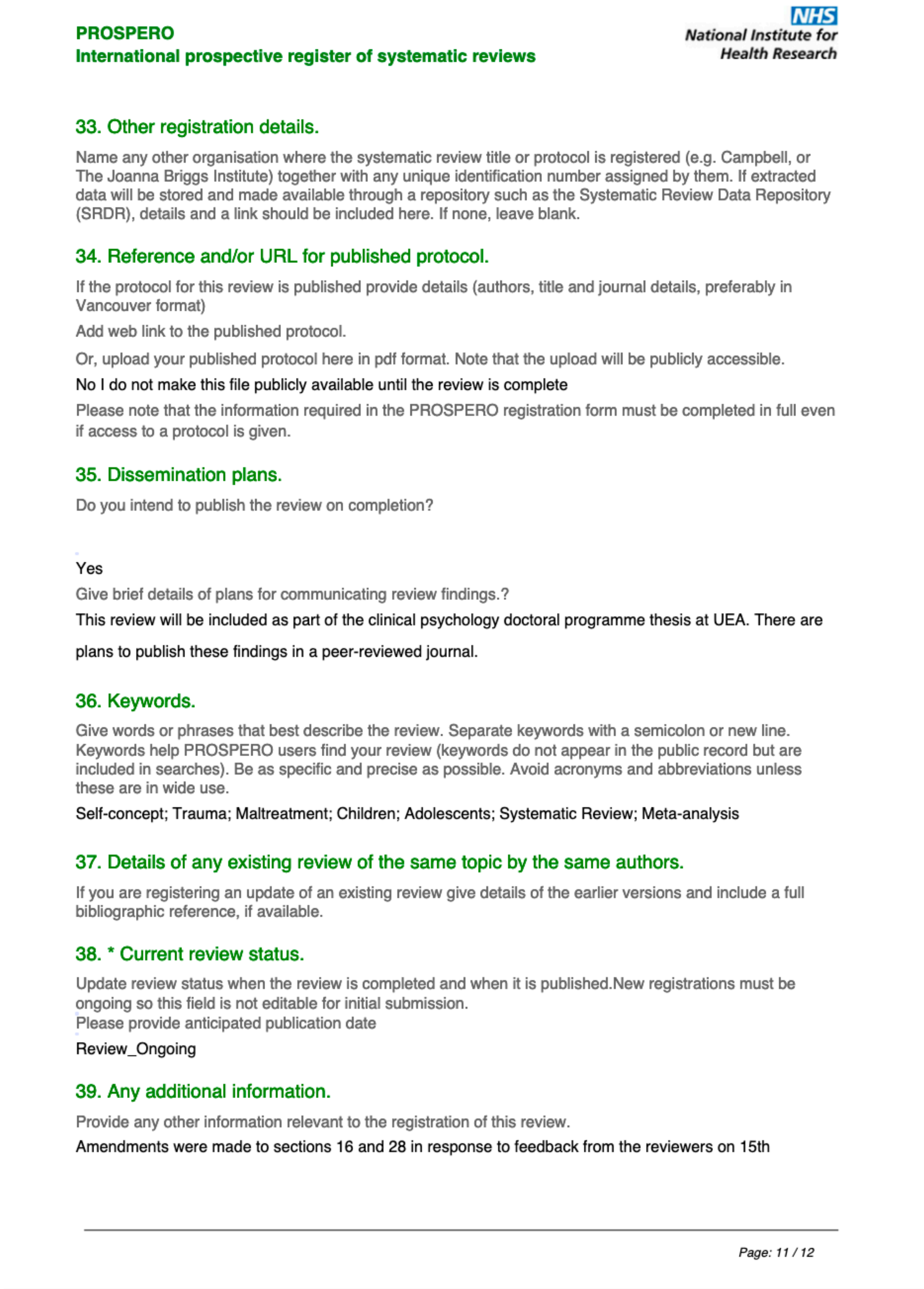
Select each language individually to add it to the list below, use the bin icon to remove any added in error.
English

There is not an English language summary

32. * Country.

Select the country in which the review is being carried out. For multi-national collaborations select all the countries involved.

England



33. Other registration details.

Name any other organisation where the systematic review title or protocol is registered (e.g. Campbell, or The Joanna Briggs Institute) together with any unique identification number assigned by them. If extracted data will be stored and made available through a repository such as the Systematic Review Data Repository (SRDR), details and a link should be included here. If none, leave blank.

34. Reference and/or URL for published protocol.

If the protocol for this review is published provide details (authors, title and journal details, preferably in Vancouver format)

Add web link to the published protocol.

Or, upload your published protocol here in pdf format. Note that the upload will be publicly accessible.

No I do not make this file publicly available until the review is complete

Please note that the information required in the PROSPERO registration form must be completed in full even if access to a protocol is given.

35. Dissemination plans.

Do you intend to publish the review on completion?

Yes

Give brief details of plans for communicating review findings.?

This review will be included as part of the clinical psychology doctoral programme thesis at UEA. There are plans to publish these findings in a peer-reviewed journal.

36. Keywords.

Give words or phrases that best describe the review. Separate keywords with a semicolon or new line. Keywords help PROSPERO users find your review (keywords do not appear in the public record but are included in searches). Be as specific and precise as possible. Avoid acronyms and abbreviations unless these are in wide use.

Self-concept; Trauma; Maltreatment; Children; Adolescents; Systematic Review; Meta-analysis

37. Details of any existing review of the same topic by the same authors.

If you are registering an update of an existing review give details of the earlier versions and include a full bibliographic reference, if available.

38. * Current review status.

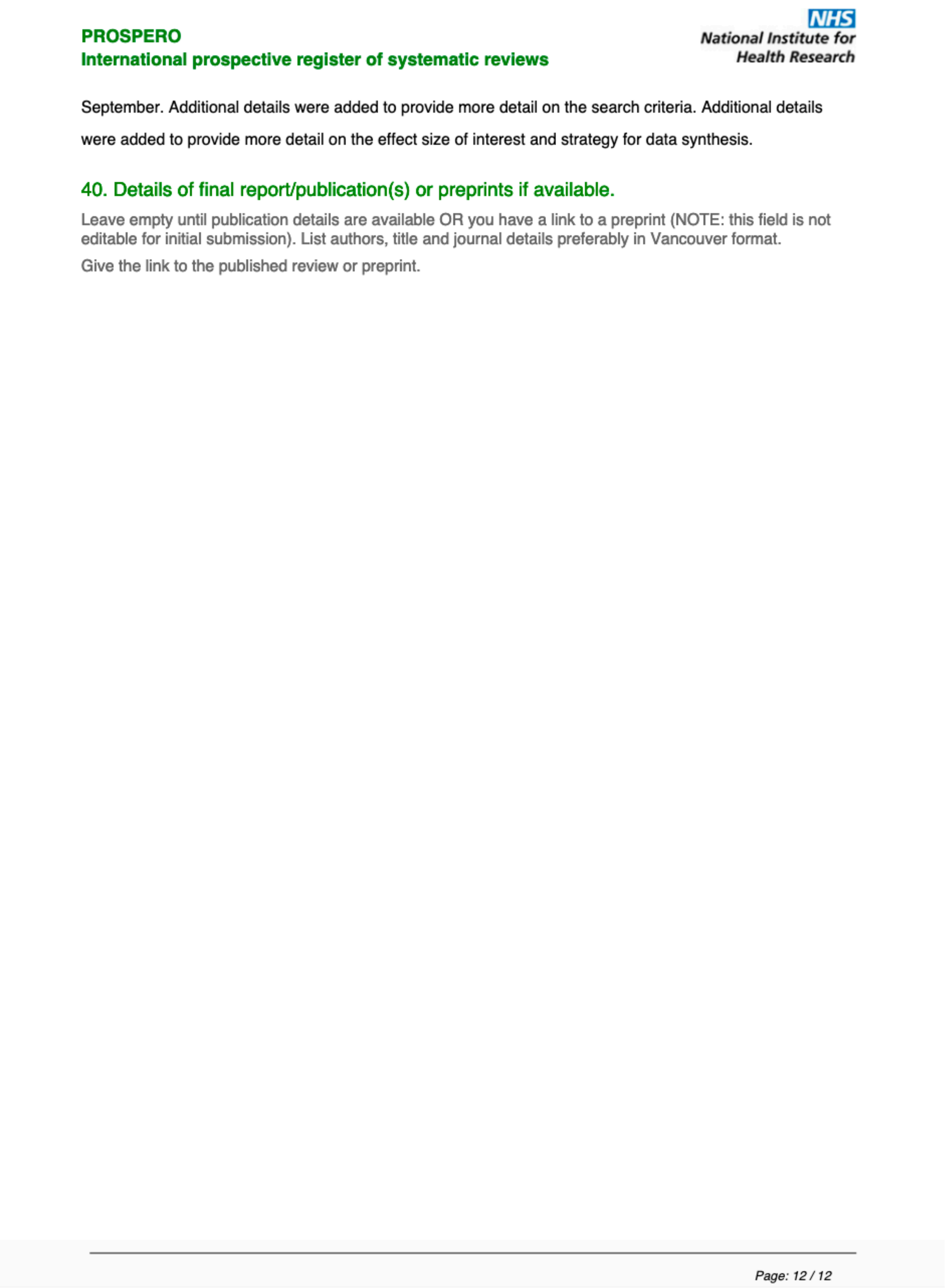
Update review status when the review is completed and when it is published.New registrations must be ongoing so this field is not editable for initial submission.
Please provide anticipated publication date

Review_Ongoing

39. Any additional information.

Provide any other information relevant to the registration of this review.

Amendments were made to sections 16 and 28 in response to feedback from the reviewers on 15th



September. Additional details were added to provide more detail on the search criteria. Additional details were added to provide more detail on the effect size of interest and strategy for data synthesis.

40. Details of final report/publication(s) or preprints if available.

Leave empty until publication details are available OR you have a link to a preprint (NOTE: this field is not editable for initial submission). List authors, title and journal details preferably in Vancouver format.

Give the link to the published review or preprint.

Appendix C. Quality checklist

Adapted Strobe Statement Quality Checklist

Assessor:	
Population 1: Was the study population, participants and setting well defined?	0 = sample characteristics, trauma and self-concept variables not reported in any detail 1= sample characteristics, trauma and self-concept variable are reported with limited detail 2= sample characteristics, trauma and self-concept variable are described in detail (including type of study, country of origin, age, gender, ethnicity)
Population 2: Was the sampling carried out appropriate to the study design, where likelihood of sampling bias minimised?	0 = convenience sampling 1= admissions to a pediatric unit/hospital admission, etc. 2= random sampling of those exposed to traumatic event and those not or random sampling of population
Methods 1: Was there a validated measure of trauma or was the trauma group appropriately recruited?	0 = not reported 1= yes or no questions to trauma by researchers/not valid measure of trauma 2= trauma appropriately recruited/valid measure of trauma
Methods 2: Was the measure of self-concept a valid and reliable measure?	0 = not reported 1= any other self-concept measure 2=RSES or adapted RSES
Methods 3: Was the likelihood of non-response bias minimised?	0 = not reported or unclear 1= response rate around 20% or minimal explanation of how this was treated 2= response rate at least 40%, or analysis performed to show no significant difference between responders and non-responders
Analysis 1: Was the sample size adequate?	0 = justification of sample size not reported or very small sample size 1= sample size adequate but did not refer to sample size calculations or consider previous studies/minimal information on sample size, 2= sample size adequate and based on sample size/power calculations or reference to other studies
Analysis 2: Was there appropriate statistical analysis used?	0=statistical methods were inappropriate or the study lacked information on the statistical

	methodology when reporting the data or size of effect 1= statistical method appropriate but with some missing information e.g. confidence intervals 2= statistical analysis were appropriate, confidence intervals reported with 95% bias or equivalent for statistical analysis
Overall Risk of Bias	/14

This tool was developed by Miss Daniela Melamed for the meta-analysis completed in partial fulfillment of the doctorate in clinical psychology. This tool was adapted from The Strengthening the Reporting of Observational Studies in Epidemiology checklist (Von Elm et al., 2014).

Appendix D. Quality of Studies

Table 1. Quality Ratings for studies included in the meta-analysis

Author (Year)	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Total	Quality Rating
Ackard(2002)	2	2	1	2	2	1	2	12	High Quality
Aloba(2020)	2	0	2	2	2	1	2	11	High Quality
Arslan(2016)	1	2	2	2	0	1	1	9	High Quality
Asgeirsdottir(2010)	1	0	1	2	2	1	1	8	Moderate Quality
Baeg(2020)	2	2	2	2	0	1	2	11	High Quality
Bagley(1992)	1	2	1	1	0	1	1	7	Moderate Quality
Bailey(2005)	2	2	2	2	0	1	1	10	High Quality
Bernard-Bonnin(2008)	1	1	2	1	0	1	1	7	Moderate Quality
Bolger(1998)	1	0	2	1	0	0	1	5	Moderate Quality
Brown (2019)	2	2	2	2	0	1	2	11	High Quality
Burack(2006)	2	0	2	1	0	1	0	6	Moderate Quality
Cecil(2001)	1	1	2	2	0	1	2	9	High Quality
Chang(2012)	1	0	1	1	0	0	0	3	Low quality
Chen(2019)	2	2	2	2	0	1	2	11	High Quality
Choi(2016)	2	1	2	2	0	1	2	10	High Quality
Daniel(2016)	2	2	2	2	0	1	2	11	High Quality
Deb(2016)	2	2	1	1	0	1	1	8	Moderate Quality
Egan(1998)	1	2	1	1	0	1	2	8	Moderate Quality
Elliott(1990)	2	1	2	1	0	0	1	7	Moderate Quality
Esparza(1996)	2	1	2	1	0	1	1	8	Moderate Quality
Flynn(2014)	2	2	2	1	0	1	2	10	High Quality
Genç(2018)	2	2	1	1	0	1	2	9	High Quality
German(1990)	1	2	1	1	0	1	1	7	Moderate Quality
Gesinde(2011)	1	2	1	1	0	1	2	8	Moderate Quality
Gewirtz-Meydan(2020)	1	2	2	1	0	1	2	9	High Quality
Grayston(1992)	1	1	2	1	0	1	1	7	Moderate Quality
Greger (2016)	2	2	2	1	0	1	2	10	High Quality

Greger(2017)	1	1	2	1	2	1	2	10	High Quality
Gunnlaugsson (2013)	2	2	1	2	0	1	2	10	High Quality
Haj-Yahia(2002)	2	2	2	2	0	1	2	11	High Quality
Hibbard(1988)	1	2	1	2	0	1	1	8	Moderate Quality
Hibbard(1992)	2	1	2	1	0	1	1	8	Moderate Quality
Jezl(1996)	2	2	2	2	0	1	1	10	High Quality
Jonsson(2019)	2	2	1	2	2	1	2	12	High Quality
Ju(2018)	1	2	1	1	0	1	2	8	Moderate Quality
Kaufman(1989)	1	1	2	1	0	2	1	8	Moderate Quality
Kim(2017)	2	2	2	1	1	1	1	10	High Quality
Kim(2004)	1	2	2	1	0	1	2	9	High Quality
Kim(2006)	2	2	2	1	0	2	1	10	High Quality
Kocturk(2017)	1	2	1	1	0	1	2	8	Moderate Quality
Lam(2015)	1	0	1	1	0	1	2	6	Moderate Quality
Lau(2003)	1	2	1	1	0	1	2	8	Moderate Quality
Leeson(2011)	2	1	2	1	0	1	1	8	Moderate Quality
Li(2009)	2	2	2	2	0	1	1	10	High Quality
Lim(2017)	1	2	1	2	0	1	2	9	High Quality
Lin (2011)	2	2	2	2	0	1	2	11	High Quality
Luo(2020)	1	2	2	2	0	1	2	10	High Quality
Lynch(1998)	1	2	2	1	0	1	2	9	High Quality
Ma(2014)	2	2	2	1	0	1	2	10	High Quality
Malik(2016)	1	2	1	2	0	1	1	8	Moderate Quality
Mannarino(1989)	1	2	2	1	0	1	1	8	Moderate Quality
Maskell(2013)	2	1	2	1	0	1	1	8	Moderate Quality
Matejcek(1983)	1	1	1	1	0	1	1	6	Moderate Quality
Medora(1993)	2	2	1	1	0	1	1	8	Moderate Quality
Mennen(1994)a	2	1	2	1	0	1	1	8	Moderate Quality

Mennen(1994)b	2	1	2	1	0	1	1	8	Moderate Quality
Mennen(1993)	2	1	2	1	0	1	1	8	Moderate Quality
Moyer (1997)	1	2	2	1	0	1	2	9	High Quality
Nguyen(2019)	2	2	1	2	0	1	2	10	High Quality
Nguyen(2010)	2	0	2	2	0	1	2	9	High Quality
Oates(1994)	1	2	2	1	0	1	1	8	Moderate Quality
Oates(1985)	1	2	2	1	0	0	0	6	Moderate Quality
O'Keefe(1998)	1	2	1	2	0	1	1	8	Moderate Quality
Orr(1985)	1	1	2	1	0	1	1	7	Moderate Quality
Park(2018)	2	2	2	2	0	1	1	10	High Quality
Reyes(2008)	2	2	2	1	0	2	2	11	High Quality
Rust(1991)	1	1	2	1	0	1	1	7	Moderate Quality
Saigh(2008)	2	1	2	1	0	1	1	8	Moderate Quality
Salazar(2004)	2	2	2	2	0	1	1	10	High Quality
Sayar(2005)	1	2	1	2	0	1	1	8	Moderate Quality
Shen(2015)	1	2	2	2	0	1	2	10	High Quality
Skeen(2016)	2	2	2	2	0	1	2	11	High Quality
Smith(2018)	1	2	1	1	0	1	2	8	Moderate Quality
Soler(2012)	2	2	2	2	0	1	2	11	High Quality
Stern(1995)	2	1	2	1	0	1	1	8	Moderate Quality
Sturkie(1987)	1	2	2	1	0	1	1	8	Moderate Quality
Suzuki(2015)	1	1	2	2	0	1	1	8	Moderate Quality
Swanston(1997)	2	1	2	1	0	1	2	9	High Quality
Tocker(2017)	1	2	2	2	0	1	1	9	High Quality
Tong(1987)	1	1	2	1	0	1	1	7	Moderate Quality
Toth(1992)	1	0	2	1	0	0	1	5	Moderate Quality
Trickett(2011)	2	2	2	1	0	1	1	9	High Quality
Turner(2010)	1	2	1	2	0	1	2	9	High Quality
Wang(2020)	1	2	2	2	0	1	2	10	High Quality

Weiler(2019)	2	2	2	1	0	1	2	10	High Quality
Wodarski(1990)	2	2	2	1	0	1	2	10	High Quality
Wonderlich(2001)	1	1	2	1	0	1	2	8	Moderate Quality
Wondie(2011)	2	2	2	2	0	1	2	11	High Quality
Wu(2020)	1	0	2	2	0	1	1	7	Moderate Quality
Yoder(2005)	2	2	2	2	0	2	1	11	High Quality
Zhou(2019)	1	2	2	2	0	1	2	10	High Quality
Zeller-2015	2	2	2	1	0	1	2	10	High Quality
Mwakanyamale (2019)	1	2	2	2	2	2	2	13	High Quality
Johnson-2001	1	1	2	1	0	1	1	7	Moderate Quality
vigil (2008)	1	2	2	2	0	1	1	9	High Quality

Appendix E. Effect sizes for each study

Table 1. Effect size and study participants for studies included in the meta-analysis

Study (First Author, Year)	N	Effect Size
Ackard-2002	81247	-0.15
Aloba-2020	1337	-0.3
Arslan-2016	937	-0.31
Asgeirsdottir-2010	9113	-0.16
Baeg-2020	605	-0.26
Bagley-1992	369	-0.4
Bailey-2005	150	-0.21
BernardBonnin-2008	134	-0.15
Bolger-1998	107	-0.09
Brown-2019	5866	-0.18
Burack-2006	98	-0.19
Cecil-2001	249	-0.13
Chang-2012	14	-0.6
Chen-2019	580	-0.22
Choi-2016	443	-0.23
Daniel-2016	540	0.06
Deb-2016	370	-0.08
Egan-1998	189	0.01
Elliott-1990	34	-0.04
Esparza-1996	123	-0.37
Flynn-2014	635	-0.09
Genc-2018	3193	-0.05
German-1990	40	-0.09
Gesinde-2011	480	-0.37
GewirtzMeydan-2020	828	-0.31
Grayston-1992	69	-0.38
Greger-2016	1254	-0.14
Greger-2017	400	-0.37
Gunnlaugsson-2013	3515	-0.29
HajYahia-2002	1640	-0.29
Hibbard-1988	712	0.11
Hibbard-1992	82	-0.17
Jezl-1996	257	-0.1
Johnson-2001	120	-0.33
Jonsson-2019	5715	-0.06
Ju-2018	2844	-0.19
Kaufman-1989	137	-0.22
Kim-2017	802	-0.11
Kim-2004	345	-0.1
Kim-2006	251	-0.07

Kocturk-2017	210	-0.34
Lam-2015	980	-0.16
Lau-2003	489	-0.04
Leeson-2011	50	-0.5
Li-2009	1625	-0.07
Lim-2017	2351	-0.29
Lin-2011	683	-0.13
Luo-2020	1302	-0.2
Lynch-1998	322	-0.003
Ma-2014	366	-0.26
Malik-2016	400	-0.35
Mannarino-1989	169	0.02
Maskell-2013	1453	-0.02
Matejcek-1983	228	-0.23
Medora-1993	121	-0.24
Mennena-1994	1891	-0.06
Mennenb-1994	1249	-0.22
Mennen-1993	54	-0.27
Moyer-1997	201	-0.36
Mwakanyamale-2019	1000	-0.52
Nguyen-2019	1149	-0.15
Nguyen-2010	2591	-0.29
Oates-1994	130	-0.31
Oates-1985	74	-0.39
OKeefe-1998	939	-0.06
Orr-1985	40	-0.21
Park-2018	1796	-0.12
Reyes-2008	495	-0.1
Rust-1991	50	-0.44
Saigh-2008	133	-0.23
Salazar-2004	522	-0.11
Sayar-2005	173	-0.24
Shen-2015	736	-0.03
Skeen-2016	989	-0.13
Smith-2018	190	-0.07
Soler-2012	722	-0.08
Stern-1995	84	-0.39
Sturkie-1987	94	-0.19
Suzuki-2015	342	-0.13
Swanston-1997	168	-0.37
Tocker-2017	54	-0.36
Tong-1987	90	-0.33
Toth-1992	153	-0.21
Trickett-2011	454	-0.12
Turner-2010	523	-0.17
Vigil-2008	81	-0.3

Wang-2020	9704	-0.17
Weiler-2019	144	-0.27
Wodarski-1990	139	-0.17
Wonderlich-2001	40	-0.2
Wondie-2011	636	-0.32
Wu-2020	4790	-0.18
Yoder-2005	501	-0.21
Zhou-2019	397	-0.05
Zeller-2015	177	-0.21

Note: Only First Authors are included in the table

Appendix F. Author Guidelines for Journal of Traumatic Stress

Author Guidelines for Journal of Traumatic Stress

To read the journal's position on open science practice, please find the full statement here.

This journal participates in the Wiley Clinical Psychology Publishing Network. This exciting collaboration between a number of high quality journals simplifies and speeds up the publication process, helping authors find a home for their research. At the Editors' judgement, suitable papers not accepted by one journal may be recommended for referral to another journal in the network: *Clinical Psychology & Psychotherapy* and *Stress and Health*. Authors decide whether to accept the referral, with the option to transfer their paper with or without revisions. Once the referral is accepted, submission happens automatically, along with any previous reviewer reports, thereby relieving pressure on the peer review process. While a transfer does not guarantee acceptance, it is more likely to lead to a successful outcome for authors by helping them to find a route to publication quickly and easily.

1. Online Submissions: The *Journal of Traumatic Stress* accepts submission of manuscripts online at:

http://mc.manuscriptcentral.com/jots

Information about how to create an account or submit a manuscript may be found online on the Manuscript Central homepage in the "User Tutorials" section or, on the Author Dashboard, via the "Help" menu in the upper right corner of the screen. Personal assistance also is available by calling 434-964-4100.

2. Article Formats: Three article formats are accepted for consideration by JTS. All page counts should include references, tables, and figures. *Regular articles*(30 pages maximum, inclusive of all text, abstract, references, tables, and figures) include research studies, quantitative systematic reviews, and theoretical articles. Purely descriptive articles or narrative-based literature reviews are rarely accepted. In extraordinary circumstances, the editors may consider longer manuscripts that describe highly complex designs or statistical procedures but authors should seek approval prior to submitting manuscripts longer than 30 pages. *Brief reports* (18 pages maximum) are appropriate for pilot studies or uncontrolled trials of an intervention, preliminary data on a new problem or population, condensed findings from a study that does not merit a full article, or methodologically oriented papers that replicate findings in new populations or report preliminary data on new instruments. *Commentaries* (1,000 words or less) involve responses to previously published *JTS* Response commentaries, submitted no later than 8 weeks after the original article is published (12 weeks if outside the U.S.), must be content-directed and use tactful language. The original author is given the opportunity to respond to accepted commentaries.

3. Double-Blind Review: As of January 1, 2017, the Journal of Traumatic Stress utilizes a double-blind review process in which reviewers receive manuscripts with no authors' names or affiliations listed in order to ensure unbiased review. To facilitate blinded review, the title page should be uploaded as a separate document from the body of the manuscript, identified as "Title Page," and should include the title of the article, the running head (maximum 50 characters) in uppercase flush left, author(s) byline and institutional affiliation, and author note (see pp. 30-37 of the APA 7th manual). Within the main body of the manuscript, tables, and figures, authors should ensure that any identifying information (i.e., author names, affiliations, institutions where the work was performed, university whose ethics committee approved the project) is blinded; a simple way to accomplish this is by replacing the identifying text with the phrase "[edited out for blind review]". In addition, language should be used that avoids revealing the identity of the authors; e.g., rather than stating, "In other research by our lab (Bennett & Kerig, 2014), we found …" use phrases such as, "In a previous study, Bennett and Kerig (2014) found …" Please note that if you have uploaded the files correctly, you will **not** be able to view the title page in the PDF and HTML proofs of your manuscript; however, the Editor and JTS editorial office staff can view this information.

4. Preferred and Non-Preferred Reviewers: During the submission process, authors may suggest the names of preferred reviewers; authors also may request that specific individuals not be selected as reviewers.

5. Publication Style: JTS follows the style recommendations of the 2020 *Publication Manual of the American Psychological Association*(APA; 7th edition) and submitted manuscripts must conform to these formatting guidelines. Manuscripts should use non-sexist language. Manuscripts must be formatted using letter or A4 page size, with 1 inch (2.54 cm) margins on all sides, in an APA-approved font (i.e., 10-point Lucinda Sans Unicode or Computer Modern; 11-point Arial, Calibri, or Georgia; 12-point Times New Roman). All text within figures should be formatted in a sans serif font (e.g., Arial or Calibri) with a type size between 8 and 14 points. The title page, abstract, references, table title and notes, and figure title and notes should be double-spaced; text within tables and figures can be single or double spaced based on the layout of the information. Submit your manuscript in .doc or .docx format, ***not as a PDF***.

For assistance with APA style, in addition to consulting the manual itself, please note these helpful online sources that are freely available: https://apastyle.apa.org/style-grammar-guidelines/index and https://owl.english.purdue.edu/owl/section/2/10/

6. APA and JTS Style Pointers: In addition to consulting the APA 7th edition Publication Manual, the resources indexed above, and the JTS Style Sheet posted online, please consider these pointers when formatting each section of the manuscript:

1.
    1. **Tense:** Throughout the manuscript, please use past tense for everything that has already happened, including the collection and analyses of the data being reported.
    2. **Abstract:** The Main Document of the manuscript should begin with an abstract no longer than 250 words, placed on a separate page. In addition, JTS house style

requires the reporting of an effect size for each finding discussed in the abstract; if there are many findings, present the range.

3. **Participants:** Please include in this subsection of the Method section information on sample characteristics, subsample comparisons, and analyses that describe the sample but are not focused on testing the hypotheses that are the aims of your manuscript.
4. **Procedure:** Please describe the procedure in sufficient detail so that it could be comprehended and replicated by another investigator. Identify by name the IRB or ethics committee (edited out for blind review in the submitted manuscript) that approved the research, and the manner in which consent was obtained.
5. **Measures:** In addition to providing citations, psychometric, and validation data for each measure administered, please provide coefficient alpha from your data for each measure for which this is appropriate.
6. **Data Analysis:** Include a separate subsection with this header in the Method section in which you describe the analyses performed, the software program(s) used, and make an explicit statement about missing data in your data set. If there are no missing data, so state; otherwise describe the extent of missing data and how they were handled in the data analyses.
7. **Results** (and throughout): Present percentages to 1 decimal place, means and *SD*s to 2 decimal places, and exact *p* values to 3 decimal places except for any < .001. Include leading zeros (e.g., 0.92) when reporting any statistic that can be greater than 1.00 (or less than -1.00). For example, there is no leading zero used when reporting correlations, coefficient alphas, standardized betas, *p* values, or fit indices (e.g., *r* = .47, not 0.47). Report effect sizes for analyses conducted wherever possible and appropriate.
8. **References:** Format the references using APA 7th edition style: (a) begin the reference list on a new page following the text, (b) double-space, (c) use hanging indent format, (d) italicize the journal name or book title, and (e) list alphabetically by last name of first author. If a reference has a Digital Object Identifier (doi), it must be included as the last element of the reference

- ***Journal Article:***

Grady, J. S., Her, M., Moreno, G., Perez, C., & Yelinek, J. (2019). Emotions in storybooks: A comparison of storybooks that represent ethnic and racial groups in the United States? *Psychology of Popular Media Culture, 8*(3), 207–217. https://doi.org/10.1037/ppm0000185

- ***Book:***

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

- ***Book Chapter:***

Meehl, P. E. (2006). The power of quantitative thinking. In N. G. Waller, L. J. Yonce, W. M. Grove, D. Faust, & M. F. Lenzenweger (Eds.), *Essays on the practice of scientific psychology* (pp. 433–444). Erlbaum.

Footnotes: Footnotes should be avoided. When their use is absolutely necessary, footnotes should be formatted in APA style and placed on a separate page after the reference list and before any tables.

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8. Supplementary Materials. Authors may wish to place some material in the separate designation of "Supplementary file not for review," which will be made available online for optional access by interested readers. This material will not be seen by reviewers and will not be taken into consideration in their evaluation of the scientific merits of the work, and will not be included in the published article. Material appropriate for such a designation includes information that is not essential to the reader's comprehension of the study design or findings, but which might be of interest to some scholars; examples might include descriptions of a series of non-significant post-hoc analyses that were not central to the main hypotheses of the study, detailed information about the content of coding system categories, and CONSORT flow diagrams for randomized controlled trials (see below). Note well that the manuscript must stand on its own without this material; consequently, critical information reviewers and readers need to evaluate or replicate the study, such as the provenance and psychometric properties of the measures administered, is not appropriate for placement into Supplementary Materials.

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1.
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Appendix G. How I feel about myself and others Scale

Below are a list of questions relating to feelings and difficulties some young people have. Please read each one, and tell me how much each one has been true for you in the **past 2 weeks**?

		Never	Once in a while	Half the time	Almost always
1.	When I am upset, it takes me a long time to calm down.	[ ]	[ ]	[ ]	[ ]
2.	Sometimes I get really angry and cannot control my temper.	[ ]	[ ]	[ ]	[ ]
3.	I get really upset by things that don’t bother other people.	[ ]	[ ]	[ ]	[ ]
4.	My feelings get hurt easily.	[ ]	[ ]	[ ]	[ ]
5.	I feel like I am no good.	[ ]	[ ]	[ ]	[ ]
6.	I feel guilty about lots of things.	[ ]	[ ]	[ ]	[ ]
7.	I don’t matter.	[ ]	[ ]	[ ]	[ ]
8.	I am worthless.	[ ]	[ ]	[ ]	[ ]
9.	It is easier not to have friends.	[ ]	[ ]	[ ]	[ ]
10.	I don’t feel close to anyone.	[ ]	[ ]	[ ]	[ ]
11.	I find it difficult to have good friends.	[ ]	[ ]	[ ]	[ ]
12.	My friendships are always difficult and leave me feeling hurt.	[ ]	[ ]	[ ]	[ ]

Appendix H. Short Mood and Feelings Questionnaire

This form is about how you might have been feeling or acting recently. For each question, please tick how much you have felt or acted this way in the past two weeks. If a sentence was not true, fill in the bubble for not true. If it was sometimes true, fill in the bubble for sometimes. If a sentence was true most of the time, fill in the bubble for true.

	Not True 0	**Sometimes** 1	**True** 2
1. I felt miserable or unhappy.	[ ]	[ ]	[ ]
2. I didn't enjoy anything at all.	[ ]	[ ]	[ ]
3. I felt so tired I just sat around and did nothing.	[ ]	[ ]	[ ]
4. I was very restless.	[ ]	[ ]	[ ]
5. I felt I was no good anymore.	[ ]	[ ]	[ ]
6. I cried a lot.	[ ]	[ ]	[ ]
7. I found it harder to think properly or concentrate.	[ ]	[ ]	[ ]
8. I hated myself.	[ ]	[ ]	[ ]
9. I felt I was a bad person.	[ ]	[ ]	[ ]
10. I felt lonely.	[ ]	[ ]	[ ]
11. I thought nobody really loved me.	[ ]	[ ]	[ ]
12. I thought I could never be as good as other kids.	[ ]	[ ]	[ ]
13. I felt I did everything wrong.	[ ]	[ ]	[ ]

Appendix I. Child Trauma Screen

Sometimes, scary or very upsetting things happen to people. These things can sometimes affect what we think, how we feel, and what we do.

		Yes	**No**
1.	Have you ever seen people pushing, hitting, throwing things at each other, or stabbing, shooting, or trying to hurt each other?	[ ]	[ ]
2.	Has someone ever really hurt you? Hit, punched, or kicked you really hard with hands, belts, or other objects, or tried to shoot or stab you?	[ ]	[ ]
3.	Has someone ever touched you on the parts of your body that a bathing suit covers, in a way that made you uncomfortable? Or had you touch them in that way?	[ ]	[ ]
4.	Has anything else very upsetting or scary happening to you (loved one died, separated from loved one, been left alone for a long time, not had enough food to eat, serious accident or illness, fire, dog bite, bullying)?	[ ]	[ ]

Appendix J. The Short Warwick-Edinburgh Mental Well-Being Scale

Below are some statements about feelings and thoughts. Please tick the box that best describes your experience of each over the last 2 weeks

	None of the time 1	**Rarely** 2	**Some of the time** 3	**Often** 4	**All of the time** 5
1. I’ve been feeling optimistic about the future.	[ ]	[ ]	[ ]	[ ]	[ ]
2. I’ve been feeling useful.	[ ]	[ ]	[ ]	[ ]	[ ]
3. I’ve been feeling relaxed.	[ ]	[ ]	[ ]	[ ]	[ ]
4. I’ve been dealing with problems well.	[ ]	[ ]	[ ]	[ ]	[ ]
5. I’ve been thinking clearly.	[ ]	[ ]	[ ]	[ ]	[ ]
6. I’ve been feeling close to other people.	[ ]	[ ]	[ ]	[ ]	[ ]
7. I’ve been able to make up my own mind about things.	[ ]	[ ]	[ ]	[ ]	[ ]

Appendix K. Schools and Colleges Information Sheet Stream A

Study Title: How common are difficulties controlling emotions, having negative feelings about oneself, and difficulties with relationships in young people?

Researchers: Daniela Melamed (Trainee Clinical Psychologist), Professor Richard Meiser-Stedman (Professor of Clinical Psychology), and Dr Laura Pass (Lecturer in Clinical Psychology)

What is the aim of this research?

The background and aim of this research are as follows:

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- It is normal for young people to feel distressed, sad or anxious at different points in their lives.
- Negative feelings like these can be more common after having very distressing or stressful experiences
- We would like to know more about some negative feelings that young people may have. These feelings are: difficulties controlling emotions, negative feelings about oneself, and difficulties in relationships with others
- We would like to understand how common these feelings are. We also want to understand what may make young people have *more* of these feelings
- Understanding more about these feelings will be helpful for supporting young people who have had lots of very stressful experiences
- This research study will also help us to develop a good questionnaire about these negative feelings
- A questionnaire like this can be very helpful when supporting young people who have had a lot of difficult experiences
- It is really important to get the views of different young people. We are inviting students to take part even if they haven't had any distressing or stressful experiences
- This research is part of Professor Richard Meiser-Stedman's research on how to better support young people who have had difficult experiences

Who are we looking to take part and what does the research involve?

- We are looking for 16 to 20-year-old young people to take part in our study
- The study involves completing a 10-minute online survey.
- The questions include:
    - Questions like age and gender
    - The new measure of difficulties controlling emotions, having negative feelings about oneself, and difficulties with relationships
    - A mood and feelings questionnaire
    - A well-being questionnaire
    - A short questionnaire about past stressful or traumatic experiences

- A Participant Debrief and Aftercare Sheet will be provided throughout the study, which includes the following: resources and sources of support to access, encouragement to seek help from their GP if they are distressed, information about a named person in your school for participants to contact
- Young people can also have the option to participate in an optional prize draw, where 20 £10 amazon gift vouchers will be given out.
- This research is being done as part of the Doctorate in Clinical Psychology training at The University of East Anglia and the results of this study will be written up at the end of the course in 2021.
- The findings of the study will be written up for publication and a summary of the results will be sent to the contact link of your institution for you to share with pupils.
- The study has been given ethical clearance by the Faculty of Medicine and Health Sciences at The University of East Anglia.

What is your involvement?

We would like to recruit participants from your institution!

- If you agree for us to recruit from your institution, we would request for you to identify an email list of young people between the ages of 16-20 years old from your school or college.
- We would like you to email eligible young people with a link to the Participant Information Sheet. We will not require email addresses to be sent to us directly. Instead we would suggest that you pass the study information to the students directly
- After 48 hours, we would like you to email another link to the Participant Consent Form and online survey.
- We have email templates which are required for you to use for the above emails
- We would also like you to provide the information for the pastoral support and/or named person for us to direct participants to contact in the case of distress.
- We would like to ensure that no participant identifiable data is collected on the Participant Consent Form and Online Survey and, therefore, all datasets will be anonymous to ensure confidentiality

Are there any risks to taking part?

There is no known major risk in filling out the online survey, however we are asking young people to think about difficult events that may have happened to them which some people may find upsetting.

- Previous research with young people has found only a very small number of participants taking part in this kind of research became upset and chose to stop.
- Therefore, we anticipate that there will be no major negative effects from taking part in this study.

- We would like to ensure that young people can stop taking part for any reason at any point of the study.
- The Participant Debrief and Aftercare Sheet will be made available at all points of the study if they wish to seek additional support.

Are there any benefits to taking part?
While there are no direct benefits for taking part in the study, you are helping researchers learn about these specific difficulties in young people. You are also contributing to the groundbreaking research in this field which will help young people in the future.

By providing resources for support, we are also providing young people with resources to speak, if they wish, about some of the difficult experiences that may have happened to them.

What will happen if the researchers have any concerns about risk or the young person's safety?

- The Participant Aftercare and Debrief Sheet will be available for any potential participant who would like to take part in the study.
- This includes resources, a direct contact email to the pastoral support provided by your school, and a recommendation to speak to their GP.
- The researchers contact details are also provided in case any young people have any questions about the study or means to access further support.

What is there is a problem?

If you have any problems with the study and you would like to speak with someone about it, please contact: Professor Richard Meiser-Stedman, Department of Clinical Psychology, Norwich Medical School, The University of East Anglia, Norwich, NR4 7TJ, tel: 44 (0)1603 59 3601 or email: r.meiser-stedman@uea.ac.uk.

If you would like to make a complaint about the study, please contact Professor Niall Broomfield, the course director for the Doctorate in Clinical Psychology, Faculty of Medicine and Health Sciences, The University of East Anglia, Norwich, NR4 7TJ, email: N.Broomfield@uea.ac.uk.

Contact Details
The research study is being sponsored by The University of East Anglia and is in compliance with The General Data Protection Regulation 2016. This research study has been approved by The UEA Faculty of Medicine and Health Sciences Research Ethics Committee (study number: 2019/20-015).

If you would like more information about the study or have any questions, please contact the researcher below:

Daniela Melamed
Trainee Clinical Psychologist
Norwich Medical School, University of East Anglia, Norwich, NR4 7TJ

Email: D.Melamed@uea.ac.uk

Thank you for your interest in the research study. We look forward to hearing from you!

Appendix L. Participant Information Sheet Stream A

Study Title: How common are difficulties controlling emotions, having negative feelings about oneself, and difficulties with relationships in young people?

Invitation and brief summary

We would like to invite you to take part in this research study.

- Before you decide to take part, we would like to tell you about why the research is being done and what it would involve.
- We think this information sheet should take 10-15 minutes to read through.
- The study involves completing a 10-minute online survey about your emotions, how you relate to people, and some difficult events you may have experienced.

Why are we doing this study?

- It is normal for young people to feel distressed, sad or anxious at different points in their lives.
- Negative feelings like these can be more common after having very distressing or stressful experiences.
- We would like to know more about some negative feelings that people may have. These feelings are: difficulties controlling emotions, negative feelings about oneself, and difficulties in relationships with others.
- We would like to understand how common these feelings are. We also want to understand what may make young people have *more* of these feelings.
- Understanding more about these feelings will be helpful for supporting young people who have had lots of very stressful experiences.
- This research study will also help us to develop a good questionnaire about these negative feelings
- A questionnaire like this can be very helpful when supporting young people who have had a lot of difficult experiences
- It is really important to get the views of different young people. We are inviting you to take part even if you haven’t had any distressing or stressful experiences

Why is this research important?

- Not much is known about the following experiences in young people: controlling emotions, negative feelings about oneself, and difficulties in relationships with others
- This research will help us to understand these experiences in young people
- If we understand these experiences and know how common they are we can start to look at better ways of recognizing them and hopefully helping them
- In summary, we want to understand how common these experiences are and what things make these experiences more common

What is involved?

The study involves completing a short online survey. This should take around 10 minutes to complete.

- You will be asked some questions about your background (e.g. age and gender)
- You will be asked to fill out some questions about how you have been feeling, some traumatic events you might have experienced, and some questions about how happy you are with different parts of your life.
- You will be given a link to a Debrief and Aftercare sheet before, during, and after the online survey with a list of options of people you can speak to if you would like support
- An optional raffle of 20 amazon gift prizes of £10 will be given out. You can choose to take part in at the end of the study
- This research is being done as part of the Doctorate in Clinical Psychology training at The University of East Anglia and the results of this study will be written up at the end of the course in 2021.

Will my information be kept private?

Yes. No identifiable data will be collected as part of the research study.

- We will not be able to connect you to your answers on the online survey
- All information will be kept confidential and only the researchers will have access to the dataset which does not include any identifiable information
- Information collected in the survey will be used to support other research in the future and may be shared anonymously with other researchers Data will be stored on a secure online server that can only be accessed by the researchers

Is the study compulsory?

No. **This study is completely voluntary**. It is up to you whether you would like to take part.

- Once you have completed reading the information sheet you can choose whether you would like to take part in the study.
- You can also email the researchers on D.Melamed@uea.ac.uk, R.Meiser-Stedman@uea.ac.uk, and L.Pass@uea.ac.uk if you have further questions.
- An email with the link to the study will be sent to you 48 hours after you receive this information sheet.
- If you decide to take part, you can consent to take part via the link.
- If you do not decide to take part, please ignore the next email.
- If you change your mind and decide to stop taking part from the study at any point, you are free to do so, and we will not ask why, and this will not affect how you are treated at school or college.
- **Your data will be kept private and confidential**
- If you choose to enter into the option raffle prize, we will not be able to link your information with your answers to the study

What are the possible benefits of taking part?

While there are no direct benefits for taking part in the study, you are helping researchers learn more about the experiences of young people.

You can enter into an optional amazon prize draw of £10. Twenty gift cards will be given out. A link will be provided at the end of the study. If you wish to enter into the raffle, please follow the link to enter your details.

What are the possible risks of taking part?

We do not think there is any big risk in filling out the online survey, but we are asking young people to think about difficult events that may have happened to you which some people may find upsetting.

- Other research with young people has found none to a small number of people taking part in similar research became upset and chose to stop.
- So, we do not think there will be any major negative effects from taking part in this study.
- You can stop taking part for any reason at any point of the study.
- The Debrief and Aftercare sheet will be available at all times of the study if you would like to get some help and speak to someone about how you feel

Who can take part in the study?

- To take part in the study you need to understand English as all of the questions are in English
- You also need to give informed consent to the study, which involves reading and thinking about the study before you choose to take part

Further supporting information

The research study is being sponsored by The University of East Anglia and is in compliance with The General Data Protection Regulation 2016. This research study has been approved by The UEA Faculty of Medicine and Health Sciences Research Ethics Committee (study number: 2019/20-015). If you have any concerns or questions about any aspect of the study, you can speak to the researcher Daniela Melamed (D.melamed@uea.ac.uk), Trainee Clinical Psychologist or the research supervisors, Professor Richard Meiser-Stedman, Professor of Clinical Psychology (R.Meiser-Stedman@uea.ac.uk), Dr Laura Pass (L.Pass@uea.ac.uk), Lecturer in Clinical Psychology.

If you would like to make a complaint about the study, please contact Professor Niall Broomfield, the course director for the Doctorate in Clinical Psychology, Faculty of Medicine and Health Sciences, The University of East Anglia, Norwich, NR4 7TJ, email: N.Broomfield@uea.ac.uk.

Thank you for thinking about taking part in the research study!

If you would like to speak to someone or would like some resources, please click on this link:
[Insert Participant Debrief and Aftercare Sheet Link]

Appendix M. Easy-Read Participant Information Sheet Stream A

Study Title: How common are difficulties controlling emotions, having negative feelings about oneself, and difficulties with relationships in young people?

Invitation and brief summary

We would like to invite you to take part in this research study.

- Before you decide to take part, we would like to tell you about why the research is being done and what it would involve.
- We think this information sheet should take 10-15 minutes to read through.
- The study involves completing a 10-minute online survey about your emotions, how you relate to people, and some difficult events you may have experienced.

Why are we doing this study?

- It is normal for young people to feel distressed, sad or anxious at different points in their lives.
- Negative feelings like these can be more common after having very distressing or stressful experiences.
- We would like to know more about some negative feelings that people may have. These feelings are: difficulties controlling emotions, negative feelings about oneself, and difficulties in relationships with others.
- We would like to understand how common these feelings are. We also want to understand what may make young people have *more* of these feelings.

- Understanding more about these feelings will be helpful for supporting young people who have had lots of very stressful experiences.
- This research study will also help us to develop a good questionnaire about these negative feelings
- A questionnaire like this can be very helpful when supporting young people who have had a lot of difficult experiences
- It is really important to get the views of different young people. We are inviting you to take part even if you haven't had any distressing or stressful experiences.

Why is this research important?

- Not much is known about these experiences in young people: controlling emotions, negative feelings about oneself, and difficulties in relationships with others
- This research will help us to understand these experiences in young people
- If we understand these experiences and know how common they are we can start to look at better ways of recognising them and hopefully helping them
- In summary, we want to understand how common these experiences are and what things make these experiences more common

What is involved?

The study involves completing a short online survey. This should take around 10 minutes to complete.

- You will be asked some questions about your background (e.g. age and gender)
- You will be asked to fill out some questions about how you have been feeling, some traumatic events you might have experienced,

and some questions about how happy you are with different parts of your life.

- You will be given a link to a Debrief and Aftercare sheet before, during, and after the online survey with a list of options of people you can speak to if you would like support
- An optional raffle of 20 amazon gift prizes of £10 will be given out. You can choose to take part in at the end of the study
- This research is being done as part of the Doctorate in Clinical Psychology training at The University of East Anglia and the results of this study will be written up at the end of the course in 2021.

Will my information be kept private?

Yes. No identifiable data will be collected as part of the research study.

- We will not be able to connect you to your answers on the online survey
- All information will be kept confidential and only the researchers will have access to the dataset which does not include any identifiable information
- Information collected in the survey will be used to support other research in the future and may be shared anonymously with other researchers Data will be stored on a secure online server that can only be accessed by the researchers

Is the study compulsory?

No. **This study is completely voluntary**. It is up to you whether you would like to take part.

- Once you have completed reading the information sheet you can choose whether you would like to take part in the study.
- You can also email the researchers on D.Melamed@uea.ac.uk, R.Meiser-Stedman@uea.ac.uk, and L.Pass@uea.ac.uk if you have further questions.

- An email with the link to the study will be sent to you 48 hours after you receive this information sheet.
- If you decide to take part, you can consent to take part via the link.
- If you do not decide to take part, please ignore the next email.
- If you change your mind and decide to stop taking part from the study at any point, you are free to do so, and we will not ask why, and this will not affect how you are treated at school or college.
- **Your data will be kept private and confidential**
- If you choose to enter into the option raffle prize, we will not be able to link your information with your answers to the study

What are the possible benefits of taking part?

While there are no direct benefits for taking part in the study, you are helping researchers learn more about the experiences of young people.

You can enter into an optional amazon prize draw of £10. Twenty gift cards will be given out. A link will be provided at the end of the study. If you wish to enter into the raffle, please follow the link to enter your details.

What are the possible risks of taking part?

We do not think there is any big risk in filling out the online survey, but we are asking young people to think about difficult events that may have happened to you which some people may find upsetting.

- Other research with young people has found none to a small number of people taking part in similar research became upset and chose to stop.
- So, we do not think there will be any major negative effects from taking part in this study.
- You can stop taking part for any reason at any point of the study.

- The Debrief and Aftercare sheet will be available at all times of the study if you would like to get some help and speak to someone about how you feel

Who can take part in the study?

- To take part in the study you need to understand English as all of the questions are in English
- You also need to give informed consent to the study, which involves reading and thinking about the study before you choose to take part

Further supporting information

The research study is being sponsored by The University of East Anglia and is in compliance with The General Data Protection Regulation 2016. This research study has been approved by The UEA Faculty of Medicine and Health Sciences Research Ethics Committee (study number: 2019/20-015). If you have any concern or questions about any aspect of the study, you can speak to the researcher Daniela Melamed (D.melamed@uea.ac.uk), Trainee Clinical Psychologist or the research supervisor, Professor Richard Meiser-Stedman, Professor of Clinical Psychology (R.Meiser-Stedman@uea.ac.uk), Dr Laura Pass, Lecturer in Clinical Psychology (L.Pass@uea.ac.uk) .

If you would like to make a complaint about the study, please contact Professor Niall Broomfield, the course director for the Doctorate in Clinical Psychology, Faculty of Medicine and Health Sciences, The University of East Anglia, Norwich, NR4 7TJ, email: N.Broomfield@uea.ac.uk.

Thank you for thinking about taking part in the research study!

If you would like to speak to someone or would like some resources, please click on this link: [Insert Participant Debrief and Aftercare Sheet Link]

Appendix N. Participant Consent Form Stream A

CONSENT FORM

Title of Project: How common are difficulties controlling emotions, having negative feelings about oneself, and difficulties with relationships in young people?

Name of Researchers: Daniela Melamed, Trainee Clinical Psychologist & Professor Richard Meiser-Stedman, Professor of Clinical Psychology, Dr Laura Pass, Lecturer in Clinical Psychology

Please tick each box

1. I confirm that I have read the information sheet dated June 1st 2020 (version 3) for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily. ☐
2. I understand that my participation is voluntary. ☐
3. I understand that I am free to withdraw from the study at any time without giving any reason. I can decide to withdraw by closing the link to the study at any time. However, I understand that once I have submitted my data I can no longer withdraw as my data is anonymous. ☐
4. I understand that choosing or not choosing to participate in the study will not affect how I am treated at school or college. ☐
5. I understand that the information collected in the survey will be used to support other research in the future and may be shared anonymously with other researchers. ☐
6. I agree to take part in the above study. ☐

Appendix O. Participant Questionnaire Pack Stream A

Thank you very much for agreeing to take part in this research study.

In this survey we will ask you some questions about your thoughts and feelings and about some events you may have experienced in the past. These questions will take about 10 minutes to complete.

Please complete these questions in your own time in a quiet place. If you complete these questions at home or on your own, we recommend that you have something relaxing to do after completing these questions. There are no right or wrong answers, so please try and answer the questions as honestly as you can.

We ask that you try to answer every question. If there are questions that you do not understand, please take a break and ask someone to help explain the question to you.

Demographic Questions

1. **What is your age?**
   - a) 16 years old
   - b) 17 years old
   - c) 18 years old
   - d) 19 years old
   - e) 20 years old

2. **What is your gender?**
   - a) Female
   - b) Male
   - c) Non-Binary
   - d) Transgender
   - e) Other
   - f) Prefer not to say

3. **What is your ethnicity?**

a) White British
b) White Other
   - a. Please specify

c) Asian/Asian British
   - a. Please specify

d) Black British/African/Caribbean
   - a. Please specify

e) Black Other
   - a. Please specify

f) Other
   - a. Please specify

4. **Have you had a mental health difficulty in the past?**
   - a) Yes
     - i. If yes, have you received care from NHS mental health services?
       - i. Yes
       - ii. No
     - ii. If yes, have you had any other care and support (e.g. private or school counselling)?
       - i. Yes
       - ii. No
   - b) No

5. **Who do you live with?**
   - a) My parents
   - b) I live in foster care e.g. living in a residential home or living with a foster family
   - c) I live independently

6. **Do the people you live with (parents or guardians) own your home or live in rented accommodation?**
   - a) Own
   - b) Rent
   - c) Do not know

How I feel about myself and others Scale

Below are a list of questions relating to feelings and difficulties some young people have. Please read each one, and tell me how much each one has been true for you in the **past 2 weeks**?

		Never	Once in a while	Half the time	Almost always
1.	When I am upset, it takes me a long time to calm down.	[ ]	[ ]	[ ]	[ ]
2.	Sometimes I get really angry and cannot control my temper.	[ ]	[ ]	[ ]	[ ]
3.	I get really upset by things that don’t bother other people.	[ ]	[ ]	[ ]	[ ]
4.	My feelings get hurt easily.	[ ]	[ ]	[ ]	[ ]
5.	I feel like I am no good.	[ ]	[ ]	[ ]	[ ]
6.	I feel guilty about lots of things.	[ ]	[ ]	[ ]	[ ]
7.	I don’t matter.	[ ]	[ ]	[ ]	[ ]
8.	I am worthless.	[ ]	[ ]	[ ]	[ ]
9.	It is easier not to have friends.	[ ]	[ ]	[ ]	[ ]
10.	I don’t feel close to anyone.	[ ]	[ ]	[ ]	[ ]
11.	I find it difficult to have good friends.	[ ]	[ ]	[ ]	[ ]
12.	My friendships are always difficult and leave me feeling hurt.	[ ]	[ ]	[ ]	[ ]

Short Mood and Feelings Questionnaire

This form is about how you might have been feeling or acting recently. For each question, please tick how much you have felt or acted this way in the past two weeks. If a sentence was not true, fill in the bubble for not true. If it was sometimes true, fill in the bubble for sometimes. If a sentence was true most of the time, fill in the bubble for true.

		Not True 0	**Sometimes** 1	**True** 2
1.	I felt miserable or unhappy.	[ ]	[ ]	[ ]
2.	I didn't enjoy anything at all.	[ ]	[ ]	[ ]
3.	I felt so tired I just sat around and did nothing.	[ ]	[ ]	[ ]
4.	I was very restless.	[ ]	[ ]	[ ]
5.	I felt I was no good anymore.	[ ]	[ ]	[ ]
6.	I cried a lot.	[ ]	[ ]	[ ]
7.	I found it harder to think properly or concentrate.	[ ]	[ ]	[ ]
8.	I hated myself.	[ ]	[ ]	[ ]
9.	I felt I was a bad person.	[ ]	[ ]	[ ]
10.	I felt lonely.	[ ]	[ ]	[ ]
11.	I thought nobody really loved me.	[ ]	[ ]	[ ]
12.	I thought I could never be as good as other kids.	[ ]	[ ]	[ ]
13.	I felt I did everything wrong.	[ ]	[ ]	[ ]

Child Trauma Screen

Sometimes, scary or very upsetting things happen to people. These things can sometimes affect what we think, how we feel, and what we do.

		Yes	No
1.	Have you ever seen people pushing, hitting, throwing things at each other, or stabbing, shooting, or trying to hurt each other?	[ ]	[ ]
2.	Has someone ever really hurt you? Hit, punched, or kicked you really hard with hands, belts, or other objects, or tried to shoot or stab you?	[ ]	[ ]
3.	Has someone ever touched you on the parts of your body that a bathing suit covers, in a way that made you uncomfortable? Or had you touch them in that way?	[ ]	[ ]
4.	Has anything else very upsetting or scary happening to you (loved one died, separated from loved one, been left alone for a long time, not had enough food to eat, serious accident or illness, fire, dog bite, bullying)?	[ ]	[ ]

The Short Warwick-Edinburgh Mental Well-Being Scale

Below are some statements about feelings and thoughts. Please tick the box that best describes your experience of each over the last 2 weeks

		None of the time 1	**Rarely** 2	**Some of the time** 3	**Often** 4	**All of the time** 5
1.	I've been feeling optimistic about the future.	[ ]	[ ]	[ ]	[ ]	[ ]
2.	I've been feeling useful.	[ ]	[ ]	[ ]	[ ]	[ ]
3.	I've been feeling relaxed.	[ ]	[ ]	[ ]	[ ]	[ ]
4.	I've been dealing with problems well.	[ ]	[ ]	[ ]	[ ]	[ ]
5.	I've been thinking clearly.	[ ]	[ ]	[ ]	[ ]	[ ]
6.	I've been feeling close to other people.	[ ]	[ ]	[ ]	[ ]	[ ]
7.	I've been able to make up my own mind about things.	[ ]	[ ]	[ ]	[ ]	[ ]

Thank you very much for your participation!

Appendix P. Email Templates for Schools

Subject of emails: Research opportunity for adolescents who can read English

Email 1:

To all Students,

At [Insert name of College] we work with partners to complete research around subjects like wellbeing and mental health. I am forwarding you an email from the University of East Anglia who are completing research at the moment. This is an opportunity to help shape mental health services in the community. If you chose to participate in this you can enter a raffle for Amazon gift cards. Please see below for how to get involved:

Dear Students,

I am emailing you to inform you of an optional research opportunity that you can take part in.

What is the survey about?

As a brief summary, the research involves answering an online survey about your experiences that will take about 10 minutes to complete. It involves a survey about understanding negative feelings that young people may have. We hope this will help to support young people in the future. At the end of the study, you can choose to enter into a raffle for amazon gift cards.

How do I learn more about the study?

This link [Insert Link to both information sheets] gives you the information about the research study. **Please read the document carefully before deciding to take part.**

How do I take part in the study?

Another email will be sent out soon with the link to the study and online survey.

Many thanks,

[Insert Gatekeeper name]

Email 2:

To all Students,

At [Insert name of College] we work with partners to complete research around subjects like wellbeing and mental health. Further to my email on [Insert day of week/date], I am forwarding you an email from the University of East Anglia who are completing research at the moment. This is an opportunity to help shape mental health services in the community. If you chose to participate in this you can enter a raffle for Amazon gift cards. Please see below for how to get involved:

Dear Students,

I am emailing you following the first email I sent about the optional research opportunity.

What is the survey about?

As a brief review, the research involves answering an online survey about your experiences that will take about 10 minutes to complete. It involves a survey about understanding negative feelings that young people may have. We hope this will help to support young people in the future. At the end of the study, you can choose to enter into a raffle for amazon gift cards.

How do I learn more about the study?

This is the link [Insert Link to both information sheets] to the information sheet. The information sheet has information about the study and information about how to contact the researchers. To consent to the research, please read through the information sheet to make an informed decision if you would like to take part. A consent form will be provided in the link to the study. **Please carefully read through the information before deciding to take part or not.**

Can I change my mind about taking part in the study?

Yes. You are free to withdraw from the study at any time without giving any reason. This will not affect how you are treated at school or college. If you decide to withdraw, you can close the link to the study at any time. Your answers will show as incomplete and we will take this as a sign you have withdrawn from the study. We will not ask any questions.

How do I take part in the study?
If you would like to take part, here is the link for the study [Insert Link].

Many thanks,

[Insert Gatekeeper name]

Appendix Q. Participant Debrief and Aftercare Sheet Stream A

Thank you very much for taking part in our research study. You are helping the researchers learn more about your experiences and some difficult events you may have experienced.

If before, during, or after the study you would like to talk to someone about some feelings that may have come up or any problems you are experiencing, there are people who can support you.

If you feel comfortable, we would encourage you to speak with your parent or your guardian. You can contact [Insert contact details of named person for the school] for additional support. You may also feel comfortable talking with your teacher or head of your year. You could also visit your school nurse or talk to pastoral care team at your school.

If you feel that you are suffering from any difficulties, **we would suggest contacting your local General Practitioner (GP)** who will be able to discuss these concerns with you and refer you to other services if that is necessary.

Helplines

If you are struggling with how you are feeling and would like to get some help, please do not suffer in silence. Below are some organisations where you can receive this help. These organizations are there to listen to you in confidence and provide advice and guidance without judgement.

Childline: A free helpline also available anytime on: 0800 1111 or visit www.childline.org.uk

Samaritans: Confidential support for people experiencing feelings of distress or despair. Phone: 116 123 (free 24-hour helpline; Website: www.samaritans.org.uk

SANEline: Emotional support, information and guidance for people affected by mental illness, their families and carers. SANEline: 0300 304 7000 (daily, 4.30 to 10.30pm); Textcare: comfort and care via text message, sent when the person needs it most: http://www.sane.org.uk/textcare; Peer support forum: www.sane.org.uk/supportforum; Website: www.sane.org.uk/support

CALM: Campaign Against Living Miserably, for men aged 15 to 35; Phone: 0800 58 58 58 (daily, 5pm to midnight); Website: www.thecalmzone.net

MIND: Promotes the views and needs of people with mental health problems; Phone: 0300 123 3393 (Mon to Fri, 9am to 6pm); Website: www.mind.org.uk

Online Support
www.mentalhealth.org.uk

Childline: A free 1-2-1 counsellor chat line available anytime online:

https://www.childline.org.uk/get-support/1-2-1-counsellor-chat/

Contact Information
If you would like to ask us any questions, please feel free to email the researchers (please see below):

Daniela Melamed [D.Melamed@uea.ac.uk]

Professor Richard Meiser-Stedman [R.Meiser-Stedman@uea.ac.uk]

Dr Laura Pass [L.Pass@uea.ac.uk]

Appendix R. Optional Raffle Prize Information

Thank you for your participating in the research study. If you would like to participate in an optional raffle prize draw please read below.

Twenty Amazon gift cards of £10 each will be drawn at random and given out as prizes. If you would like to participate please write your email below. Your email address will not be linked to your answers in the research study. We will inform you if you have won the prize when the study has been completed.

____
Email Address

If you have any questions, please do not hesitate to contact the researchers.

Daniela Melamed
D.Melamed@uea.ac.uk

Prof. Richard Meiser-Stedman
R.Meiser-Stedman@uea.ac.uk

Dr Laura Pass
[L.Pass@uea.ac.uk]

Appendix S. Social Media Advertisement

Please help us to understand mental health in adolescents and young people better!

We are looking for participants to take part in our optional research study…

What are the requirements to take part?

- Be between 16-18 years old
- Be living in the United Kingdom
- Be able to read and answer questions in English

What is the survey about?

- The study title is: How common are difficulties controlling emotions, having negative feelings about oneself, and difficulties with relationships in young people?
- This survey is about understanding positive and negative feelings that young people may have
- It will take around 8 minutes to complete
- We hope this will help to support young people and improve their mental health in the future..

How do I take part in the study?

If you would like to take part in the study here is the link https://uea.onlinesurveys.ac.uk/youth-mh-study to the information sheet.

- It has information about the study and information about how to contact the researchers.
- If you are happy to take part, this will then take you straight into the consent form and online survey
- **Please carefully read through the information before deciding to take part or not.**

Can I change my mind about taking part in the study?

- Yes. You are free to withdraw from the study at any time without giving any reason.
- If you decide to withdraw, you can close the link to the study at any time.

Appendix T. Participant Information Sheet Stream B

Study Title: How common are difficulties controlling emotions, having negative feelings about oneself, and difficulties with relationships in young people?

Invitation and brief summary

We would like to invite you to take part in this research study.

- Before you decide to take part, we would like to tell you about why the research is being done and what it would involve.
- We think this information sheet should take 10-15 minutes to read through.
- The study involves completing an 8-minute online survey about your emotions, and how you relate to people

Why are we doing this study?

- It is normal for young people to feel distressed, sad or anxious at different points in their lives.
- We would like to know more about some negative feelings that people may have. These feelings are: difficulties controlling emotions, negative feelings about oneself, and difficulties in relationships with others.
- We would like to understand how common these feelings are. We also want to understand what may make young people have *more* of these feelings.
- Understanding more about these feelings will be helpful for supporting young people who have had lots of very stressful experiences.
- This research study will also help us to develop a good questionnaire about these negative feelings
- A questionnaire like this can be very helpful when supporting young people who have had a lot of difficult experiences
- It is really important to get the views of different young people. We are inviting you to take part even if you haven't had any distressing or stressful experiences

Why is this research important?

- Not much is known about the following experiences in young people: controlling emotions, negative feelings about oneself, and difficulties in relationships with others
- This research will help us to understand these experiences in young people
- If we understand these experiences and know how common they are we can start to look at better ways of recognising them and hopefully helping them
- In summary, we want to understand how common these experiences are and what things make these experiences more common

What is involved?

The study involves completing a short online survey. This should take around 8 minutes to complete.

- You will be asked some questions about your background (e.g. age and gender)
- You will be asked to fill out some questions about how you have been feeling and some questions about how happy you are with different parts of your life.
- You will be given a link to a Debrief and Aftercare sheet before, during, and after the online survey with a list of options of people you can speak to if you would like support
- This research is being done as part of the Doctorate in Clinical Psychology training at The University of East Anglia and the results of this study will be written up at the end of the course in 2021.

Will my information be kept private?

Yes. No identifiable data will be collected as part of the research study.

- We will not be able to connect you to your answers on the online survey
- All information will be kept confidential and only the researchers will have access to the dataset which does not include any identifiable information
- Information collected in the survey will be used to support other research in the future and may be shared anonymously with other researchers. Data will be stored on a secure online server that can only be accessed by the researchers

Is the study compulsory?

No. **This study is completely voluntary**. It is up to you whether you would like to take part.

- Once you have completed reading the information sheet you can choose whether you would like to take part in the study.
- You can also email the researchers on D.Melamed@uea.ac.uk, R.Meiser-Stedman@uea.ac.uk, and L.Pass@uea.ac.uk if you have further questions.
- If you decide to take part, you can consent to take part via the link.
- If you do not decide to take part, please ignore the online survey.
- If you change your mind and decide to stop taking part from the study at any point, you are free to do so, and we will not ask why
- **Your data will be kept private and confidential**

What are the possible benefits of taking part?

While there are no direct benefits for taking part in the study, you are helping researchers learn more about the experiences of young people.

What are the possible risks of taking part?

We do not think there is any big risk in filling out the online survey,

- We do not think there will be any major negative effects from taking part in this study.
- You can stop taking part for any reason at any point of the study.
- The Debrief and Aftercare sheet will be available at all times of the study if you would like to get some help and speak to someone about how you feel

Who can take part in the study?

- To take part in the study you need to understand English as all of the questions are in English.
- You need to be between the ages of 16 to 18 years old
- You also need to be living in the United Kingdom
- You also need to give informed consent to the study, which involves reading and thinking about the study before you choose to take part

Further supporting information

The research study is being sponsored by The University of East Anglia and is in compliance with The General Data Protection Regulation 2016. This research study has been approved by The UEA Faculty of Medicine and Health Sciences Research Ethics Committee (study number: 2019/20-015). If you have any concerns or questions about any aspect of the study, you can speak to the researcher Daniela Melamed (D.melamed@uea.ac.uk), Trainee Clinical Psychologist or the research supervisors, Professor Richard Meiser-Stedman, Professor of Clinical Psychology (R.Meiser-Stedman@uea.ac.uk), Dr Laura Pass (L.Pass@uea.ac.uk), Lecturer in Clinical Psychology.

If you would like to make a complaint about the study, please contact Professor Niall Broomfield, the course director for the Doctorate in Clinical Psychology, Faculty of Medicine and Health Sciences, The University of East Anglia, Norwich, NR4 7TJ, email: N.Broomfield@uea.ac.uk.

Thank you for thinking about taking part in the research study!

If you would like to speak to someone or would like some resources, please click on this link: [Insert Participant Debrief and Aftercare Sheet Link]

Appendix U. Participant Consent Form Stream B

CONSENT FORM

Title of Project: How common are difficulties controlling emotions, having negative feelings about oneself, and difficulties with relationships in young people?

Name of Researchers: Daniela Melamed, Trainee Clinical Psychologist & Professor Richard Meiser-Stedman, Professor of Clinical Psychology, Dr Laura Pass, Lecturer in Clinical Psychology

Please tick each box

1. I confirm that I have read and understood the information sheet dated June 1st 2020 (version 2) for the above study. ☐
2. I understand that my participation is voluntary. ☐
3. I understand that I am free to withdraw from the study at any time without giving any reason. I can decide to withdraw by closing the link to the study at any time. However, I understand that once I have submitted my data I can no longer withdraw as my data is anonymous. ☐
4. I understand that the information collected in the survey will be used to support other research in the future and may be shared anonymously with other researchers. ☐
5. I agree to take part in the above study. ☐

*Please note that the format of this will be different on the online survey platform but the information will remain the same

Appendix V. Online Survey Questionnaire Pack Stream B

Thank you very much for agreeing to take part in this research study.

In this survey we will ask you some questions about your thoughts and feelings. These questions will take about 8 minutes to complete.

Please complete these questions in your own time in a quiet place. If you complete these questions at home or on your own, we recommend that you have something relaxing to do after completing these questions. There are no right or wrong answers, so please try and answer the questions as honestly as you can.

We ask that you try to answer every question. If there are questions that you do not understand, please take a break and ask someone to help explain the question to you.

Screening Questions

1. ***Are you currently living in the United Kingdom?***

    a) Yes
    b) No

2. ***Are you between the ages of 16-18 years old?***
    a) Yes
    b) No

****If potential participants answer no to at least one of the questions they will be directed to the following message:***

Thank you for your interest in participating in the research study. Unfortunately, you do not meet the criteria to participate.

Demographic Questions

1. **What is your age?**
    a) 16 years old
    b) 17 years old
    c) 18 years old

2. **What is your gender?**
    a) Female
    b) Male
    c) Non-binary
    d) Transgender
    e) Other
    f) Prefer not to say

3. **What is your ethnicity?**
    a) White British
    b) White Other
        a. Please specify
    c) Asian/Asian British
        a. Please specify
    d) Black British/African/Caribbean
        a. Please specify
    e) Black Other
        a. Please specify
    f) Other
        a. Please specify

4. **Have you had a mental health difficulty in the past?**
    a) Yes
        i. If yes, have you received care from NHS mental health services?
            i. Yes

            ii. No

        ii. If yes, have you had any other care and support (e.g. private or school counselling)?
            i. Yes
            ii. No

b)No

5. **Who do you live with?**
    a) My parents
    b)I live in foster care e.g. living in a residential home or living with a foster family
    c) I live independently

6. **Do the people you live with (parents or guardians) own your home or live in rented accommodation?**
    a) Own
    b) Rent
    c) Do not know

How I feel about myself and others Scale

Below are a list of questions relating to feelings and difficulties some young people have. Please read each one, and tell me how much each one has been true for you in the **past 2 weeks**?

	Never	Once in a while	Half the time	Almost always
1. When I am upset, it takes me a long time to calm down.	[ ]	[ ]	[ ]	[ ]
2. Sometimes I get really angry and cannot control my temper.	[ ]	[ ]	[ ]	[ ]
3. I get really upset by things that don't bother other people.	[ ]	[ ]	[ ]	[ ]
4. My feelings get hurt easily.	[ ]	[ ]	[ ]	[ ]
5. I feel like I am no good.	[ ]	[ ]	[ ]	[ ]
6. I feel guilty about lots of things.	[ ]	[ ]	[ ]	[ ]
7. I don't matter.	[ ]	[ ]	[ ]	[ ]
8. I am worthless.	[ ]	[ ]	[ ]	[ ]
9. It is easier not to have friends.	[ ]	[ ]	[ ]	[ ]
10. I don't feel close to anyone.	[ ]	[ ]	[ ]	[ ]
11. I find it difficult to have good friends.	[ ]	[ ]	[ ]	[ ]
12. My friendships are always difficult and leave me feeling hurt.	[ ]	[ ]	[ ]	[ ]

Short Mood and Feelings Questionnaire

This form is about how you might have been feeling or acting recently. For each question, please tick how much you have felt or acted this way in the past two weeks. If a sentence was not true, fill in the bubble for not true. If it was sometimes true, fill in the bubble for sometimes. If a sentence was true most of the time, fill in the bubble for true.

	Not True 0	**Sometimes** 1	**True** 2
1. I felt miserable or unhappy.	[ ]	[ ]	[ ]
2. I didn't enjoy anything at all.	[ ]	[ ]	[ ]
3. I felt so tired I just sat around and did nothing.	[ ]	[ ]	[ ]
4. I was very restless.	[ ]	[ ]	[ ]
5. I felt I was no good anymore.	[ ]	[ ]	[ ]
6. I cried a lot.	[ ]	[ ]	[ ]
7. I found it harder to think properly or concentrate.	[ ]	[ ]	[ ]
8. I hated myself.	[ ]	[ ]	[ ]
9. I felt I was a bad person.	[ ]	[ ]	[ ]
10. I felt lonely.	[ ]	[ ]	[ ]
11. I thought nobody really loved me.	[ ]	[ ]	[ ]
12. I thought I could never be as good as other kids.	[ ]	[ ]	[ ]
13. I felt I did everything wrong.	[ ]	[ ]	[ ]

The Short Warwick-Edinburgh Mental Well-Being Scale

Below are some statements about feelings and thoughts. Please tick the box that best describes your experience of each over the last 2 weeks

		None of the time 1	**Rarely** 2	**Some of the time** 3	**Often** 4	**All of the time** 5
1.	I’ve been feeling optimistic about the future.	[ ]	[ ]	[ ]	[ ]	[ ]
2.	I’ve been feeling useful.	[ ]	[ ]	[ ]	[ ]	[ ]
3.	I’ve been feeling relaxed.	[ ]	[ ]	[ ]	[ ]	[ ]
4.	I’ve been dealing with problems well.	[ ]	[ ]	[ ]	[ ]	[ ]
5.	I’ve been thinking clearly.	[ ]	[ ]	[ ]	[ ]	[ ]
6.	I’ve been feeling close to other people.	[ ]	[ ]	[ ]	[ ]	[ ]
7.	I’ve been able to make up my own mind about things.	[ ]	[ ]	[ ]	[ ]	[ ]

Thank you very much for your participation!

Appendix W. Participant Debrief Sheet Stream B

Thank you very much for taking part in our research study. You are helping the researchers learn more about your experiences.

If before, during, or after the study you would like to talk to someone about some feelings that may have come up or any problems you are experiencing, there are people who can support you.

If you feel comfortable, we would encourage you to speak with your parent or your guardian.

If you feel that you are suffering from any difficulties, **we would suggest contacting your local General Practitioner (GP**) who will be able to discuss these concerns with you and refer you to other services if that is necessary.

Helplines

If you are struggling with how you are feeling and would like to get some help, please do not suffer in silence. Below are some organisations where you can receive this help. These organizations are there to listen to you in confidence and provide advice and guidance without judgement.

Childline: A free helpline also available anytime on: 0800 1111 or visit www.childline.org.uk

Samaritans: Confidential support for people experiencing feelings of distress or despair. Phone: 116 123 (free 24-hour helpline; Website: www.samaritans.org.uk

SANEline: Emotional support, information and guidance for people affected by mental illness, their families and carers. SANEline: 0300 304 7000 (daily, 4.30 to 10.30pm); Textcare: comfort and care via text message, sent when the person needs it most: http://www.sane.org.uk/textcare; Peer support forum: www.sane.org.uk/supportforum; Website: www.sane.org.uk/support

CALM: Campaign Against Living Miserably, for men aged 15 to 35; Phone: 0800 58 58 58 (daily, 5pm to midnight); Website: www.thecalmzone.net

MIND: Promotes the views and needs of people with mental health problems; Phone: 0300 123 3393 (Mon to Fri, 9am to 6pm); Website: www.mind.org.uk

Online Support
www.mentalhealth.org.uk

Childline: A free 1-2-1 counsellor chat line available anytime online:

https://www.childline.org.uk/get-support/1-2-1-counsellor-chat/

Contact Information
If you would like to ask us any questions, please feel free to email the researchers (please see below):

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Appendix X. Supplementary Table 1 for Empirical Paper

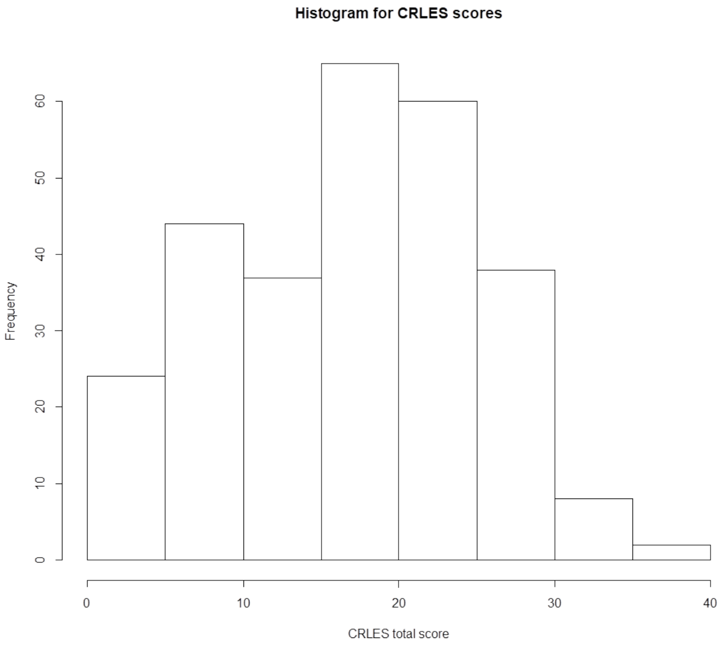

Figure 1. Spread of CRLES total scores across the sample