Identifying, Understanding, and Treating Generalised Anxiety Disorder in Children and Young People: From Psychological Processes to Clinical Practice

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Thesis portfolio Abstract

Background:

In adults, Generalised Anxiety Disorder (GAD) has been widely conceptualised through disorder-specific models, with Cognitive Behavioural Therapy (CBT) recommended for its treatment in clinical practice. The ICD-11 does not make any distinction in the diagnostic criteria for GAD across age groups, yet the evidence base surrounding GAD in children and young people (CYP) is limited, leaving uncertainty over how It should be conceptualised and treated.

Method:

To provide insight into the applicability of adult models of GAD to youth, a systematic review is presented in which evidence from 36 studies examining associations between intolerance of uncertainty (IU), negative problem orientation (NPO), cognitive avoidance (CA) and positive and negative beliefs about worry (P/NBW) and GAD in CYP was synthesised. An empirical study is also presented in which a vignette-based survey was used to examine clinicians' identification and treatment of GAD in CYP.

Results:

Significant pooled associations with GAD in CYP were observed for each psychological process. Effect sizes ranged from small to large. The strongest association was found for IU (r = .61, 95% CI [.54, .66] and heterogeneity was substantial across most analyses.

Across 137 clinicians, GAD was rated as highly representative of the presenting issue in the vignette (median = 90%), while CBT was strongly endorsed as a recommended treatment option (median = 100%). Clinicians rarely selected a single diagnosis or treatment in isolation (GAD alignment: M = 51%, SD = 27.1; CBT alignment: M = 34.74%, SD = 23.1). Most clinicians reported a desire for additional training in assessing (72.3%) and treating GAD in CYP (83.2%).

Conclusion:

The results deepen our understanding of GAD in CYP, identifying possible treatment targets and providing a clearer picture of how it is being managed within services. Areas for future research and issues with the evidence base are also highlighted.

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Table of Contents

Thesis Abstract **2**

List of Tables **6**

List of Figures **7**

Acknowledgements **8**

Chapter one: Introduction to the Thesis Portfolio **9**

Overview of GAD in adulthood 10
Adult models of GAD 11
Psychological treatment of GAD in adults 14
Present portfolio 15

Chapter Two: Systematic Review **16**

Abstract 18
Key practitioner messages 19
Introduction 21
Methodology 23
Results 27
Discussion 43
Conclusion 47
References 48

Chapter Three: Bridging Chapter **61**

Chapter Four: Empirical Study **63**

Abstract 65
Key Practitioner Messages 66
Introduction 67
Methodology 69
Results 75
Discussion 82
Conclusion 87
References 88

Chapter Five: General discussion and critical evaluation **97**

Summary of Systematic Review 98
Evaluation of Systematic Review 100
Summary of Empirical Study 102
Evaluation of Empirical Study 107
Theoretical and clinical implications of portfolio 109
Future research portfolio 110
Overall conclusion 111

References **112**

Appendices **138**

Appendix A: Author guidelines for Child and Adolescent Mental Health 138
Appendix B: PRISMA checklist 156
Appendix C: Full search strategy 160
Appendix D: Full table of study characteristics 162
Appendix E: Traffic light plots 169
Appendix F: JBI critical appraisal tools 171
Appendix G: FMH ethical approval 178
Appendix H: Social media advertisements 179
Appendix I: Participant information sheet and consent form 182
Appendix J : Novel Questionnaire 184
Appendix K : Participant debrief form 212
Appendix L: Assumption checks for regression analyses 213
Appendix M: Full table of treatment preferences 215

List of tables

Chapter Two

Table 1: Summary of study characteristics 30

Chapter Four: Empirical Study

Table 1: Summary of sample characteristics 70
Table 2: Descriptive statistics 75
Table 3: GAD alignment regression model 78
Table 4: CBT alignment regression model 79
Table 5: Summary of treatment preferences 80

Appendices

Table A1: Full study characteristics 162
Table A2: Full summary of treatment preferences 215

List of Figures

Chapter Two

Figure 1: PRISMA flowchart diagram 28
Figure 2: Forest plot for Intolerance of Uncertainty 38
Figure 3: Forest plot for Positive Beliefs about Worry 39
Figure 4: Forest plot for Negative Beliefs about Worry 40
Figure 5: Forest plot for Negative Problem Orientation 41
Figure 6: Forest plot for Cognitive Avoidance 42

Appendices

Figure A1: Traffic light plot for case control studies 169
Figure A2: Traffic light plot for cross-sectional studies 170
Figure A3: Social media advertisements 179

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Chapter One

Introduction to the Thesis Portfolio

Introduction to the Thesis Portfolio

This chapter provides an overview of how Generalised Anxiety Disorder (GAD) is defined, conceptualised, and treated in adult populations. Given that much of our current understanding of GAD has been developed within adult research, this aims to provide context for the subsequent chapters in which GAD is examined in relation to children and young people (CYP).

Diagnostic criteria

GAD first emerged as a diagnostic category in the 3rd edition of the International Classification of Diseases (ICD), and the specificity of its diagnostic criteria has become progressively more refined over time (Crocq, 2017). In the most recent edition, the ICD-11 defines GAD as the experience of persistent and excessive anxiety or worry, occurring over several months, accompanied by physical and cognitive symptoms and resulting in significant distress or impairment (World Health Organization [WHO], 2025).

Prevalence and Impact

GAD has one of the highest global lifetime prevalence rates among anxiety disorders (Remes et al., 2016). In England, it has been reported to be the most prominent common mental health disorder in adults, with an estimated prevalence of 7.5% (NHS England, 2025a). Further, it is estimated to occur in 4 -7.9% of patients presenting to NHS primary care (National Institute for Health and Care Excellence [NICE], 2025a).

Adults with GAD report a lower quality of life when compared to non-clinical populations (Henning et al., 2007). It is also associated with financial burden owing to loss of work and reliance on medical resources and health services (Hoffman et al., 2008; Wittchen, 2002) and often co-occurs alongside other mental health conditions (Brawman-Mintzer et al., 1993). Moreover, research suggests that GAD may represent a risk factor for subsequent depression in adults (Kessler, 2000)

and in some samples has been linked to elevated rates of suicidal ideation and suicide attempts (Kanwar et al., 2013; Sareen et al., 2005).

Theoretical models of GAD in adults

Behar et al. (2009) provided a comprehensive review of the principal theoretical models used to conceptualise GAD in adults. More recently, Freeston (2023) revisited this list and provided updates from the evidence base. A summary of the models highlighted in these reviews is provided below:

- Avoidance model of worry/GAD (Borkovec, 1994; Borkovec et al., 2004). Under this model, GAD is maintained by the use of worry as a cognitive avoidance strategy (Sibrava & Borkovec, 2006). By replacing emotionally activating imagery of feared outcomes with verbal thought, worry functions to reduce short-term distress (Behar et al., 2009). This maintains anxiety by preventing emotional processing and fear extinction in the long-term (Stapinski et al., 2010).
- Intolerance of uncertainty model (IoU model) (Dugas et al., 1998; Koerner & Dugas, 2006). The IoU model proposes that intolerance of uncertainty (IU) represents a central vulnerability in GAD, stemming from beliefs that uncertainty is threatening and should be avoided (Robichaud & Dugas, 2006). Chronic worry therefore emerges in the context of a heightened sensitivity toward uncertainty. IU is also considered to perpetuate worry through its relationship with positive beliefs about worry (PBW), cognitive avoidance (CA) and negative problem orientation (NPO) (Behar et al., 2009; Koerner & Dugas, 2006).
- Metacognitive Model (MCM) (Wells, 1995, 1999, 2006). The MCM distinguishes between two types of worry: Type 1 worry refers to concerns about everyday external events, whereas Type 2 worry, or meta-worry involves worrying about worrying (Wells, 1999). Within this model, triggers such as “what if” thoughts activate

PBW, prompting individuals to engage in Type 1 worry as a coping strategy. In individuals with GAD, Type 1 worry persists over time and gives rise to negative beliefs about worry (NBW), whereby worry is appraised as dangerous or uncontrollable and resulting in increased levels of anxiety.

- Emotion Dysregulation Model (Mennin et al., 2002, 2005; Mennin et al., 2004). This model proposes that GAD is characterised by deficits in emotion regulation, which result in the use of worry as a cognitive strategy to suppress or control emotional experiences and avoid distress (Mennin et al., 2002). It argues that attempts to avoid painful emotions, ultimately impairs problem solving skills and increases arousal towards feared emotions (Mennin et al., 2002; Mennin et al., 2004). Moreover, individuals with GAD are hypothesised to have dispositional characteristics which make them more vulnerable to emotional dysregulation (Behar et al., 2009).

- Acceptance-Based Model of GAD (Hayes-Skelton et al., 2013; Roemer & Orsillo, 2002, 2005). Under this model, GAD is conceptualised within the behavioural learning framework. Worry is viewed as a habit that is negatively reinforced through avoidance of feared outcomes and subsequent reductions in physiological arousal (Roemer & Orsillo, 2002). In the long-term, avoidance is viewed as restrictive, with individuals becoming less physically and mentally engaged in activities that they value which, ultimately increases their distress (Behar et al., 2009).

- Contrast Avoidance Model (Llera & Newman, 2014; Newman & Llera, 2011; Newman et al., 2014). The contrast avoidance model suggests that individuals with GAD have heightened emotional sensitivity and are vulnerable to abrupt and overwhelming shifts in their emotional states or contrasts (Newman et al., 2014). As a result, worry is employed to maintain a baseline level of negative affect and reduce the likelihood of abrupt emotional fluctuations (Newman & Llera, 2011). This negative state allows individuals to remain vigilant to potential threats and may increase the salience of

positive emotional contrasts when outcomes are better than expected (Rashtbari & Saed, 2020).

- Emotion Focused Model (Timulak & McElvaney, 2016; Timulak et al., 2017).

From this perspective, GAD is rooted in unresolved emotional injuries and unmet psychological needs. Worry is viewed as a protective strategy, which shields individuals from core emotional pain, but also prevents adaptive emotional processing (Timulak & McElvaney, 2016). Additionally, attempts to avoid emotional pain are often only partially successful, leading to secondary emotions such as fatigue, hopelessness and persistent anxiety (O'Brien et al., 2019; Timulak & McElvaney, 2016).

- Cognitive Model of Pathological Worry (Hirsch et al., 2019; Hirsch & Mathews, 2012). Within this framework, the development and maintenance of pathological worry can be understood through cognitive factors such as biases in emotional processing and attention (Hirsch & Mathews, 2012). Emotional processing biases orient individuals towards negative information, while verbal thinking styles cause worries to feel abstract or unresolved. In addition, limited attentional control makes it harder for individuals to shift their attention away from worry-related thoughts (Hirsch et al., 2019).

- Three-phase model (Chigwedere & Moran, 2022; Chigwedere & Wilson, 2021). Building on the IoU model, this framework introduces a three-phase maintenance cycle of worry: (1) the fear phase, characterised by an initial fear response in which triggers are appraised as threatening; (2) an anxiety phase, in which individuals engage in worry to manage perceived threats or uncertainty, thereby sustaining apprehension; (3) the reinforcement phase, where worry-related behaviours are reinforced by short-term reductions in arousal (Chigwedere & Wilson, 2021).

Key psychological processes

Despite differences across these theoretical models, many highlight common psychological processes thought to contribute to the development and maintenance of GAD in adults. These include negative problem orientation (NPO), characterised by a tendency to appraise problems as threatening and one's ability to cope with them as inadequate (D'Zurilla & Nezu, 2010); cognitive avoidance (CA), referring to the active attempt to suppress distressing thoughts or images and push them out of awareness (Olatunji et al., 2010; Sibrava & Borkovec, 2006); positive and negative beliefs about worry (PBW/NBW) (Wells, 1995), i.e. beliefs that worry is useful or that worry is harmful; and Intolerance of uncertainty (IU) defined by perceptions of uncertainty as threatening or intolerable (Robichaud et al., 2019).

Psychological treatment of GAD

The National Institute for Health Care Excellence (NICE) recommends the use of Cognitive Behavioural Therapy (CBT) or Applied Relaxation (AR) for the treatment of GAD in adults (NICE, 2020). In line with this, a recent meta-analysis conducted by Papola et al. (2024) found moderate-large treatment effects for CBT in adults with GAD. It was also highlighted that while, third-wave approaches were similarly effective in the short term, long-term effectiveness was only reported for CBT (Papola et al., 2024).

While guidelines do not prescribe a single manualised CBT protocol for GAD, interventions typically draw on the existing theoretical models. Moreover, research has indicated that key components of CBT for GAD include psychoeducation about worry, self-monitoring, relaxation training or applied relaxation, imagery training, behavioural experiments, imaginal exposure and cognitive restructuring (LeBlanc et al., 2021).

Present portfolio

Newman and Przeworski (2018) described a misconception surrounding the clinical severity of Generalised Anxiety Disorder (GAD), noting that other disorders appear to have received comparatively greater attention within research. This disparity may be particularly pronounced for children and young people (CYP) given that, despite the existence of multiple theoretical models of GAD in adults and established treatment guidelines, no equivalent models or guidance exist for GAD in CYP.

The present thesis seeks to address this gap by advancing our understanding of GAD in CYP across both theory and clinical practice. The systematic review and meta-analysis in Chapter 2 assesses the extent to which key psychological processes, highlighted in adult models of GAD, are associated with GAD in CYP. The empirical study, presented in Chapter 4, examines how GAD in CYP is identified and treated in clinical practice. Chapter 3 serves as a bridge between the findings in Chapter 2 and the empirical study. Finally, Chapter 5 draws together the findings from both studies, providing a critical evaluation of the whole portfolio and outlining its theoretical and clinical implications.

Chapter Two

Systematic Review and Meta-analysis

Prepared for submission to Child and Adolescent Mental Health (see Appendix A for author guidelines).

Systematic review

Generalised Anxiety Disorder (GAD) in Children and Young People: a systematic review of GAD-related psychological processes

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Abstract

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Background

Generalised Anxiety Disorder (GAD) is one of the most prevalent mental health conditions diagnosed in children and young people (CYP) and is linked to a broad range of difficulties. Several key processes are often highlighted as central to GAD in adulthood, including intolerance of uncertainty (IU), cognitive avoidance (CA), negative problem orientation (NPO), and positive and negative beliefs about worry (PBW/NBW). However, no systematic review has synthesised the evidence of the relationship between these processes and GAD in CYP within a single review.

Method:

A systematic search of five databases was undertaken to identify studies reporting a quantitative relationship between IU, CA, NPO, PBW OR NBW and GAD or GAD symptoms in CYP. Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) guidelines were followed, and random-effects meta-analyses were performed for each psychological process.

Results:

Significant pooled associations were observed for all five psychological processes and GAD in CYP. The strongest association was found for IU (r = .61, 95% CI [.54, .66]), NPO (r = .58, 95% CI [.48, .67), and NBW (r = .57, 95% CI [.48, .64]). A large-moderate associations was observed for CA (r=. 47, 95% CI [.36, .57]), while a small-to-medium association was found for PBW (r = .28, 95% CI [.23, .32]). Substantial heterogeneity was observed across analyses.

Conclusion:

The key psychological processes observed in adults are also associated with GAD in younger populations. Future research is needed to determine the diagnostic specificity of these processes in GAD in CYP.

Key Practitioner Message:

What is known?

- Generalised Anxiety Disorder (GAD) is a prevalent and debilitating mental health condition in children and young people (CYP)
- In adults, GAD is associated with specific psychological processes including Intolerance of uncertainty (IU), negative and positive beliefs about worry (N/PBW), negative problem orientation (NPO) and Cognitive Avoidance (CA).

What is new?

- To our knowledge, this is the first review to synthesises evidence on the relationship between each of these key processes and GAD in CYP in one review.
- Small to large, pooled effect sizes were identified between these processes and GAD, however heterogeneity was high and the evidence base for some processes was limited.

What is significant for clinical practice?

- Findings suggest that key psychological processes represented in adult models of GAD are also relevant in CYP.
- IU, CA, NPO, PBW, NBW may be promising treatment targets for younger populations with GAD.

- Further research is needed to provide clarity on the diagnostic specificity of these processes in youth.

Keywords: Generalised Anxiety Disorder; Child; Adolescent; Worry; Psychological processes; Metacognition.

Introduction

Generalised anxiety disorder (GAD) is a common and impairing mental health condition, characterised by persistent anxiety and excessive worry about a range of everyday situations, accompanied by symptoms such as muscle tension, sleep disturbance and difficulties concentrating (World Health Organization [WHO], 2025). It is also among the most prevalent anxiety disorders in childhood and adolescence (Vizard, Pearce & Davis, 2018; WHO, 2025).

In children and young people (CYP), GAD and excessive worry are associated with a range of impairments. These include academic and social difficulties (Kajastus et al., 2024), poorer functioning at home and at school (Alfano, 2012; Mychailyszyn, Mendez & Kendall, 2010) and high rates of co-occurring depression (Masi et al., 2004). In adolescence GAD has been associated with more frequent alcohol use and a greater risk of harmful drinking in early adulthood (Dyer et al., 2019). Evidence has also suggested that childhood GAD may predict poorer social, financial and health comes in young adulthood compared to individuals (Copeland et al., 2014). Therefore, developing a robust theoretical understanding of GAD in CYP that can inform effective interventions should be considered a priority.

Freeston (2023) questioned “What if we have too many models of worry?”, highlighting the saturated evidence base of models used to conceptualise adult GAD. In contrast, research into disorder specific models for childhood anxiety disorders remains limited with transdiagnostic approaches to treatment often guiding clinical practice (Hill, Wait & Creswell, 2017; Ship et al., 2025).

According to Behar et al. (2009), the principal models of GAD in adults include the Avoidance Model of Worry and GAD (Borkovec, Alcaine & Behar, 2004); the Intolerance of Uncertainty Model (Dugas et al., 1998); The Meta-cognitive Model (Wells, 1995, 1999); The Emotion Dysregulation Model (Mennin et al., 2002, 2005); The Acceptance-Based Model of GAD (Roemer & Orsillo, 2002).

All of which recognise, a common set of psychological processes theorised to underpin the development and maintenance of GAD: negative problem orientation (NPO) (D'Zurilla & Nezu, 2010; Robichaud & Dugas, 2005); cognitive avoidance (CA) (Olatunji, Mortez & Zlomke, 2010; Sibrava & Borkovec, 2006); positive and negative beliefs about worry (P/NBW) (Wells, 1995) and intolerance of uncertainty (IU) (Robichaud, Koerner & Dugas, 2019).

While the relationship between these processes and GAD in adulthood has been well established (Sexton & Dugas, 2009; Gentes & Rucio, 2011; Penney, Mazmanian & Rudanycz, 2013), supporting the development of disorder specific interventions, historically, less attention has been given to their relevance in younger populations. Moreover, where research has emerged, childhood anxiety disorders have frequently been examined under a broad "anxiety" category rather than at a disorder-specific level (Osmanağaoğlu, Creswell & Dodd, 2018).

Some empirical studies have begun investigating these processes in CYP and evaluating their applicability in younger populations (Ellis & Hudson, 2010; Fialko, Bolton & Perrin, 2012). A shift which may reflect broader calls for more disorder specific research practices in children and adolescent mental health (Creswell, Waite & Hudson, 2020; Ship et al.,2025). However, these studies are often variable in their design and methodology, making findings difficult to compare and interpret. To our knowledge, no review has attempted to systematically synthesise the existing evidence, so that the relationships between each of these psychological processes and GAD in CYP can be critically examined.

Therefore, the present review aimed to synthesis this evidence and quantify the relationships between CA, NPO, IU, PBW, NBW and IU, and GAD symptoms or diagnosis in CYP. In doing so, we were guided by the following research objectives:

1. To assess the relationship between GAD-related psychological processes and GAD symptoms or diagnosis in CYP.

2. Where sufficient data are available, to examine potential sources of heterogeneity in these relationships.

Method

This review was conducted in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) guidelines (Page et al., 2021) and registered prospectively in PROSPERO (CRD420251136992). See Appendix B for the PRISMA checklist.

Search strategy

Online databases searches were conducted in CINAHL, Scopus, Child and Development and Adolescents studies (via EBSCO), PsycINFO and PubMed. Additional searches were carried out using Google Scholar and ProQuest to identify relevant grey literature. Search terms relating to each psychological process of interest (IU, NPO, PBW/NBW and CA), GAD or GAD symptoms and CYP were combined using the Boolean operator "AND". Where available, database filters were applied to restrict results by age (≤21 years) and language (English). All searches were completed by the primary author (EB) between October and December 2025. See Appendix C for the full search strategy.

Inclusion criteria and study selection

Studies were included if: (a) the sample consisted of children or young people under the age of 21, or data for this age range could be extracted separately; (b) the study included a standardised measure of at least one psychological process of interest (e.g. IU, PBW/NBW, NPO or CA); and (c) the study reported a quantitative effect size describing the relationship between at least one psychological process and GAD, where GAD was defined either by diagnostic criteria or by a dimensional measure of GAD symptoms. Where effect sizes were not directly reported, studies were included if sufficient data was provided to allow calculation of an effect size. Studies reporting a transdiagnostic measure of anxiety without separately reported GAD-specific subscale data were not

considered eligible for inclusion. The same was applied to papers that assessed beliefs about worry but did not report positive and negative beliefs as separate subscales.

Qualitative studies, books, book chapters, conference papers, review articles, and meta-analyses were excluded. Studies not published in English were also excluded, as well as longitudinal studies and randomised controlled trials unless relevant baseline data were reported.

All studies were screened against the predefined inclusion criteria in two phases. In Phase one, titles and abstracts of all papers identified through the searches were screened by EB. In Phase two, all studies deemed eligible underwent full-text retrieval and were assessed for final inclusion. HC also independently screened 20% of all records at both stages, with a procedure in place to resolve any disagreements. Inter-reviewer agreement was high with no discrepancies identified.

Quality assessment

Methodological quality and risk of bias, for all included studies, was assessed using the Joanna Briggs Institute (JBI) critical appraisal tools for systematic reviews. The JBI checklists for analytical cross-sectional and case–control studies were selected (Moola et al., 2020) as these were the most commons study designs included. Two longitudinal studies were included; however, as only baseline data were extracted and analysed, these were appraised using the cross-sectional checklist.

Check-list items assessed key methodological domains, including sample selection, validity and reliability of measurement, management of confounding factors and statistical analysis. Each study was rated as “yes”, “no” or “unclear” for each checklist item by EB. A random sample of 20%, for each checklist, was also independently assessed by HC. No discrepancies were noted between reviewers.

Consistent with previous reviews, the percentage of checklist items rated as “yes” was then used to categorise each study as low (0–33%), medium (34–66%), or high (≥67%) risk of bias, with

items marked as “not applicable” excluded from the total (Niño-de-Guzman Quispe et al., 2023). As JBI advised against numerical scoring, these groupings were only used to support sensitivity analysis.

Data extraction

Data from the included studies were extracted into a standardised extraction sheet by EB. Extracted information included study design, sample characteristics (e.g., sample type, age range and percentage female), psychological processes (IU, NPO, CA, PBW, or NBW) and their corresponding measurement tools, assessment of GAD (dimensional or diagnostic), and statistical outcomes.

All effect sizes were converted to a common metric to enable synthesis. Pearson’s correlation coefficient (r) was selected, as it was expected to be the most frequently reported effect size. Where only means and standard deviations (SDs) were provided, Cohen’s d values were calculated and then converted to r. When only standardised regression coefficients were reported, these were converted to Pearson’s r using the approximation method described by (Peterson & Brown, 2005). Partial correlations were retained as estimates of associations between psychological processes and GAD. In studies reporting between-group comparisons across multiple groups, mean differences between GAD samples and non-clinical control groups were prioritised to ensure consistency in extracted effect sizes.

Data analysis

Individual random-effects meta-analyses were conducted for each psychological process in R (version 4.5.2) using packages such as “metafor” (version 4.8-0) (Viechtbauer, 2010) and “dmetar” (version 0.1.0) (Harrer et al., 2019). The random effects model was selected to account for expected heterogeneity between studies due to differences in samples and study designs (Dettori, Norvell & Chapman, 2022).

Effect sizes were transformed to Fisher's Z for meta-analysis by R and converted back to r for reporting and interpretation. Pooled correlational coefficients with 95% confidence intervals were reported and presented in forest plots. The magnitude of pooled effect sizes was interpreted using Cohen's (1992) conventions (r = .10 "small", .30 "medium", .50 "large").

Between-study heterogeneity was assessed using Cochran's Q statistic (with $p < .05$ indicating heterogeneity) and the Higgins and Thompson's I^2 statistic, with values of 25%, 50%, and 75% representing low, moderate, and substantial heterogeneity, respectively (Higgins & Thompson, 2002). The 95% prediction intervals (95% PI) were also reported for each analyses, to examine the expected range of effects in future studies (IntHout et al., 2016). Where analyses included fewer than 10 studies, pooled effects and heterogeneity statistics were interpreted with caution due a potential reduction in reliability (Hoaglin, 2016; Ioannidis, 2008; von Hippel, 2015). Subgroup analyses were conducted only when meta-analyses included at least ten studies and each subgroup contained a minimum of four studies (Schwarzer et al., 2019).

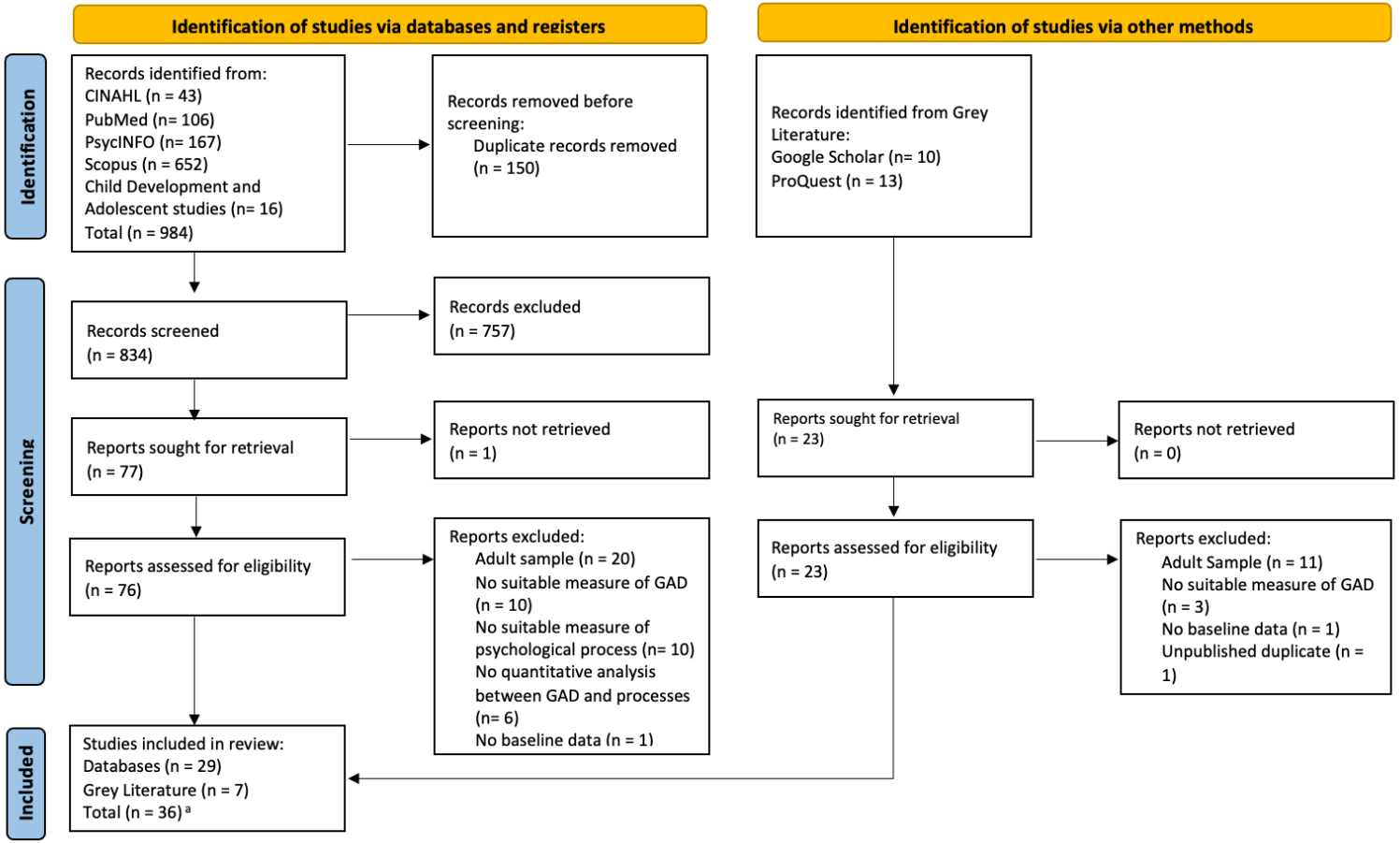
Sensitivity analyses were conducted to examine the influence of outliers using the confidence-interval overlap approach described by Viechtbauer & Cheung, 2010. Studies were classified as outliers if their 95% confidence intervals did not overlap with the 95% confidence interval of the pooled effect. Where outliers were identified, meta-analyses were re-run with these studies excluded.

Funnel plots and Egger's regression test were used to assess potential publication bias when at least ten studies were included in a meta-analysis (Egger et al., 1997). A statistically significant Egger's test ($p < .05$) was interpreted as evidence of possible funnel plot asymmetry and therefore potential publication bias.

Results

An adapted PRISMA flow diagram (Page et al., 2021) of study inclusion is presented in Figure 1.The initial search yielded 984 references, with 834 remaining after the duplicates were removed. Title and abstract screening resulted in the exclusion of 757 records, and full-text retrieval was conducted for the remaining 77 reports. Of these, 29 studies were assessed as eligible for final inclusion. Grey literature searches of Google Scholar and ProQuest yielded a further 23 reports, of which seven met eligibility criteria. In total, 36 studies were included for review.

Figure 1. *PRISMA 2020 flow diagram of study selection process*



[a] One report (Esbjørn et al., 2015b) contained two independent studies with separate samples and extractable data. Both studies were included (n= 36).

Study characteristics

The 36 included studies were published between 2003 and 2025, with sample sizes ranging from 12 to 36,180 participants. Across studies, participants were aged between 3–20 years old, and the proportion of females ranged from 31% to 80.4%. Most studies were conducted in the United States (n= 14), used cross-sectional designs (n = 25), and recruited participants from the community (n= 27). Pearson's r was the most reported effect size (n = 27).

Most studies measured GAD dimensionally in relation to symptoms (n= 32), while four used diagnostic status. IU was the most frequently examined psychological process (n = 26) and CA was the least (n = 7). Measures used to assess both GAD and the psychological processes varied considerably across studies. A summary of the study characteristics is provided in Table 1, with full details, including each instruments used to measure each process available in Appendix D.

Table 1.

Summary of study characteristics

Author/Year	Country	Study Design	N	Age range/Mean (years)	% female	Sample type	GAD outcome	GAD measure	Psychological process	Effect Size Reported
Allred (2019)	US	Cross-sectional	143	11	60.8%	Community	Dimensional	RCADS/ GAD	NBW; PBW	Pearson's Correlation (r)
Bacow (2009)	US	Case-control	98	Clinical sample: 11.9; Community sample: 12.4	Clinical sample: 62.8%; Community sample: 65%	Mixed	Dimensional	PSWQ-C	NBW; PBW	Partial Correlation (r, controlled for covariates)
Boelen (2010)	Netherlands	Cross-sectional	191	16.1	51%	Community	Dimensional	PSWQ-C	IU	Pearson's Correlation (r)
Comer (2009)	US	Case-control	197	11.6	50.8%	Mixed	Dimensional	PSWQ-C	IU	Pearson's Correlation (r)
Cowie (2018)	US	Case-control	98	9.1	49%	Mixed	Dimensional	PSWQ-C	IU	Pearson's Correlation (r)
Donovan (2016)	Australia	Case-control	GAD:25; Control: 25	9.9	GAD: 60%; Control: 60%	Clinical	Diagnosis	ADIS-IV-C/P	IU; CA; NPO; NBW; PBW	F statistic (group comparison)

Donovan (2017)	Australia	Cross-sectional	114	9.9	50.9%	Community	Dimensional	PSWQ-C	IU; CA; NPO; NBW; PBW	Pearson's Correlation (r)
Dugas (2012)	Canada	Longitudinal	Time 1: 282	NA	NA	Community	Dimensional	PSWQ-C	IU	Pearson's Correlation (r)
Ellis (2011)	Australia	Case-control	123	12 –17	NA	Mixed	Dimensional	SCAS/GAD	NBW; PBW	Pearson's Correlation (r)
Esbjørn 2013)	Denmark	Cross-sectional	974	9 –17	55.2%	Mixed	Dimensional	PSWQ-C	NBW; PBW	Pearson's Correlation (r)
Esbjørn (2015) Study 1	Denmark	Cross-sectional	587	Ages 9–12: 11; Ages 13–17: 14	Ages 9-12: 55%; Ages 13-17: 55%	Mixed	Dimensional	PSWQ-C	NBW; PBW	Standardised regression coefficient (β)
Esbjørn (2015) Study 2	Denmark	Case-control	GAD: 22; Control: sa43	7–13	NA	Mixed	Diagnosis	ADIS-IV-C/P	NBW; PBW	Group means and SDs
Fialko (2012)	UK	Cross-sectional	515	7–19	53%	Community	Dimensional	PSWQ-C	IU; CA; PBW	Pearson's Correlation (r)

Fisak (2014)	US	Cross-sectional	175	13.9	66.3%	Community	Dimensional	PSWQ-C	NBW; PBW	Standardised regression coefficient (β)
Geronimi (2019)	US	Cross-sectional	47	10.4	61.7%	Community	Dimensional	PSWQ-C	IU; NPO; NBW; PBW	Pearson's Correlation (r)
Gini (2019)	Italy	Cross-sectional	1169	15.8	47.7%	Community	Dimensional	GAD-7	NBW; PBW	Pearson's Correlation (r)
Gosselin (2007)	Canada	Cross-sectional	777	14.9	49.7%	Community	Dimensional	PSWQ-C	CA	Pearson's Correlation (r)
Hearn (2017)	Australia	Case-control	GAD: 20; Control: 20	8-12	GAD: 42.9%; Control: 42.9%	Community	Diagnosis	ADIS-IV-C/P	IU; CA; NPO; NBW; PBW	Group means and SDs
Kertz (2013)	US	Cross-sectional	80	9.6	71%	Community	Dimensional	PSWQ-C	IU; NPO; NBW; PBW	Partial Correlation (r, controlled for covariates)
Krain (2006)	US	Cross-sectional	12	16.4	41.7%	Community	Dimensional	PSWQ-C	IU	Pearson's Correlation (r)

Laugesen (2003)	Canada	Cross-sectional	528	15.6	49.1%	Community	Dimensional	PSWQ-C	IU; CA; NPO	Partial Correlation (r, controlled for covariates)
Lee (2018)	US	Cross-sectional	76	9.7	50%	Community	Dimensional	PSWQ-C	IU; NPO	Pearson's Correlation (r)
Martinez-Snyder (2022)	US	Cross-sectional	305	17.1	71.%	Community	Dimensional	SCARED/GAD	IU	Pearson's Correlation (r)
Poh (2021)	Singapore	Cross-sectional	385	12.5	58.9%	Community	Dimensional	RCADS/GAD	IU	Pearson's Correlation (r)
Przeworski (2009)	US	Cross-sectional	34	10.4	47.4%	Community	Dimensional	PSWQ-C	IU	Pearson's Correlation (r)

Read (2013)	US	Case-control	GAD: 46; SAD: 31	7-17	Full sample: 47.7%	Community	Diagnosis	ADIS-IV-C/P	IU	Group means and SDs
Ryan (2025)	UK	Longitudinal	180	4	Not reported	Community	Dimensional	SCAS-P /GAD	IU	Pearson's Correlation (r)
Shen (2020)	China	Cross-sectional	591	10.5	51.3%	Community	Dimensional	PSWQ-C	IU	Pearson's Correlation (r)
Thielsch (2015)	Germany	Cross-sectional	521	17.2	80.4%	Community	Dimensional	PSWQ	IU; NBW; PBW	Pearson's Correlation (r)
Watts (2021)	UK	Cross-sectional	326	13.2	48%	Community	Dimensional	PSWQ-C	IU; CA; NPO; PBW	Pearson's Correlation (r)
White (2016)	Australia	Cross-sectional	187	10.6	31%	Community	Dimensional	SCAS-P /GAD	PBW; NBW	Pearson's Correlation (r)
Whiting (2015)	US	Cross-sectional	105	15.6	67.6%	Community	Dimensional	PSWQ-C	IU	Pearson's Correlation (r)

Wong (2025)	US	Cross-sectional	647	6–17	NA	Community	Dimensional	RCADS-P	IU	Pearson's Correlation (r)
Wright (2016)	Canada	Cross-sectional	128	12.7	49.2%	Community	Dimensional	SCAS/GAD	IU	Pearson's Correlation (r)
Ye (2023)	China	Cross-sectional	36180	9 –19	NA	Community	Dimensional	GAD-7	IU	Pearson's Correlation (r)
Zemestani et al. 2022)	Iran	Case-control	683	14	58.1%	Mixed	Dimensional	SCAS-C/GAD	IU	Pearson's Correlation (r)

Note. Age range was reported when mean sample age was not available. For group-comparison studies, sample characteristics are reported for both groups. Author name lists first author only.

Abbreviations: NA, not available; GAD, Generalised Anxiety Disorder; SAD, Social Anxiety Disorder.

Measures: SCAS-C/GAD, GAD subscale of the Spence Children's Anxiety Scale – child version; RCADS/GAD, GAD subscale of the Revised Children's Anxiety and Depression Scale (child and parent versions);PSWQ, Penn State Worry Questionnaire (adult and child versions); GAD-7, Generalized Anxiety Disorder-7; ADIS-IV-C/P, Anxiety Disorders Interview Schedule for DSM-IV – Child/Parent reports; SCARED/GAD, GAD subscale of the Screen for Child Anxiety Related Disorders.

Quality assessment

Quality assessments for included studies were summarised in traffic light plots generated using the online robvis tool (McGuinness & Higgins, 2021), see Appendix E. Study-level judgements were assessed across the appraisal questions of the JBI critical appraisal tools for cross-sectional and case–control studies (Appendix F). The overall risk of bias rating reflected the proportion of applicable questions rated as "Yes" and was calculated to inform sensitivity analyses. However, consistent with JBI guidance, these overall ratings were not used to exclude studies. Over half of the studies were judged as "yes" for every appraisal item (n= 19). Thirteen studies received at least one "unclear" rating across appraisal questions, and eight received at least one "No" rating. Most studies were categorised as low risk of bias (n= 35), with the exception of Przeworski (2009b) which was rated as moderate risk of bias.

Meta-analyses: associations between GAD and each psychological process.

Intolerance of Uncertainty (IU)

Across the 26 studies examining IU (n = 43,394), the meta-analysis showed a significant, large correlation between IU and GAD symptoms, r = .61 (95% CI [.54, .66]), p < .001 (Figure 2). The 95% PI ranged from .22 to .83, indicating that effect sizes in future studies could range from small to large. A substantial degree of heterogeneity was detected, Q (25) = 508.30, p < .05, I^2 = 95.1% (95% CI [93.8%, 96.1%]).

Outliers' analysis indicated the presence of seven outliers (Comer et al., 2009; Poh et al., 2021; Read, Comer & Kendall, 2013; Ryan et al., 2025; Wong, 2025; Ye et al., 2023; Zemestani et al., 2022). Once removed, the pooled correlation for the remaining studies (k= 19) was significant and its size unchanged (r = .61, 95% CI [.58, .64], p > .05), 95% PI also narrowed [.52, .68]. The observed heterogeneity reduced from substantial to a low-moderate (I^2= 44%, 95% CI [0%, 66%]) but Cochran's

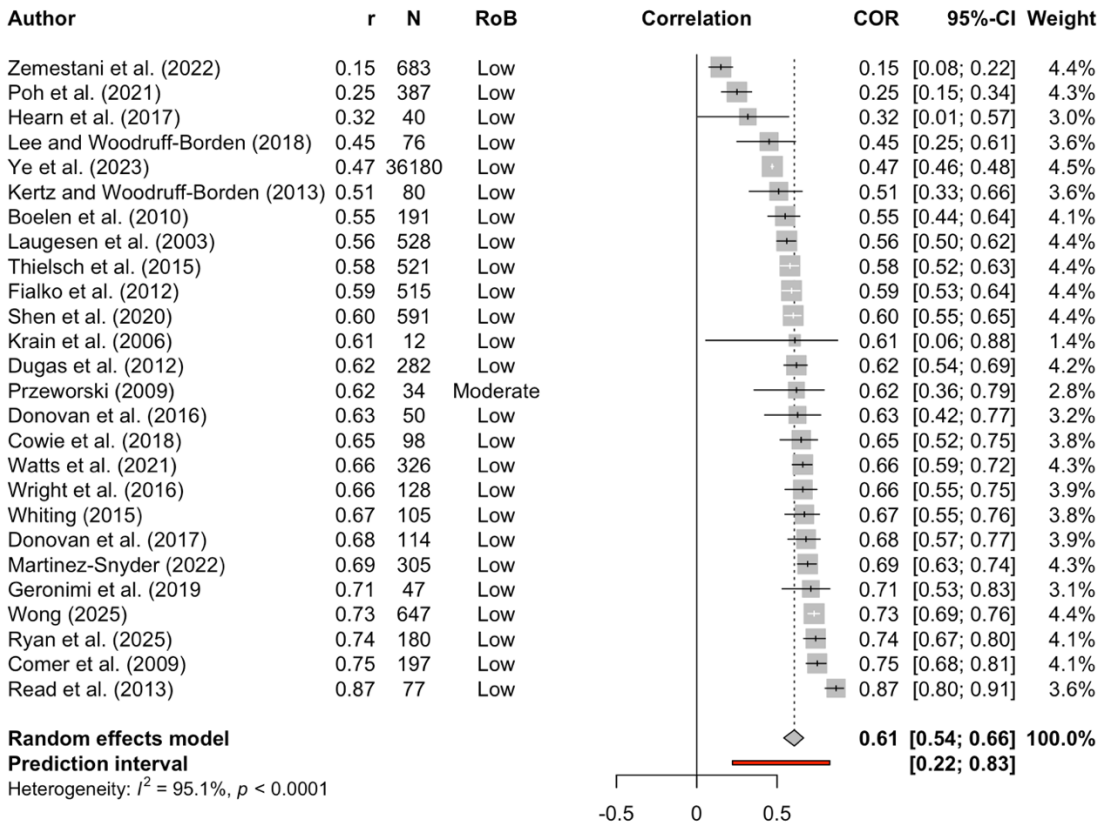
Q remained significant ($p < .05$). Leave one out analysis also indicated that no single study had undue influence over the heterogeneity or pooled effect size (r= .60 – .62, I^2 = .93, 95.). Notably, exclusion of the only study rated as moderate risk of bias (Przeworski, 2009a) did not meaningfully alter the pooled estimate (r =.7) or heterogeneity (I^2 = 95.3%).

Egger's test indicated evidence of funnel plot asymmetry (intercept = 2.7, 95% CI [0.94, 4.5], $p < .05$) suggesting possible presence of publication bias. After the removal of outliers (k= 19), this effect was no longer evident (intercept = 0.1, 95% CI [- 1.2, 1.4], $p > .05$), suggesting that the initial asymmetry could be, in part, explained by a small number of outliers.

Sub-group analyses were not feasible for most study characteristic due to the small number of studies within potential subgroup categories. However, an exploratory subgroup analysis by study design was conducted, with longitudinal studies excluded due to the limited number of studies in this category (k = 2). However, findings indicated there was no significant difference in pooled effect sizes between cross-sectional and case-control designs (Q (1) = .02, p = .89).

Figure 2.

Forest plot showing the pooled correlation coefficients for the association between IU and GAD.



Positive beliefs about worry (PBW)

Eighteen studies were included in the meta-analysis examining the association between GAD and PBW (n = 5742). The random-effects pooled correlation was r = .28, 95% CI [.23, .32], p < .01, indicating a significant, small- medium positive association (Figure 3). The 95% PI ranged from .15 to .39, suggesting future studies could be expected to observe an effect of similar magnitude. Moderate heterogeneity was observed, Q (17) = 32.77, p < .001, I^2 = 48% (95% CI [10%, 70%]). Egger's test indicated no evidence of funnel plot asymmetry (intercept = 0.38, 95% CI [-1, 1.8], p = .54), suggesting the presence of publication bias was not detected.

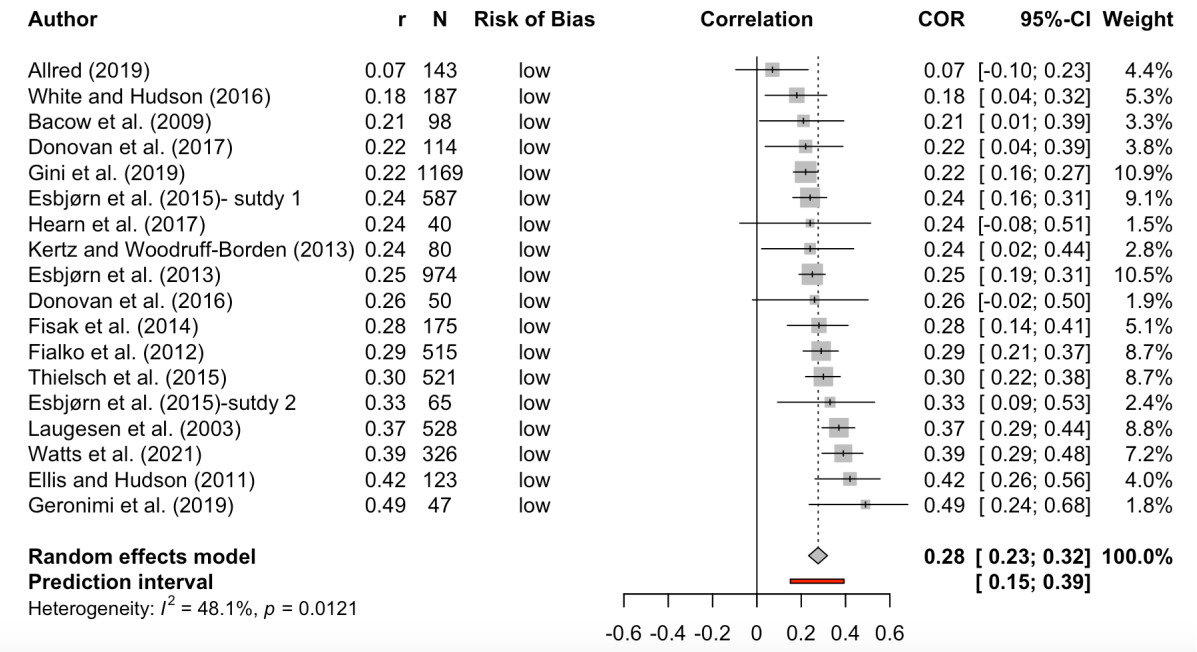
Outlier analysis identified one influential study (Allred, 2019). When this study was excluded from the analysis, the pooled effect size remained small-to-medium (r = .28) and the PI was largely unchanged (95%PI [.17, .39]). Heterogeneity was reduced (I^2 = 39.8%, 95% CI [0.0%, 66.2%]),

suggesting that a proportion of the initial heterogeneity was some-what attributable to this study. Leave-one-out analyses also indicated that removal of two additional studies (Laugesen et al., 2003b; Watts et al., 2021) reduced heterogeneity (I^2 = 38% and 40%, respectively), while pooled effect sizes remained unchanged (r = .27).

Subgroup analysis by study design was not significant, (Q (1) = .57, p = .45), indicating that the pooled association between PBW and GAD did not differ significantly between cross-sectional and case-control studies.

Figure 3

Forest plot showing the pooled correlation coefficients for the association between PBW and GAD.



Negative beliefs about Worry (NBW)

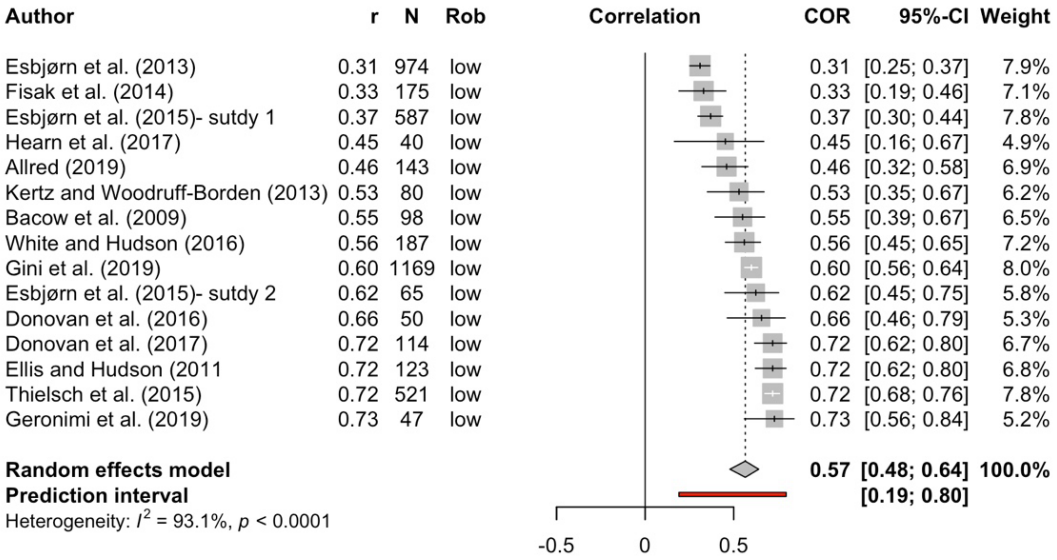
The random-effects meta-analysis conducted to examine the association between NBW and GAD (k = 15, n= 4373) indicated a significant, large positive pooled correlation (r = .57, 95% CI [.48, .64], p = < 0.01). The 95% PI was wide [.19, .80] and heterogeneity was substantial (Q (14) = 202.56, p

< .001, I^2 = 93.1%, 95% CI [90.2%, 95.1%]), suggesting considerable between study variability. Egger's test was not significant (intercept = 1.7, 95% CI [-2.1, -5.5], p = > 0.05), suggesting no evidence of funnel plot asymmetry. See Figure 4.

Four outliers were identified in the outlier analysis (Esbjørn et al., 2015a; Esbjørn et al., 2013; Fisak, Mentuccia, and Przeworski, 2014; Thielsch, Andor, and Ehring, 2015). The random-effects pooled correlation with these outliers removed remained large (r = .61, 95% CI [.54, .67], p < .01). Heterogeneity also reduced to a moderate level, I^2 = 55.6%, 95% CI [12.6%, 77.4%] and the 95% prediction interval narrowed [.41, .74], indicating more consistent effects across studies after the removal of outliers. A leave-one analysis was also applied, and indicated that no study, alone, accounted for the observed heterogeneity (I^2 range = 89% – 94%). Subgroup analysis by study design indicated that pooled effect sizes did not differ significantly between cross-sectional and case-control studies (Q (1) = 1.1, p = .29)

Figure 4

Forest plot showing the pooled correlation coefficients for the association between NBW and GAD.



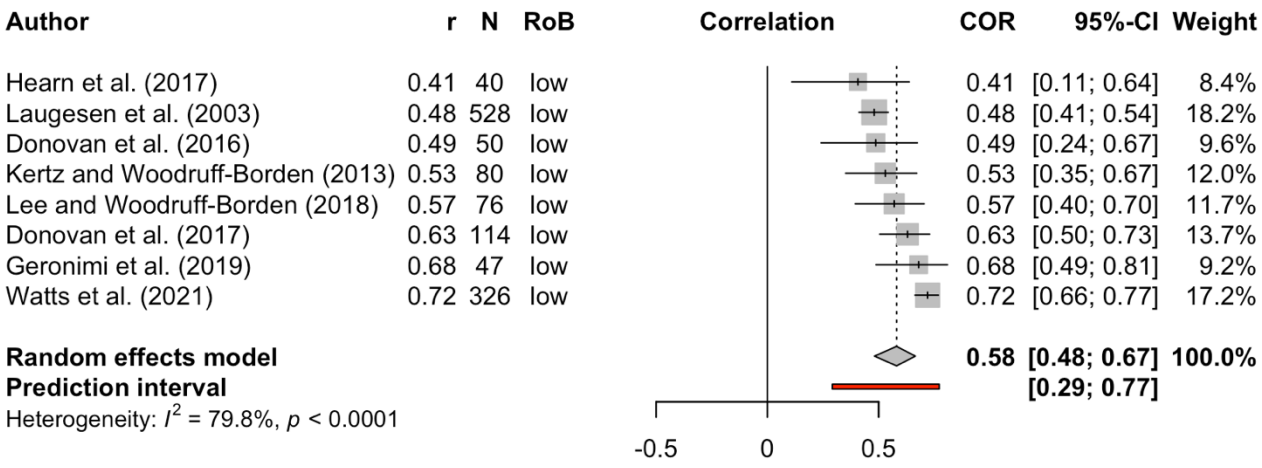
Negative Problem Orientation (NPO)

Eight studies examined the association between GAD and NPO (n = 1261). The random-effects pooled correlation indicated a significant, large positive effect (r = .58, 95% CI [.48, .67], p = < .01), with the 95% PI (.29 – .77) suggesting that future studies could expect to find a positive moderate-to-large association. Heterogeneity was substantial (Q (7) = 34.73, p = < .01, I^2 = 79.8%, 95% CI [60.8%, 89.6%]). No outliers were detected. See figure 5.

Funnel plot examination and Egger's test were not conducted as fewer than 10 studies were included in this meta-analysis, therefore power to detect publication bias would be limited (Sterne, Gavaghan and Egger, 2000). However, visual inspection of the forest plot did not suggest a clear pattern of small study effects. Study sample sizes ranged between 40 and 528, and effect sizes showed variability. Additionally, all included studies were rated "low" risk of bias.

Figure 5

Forest plot showing the pooled correlation coefficients for the association between NPO and GAD.



Cognitive Avoidance (CA)

Seven studies were included for the analysis, examining the association between GAD and CA (n = 2375). The random-effects pooled correlation indicated, a significant, moderate-large positive

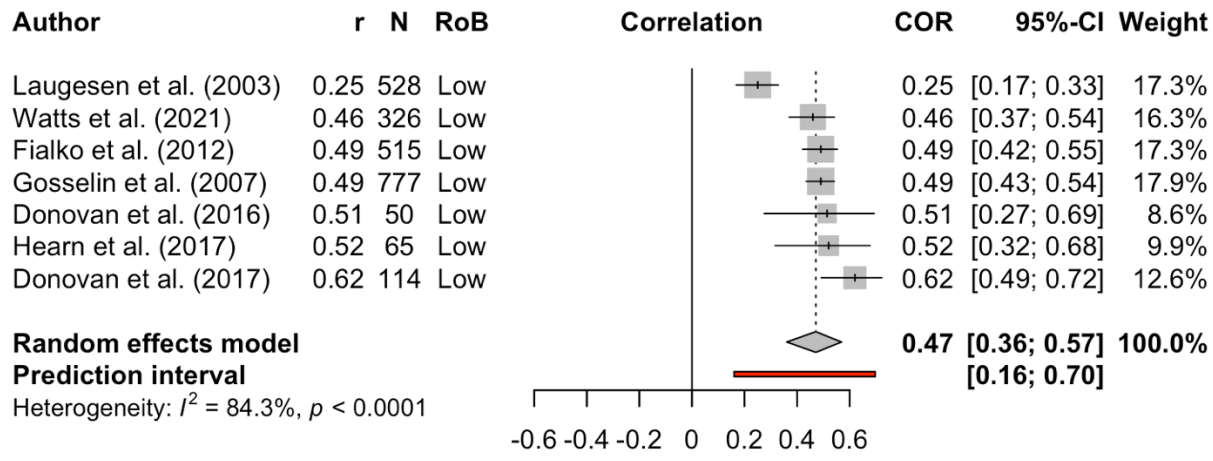
association (r=. 47, 95% CI [.36, .57], p = < 0.1). The 95% PI was wide, ranging from .16 to .7 and heterogeneity was substantial (Q (6) = 38.22, p = < 0.01, I^2 = 84.3%, 95% CI [69.4%, 92%]).

One study was identified as an outlier (Laugesen, Dugas, and Bukowski, 2003). When this study was omitted from the analysis, the pooled effect size remained significant (r = .49, 95% CI [.45, .54], p = < .01). Notably, heterogeneity was largely reduced (I^2 = 0%). However, the 95% confidence interval around I^2 was wide (0% –74.6%) indicating uncertainty regarding the true degree of between-study heterogeneity that remained. A leave-one out analysis indicated that no other study appeared to have a large influence over heterogeneity (I^2 range = 87%, 84%).

As with NPO, this analysis included fewer than ten studies and therefore statistical tests for funnel plot asymmetry were not conducted. However, visual inspection of the forest plot did not show a pattern of smaller studies showing larger effect sizes (Figure 6). Effect sizes showed variability (r = .25 to .62) and sample sizes were between 50 and 777. All included studies were rated as “low” risk of bias.

Figure 6.

Forest plot showing the pooled correlation coefficients for the association between CA and GAD.



Discussion

The current review aimed to synthesise quantitative evidence relating to the relationship between GAD diagnosis or GAD symptoms and key psychological processes such as IU, NPO, CA, NBW and PBW. Across 36 studies, all five psychological processes were found to have significant positive pooled correlations with GAD, with effect sizes ranging from small to large.

The large association found between IU and GAD ($r = .61$, 95% CI [.54, .66]), $p < .001$) may be considered expected, given similar results have been found between IU and anxiety across all age groups (Gentes & Ruscio, 2011; Osmanağaoğlu et al., 2018; Yu et al., 2025). The comparatively weaker associations of the other processes is also consistent with cognitive models of GAD that position IU as a higher-order vulnerability, with NPO, PBW, and CA conceptualised as secondary processes (Koerner & Dugas, 2006). Further to this, these findings suggest that interventions targeting IU, such as cognitive behavioural therapy for intolerance of uncertainty (CBT-IU), which has been shown to reduce worry in adults (Wilson, Abbott & Norton, 2023), may also hold promise for CYP.

Similarly, a strong positive association was observed between NBW and GAD ($r= .57$, 95% CI [.48, .64], $p = < 0.01$) which aligns with previous empirical findings in both adult (Koerner, Tallon & Kusec, 2021; Wells & Carter, 2001) and child samples (Köcher, Schneider & Christiansen, 2021). This finding is also consistent with meta-cognitive models of GAD, which highlight the role of NBW in the maintenance of worry (Wells, 1995).

The pooled correlations for NPO ($r = .58$, 95% CI [.48, .67], $p = < .01$) and CA ($r=. 47$, 95% CI [.36, .57], $p = < 0.1$) indicate moderate-to-large associations with GAD in CYP. For NPO, this mirrors findings reported in adult samples (Clarke et al., 2017) , suggesting, that it may be a stable psychological processes, which remains relevant to GAD from childhood to adulthood. For CA, the association is consistent with the cognitive avoidance theory, which proposes that worry itself

functions as a form of CA and is therefore closely intertwined with GAD (Sibrava & Borkovec, 2006). However, the comparatively smaller association between CA and GAD, relative to NBW, may also offer support for the metacognitive account in which CA strategies, such as thought suppression, are viewed as a downstream consequences of NBW (Wells, 2010).

However, it should be noted that both of these meta-analyses included fewer than 10 studies and therefore effect size estimates may be less precise. This may be reflected in the wide 95% PI reported for both processes (NPO = .29 to .77; CA = .16 to .70). Additionally, heterogeneity within these analyses was substantial and remained unexplained due to insufficient power for subgroup analyses.

A small to moderate pooled association was found between PBW and GAD (r = .27, 95% CI [.23, .32], p = < 0.01), suggesting that children and young people (CYP) with a diagnosis of GAD, or those reporting more GAD symptoms, also tended to report more PBW. The 95% PI also indicated that this effect size is likely to be replicable in future studies (95% PI [.15, .40]). Additionally, while the removal of outliers reduced heterogeneity, the pooled effect size remained stable. This aligns with cognitive models of GAD, which propose that positive beliefs about the usefulness of worry, promote individuals to rely on worry as a coping strategy, thereby contributing to the maintenance of their anxiety (Wells, 1999).

However, compared to the other processes examined, PBW showed the smallest association with GAD, which may indicate that it has a less central role in the development or maintenance of this disorder in CYP. Although, a larger number of studies were included in the PBW analysis relative to several other processes, which may have resulted in a more precise pooled estimate. Alternatively, the smaller effect size may reflect the wide age range represented across included studies (7 – 19 years), with some research suggesting younger children may endorse beliefs about

worry, but that the impact of these beliefs on worry may not yet be fully established (Wilson & Hughes, 2011).

Substantial heterogeneity was observed for the majority of meta-analyses included in this review, suggesting that associations between psychological process and GAD varied considerably across studies. However, where outliers were removed (IU, PBW, NBW, CA), effect sizes remained stable whilst heterogeneity reduced. This may suggest the observed associations could be considered robust and that some variability was being driven by outliers in each analysis. Further, although subgroup analyses did not identify study design as a significant moderator, other methodological and sample-related differences likely contributed to the remaining variance.

Strengths and Limitations:

To our knowledge, this review makes an original contribution to the evidence base by providing the first quantitative synthesis of research examining the relationships between all five psychological processes and GAD in CYP. Examining each process, allowed comparison of their relative strengths of association to GAD, offering insight into which processes may be a priority in treatment models. Additionally, adherence to good practice guidelines for meta-analysis, such as the inclusion of prediction intervals (IntHout et al., 2016) and the use of sensitivity analyses, strengthens the interpretability of the findings.

Substantial heterogeneity was expected due to the broad inclusion criteria, which allowed studies with varied designs, measurement approaches, age ranges, and sample types. As a result, the variability in how GAD was operationalised across studies may limit the specificity of our findings. Many studies relied on dimensional measures of worry (e.g., the PSWQ-C) rather than diagnostic interviews. However, it is unclear to what extent each psychological process assessed can be considered separable from the process of worry itself. As such, we cannot be certain whether the magnitude of the observed associations, particularly for IU, could be, in part, explained by a

conceptual overlap with worry, rather than reflecting distinct psychological processes that are uniquely related to GAD in CYP. Similarly, the pooled estimates could be argued to reflect associations with worry severity rather than GAD as a clinical diagnosis in CYP.

Furthermore, most studies relied on self-report measures to assess both the psychological processes and GAD outcomes. These were typically self-administered (i.e. not by a parent or independent assessor) and completed at a single-time point. This raises the possibility of bias related to shared method variance, in which the pooled effect sizes observed may have been inflated by the repeated use of questionnaire methodology, across studies, to measure the correlation between conceptually similar constructs.

Limited data meant that these factors, alongside other potential areas of interest, such as age-related differences, could not be explored through sub-group analysis and therefore their potential impact on pooled effect sizes remain unknown. In addition, the small number of studies in some analyses (CA and NPO) may have reduced statistical power and therefore certainty around the precision of estimates.

Finally, while our findings highlight associations between these psychological processes and GAD in CYP, they do not establish whether these associations are specific to GAD. As this review did not compare the magnitude of these associations across anxiety disorders, it remains unclear whether similar associations would be observed in other diagnoses, such as social anxiety disorder (SAD). This may particularly be relevant to IU, which has been proposed as a transdiagnostic processes which can be observed across childhood anxiety disorders (Wright, Lebell & Carleton, 2016; Zemestani et al., 2023). Consequently, these findings may reflect the relationships that these psychological processes have with youth anxiety more broadly, leaving the necessity of GAD-specific cognitive models in CYP open to question.

Conclusion

This review examined five key psychological processes often considered central to GAD in adults, and synthesised evidence of their relationships with GAD in younger populations. Findings suggest that these processes are positively associated with GAD in CYP, with the strongest relationship reported for IU.

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Chapter Three

Bridging Chapter

Bridging Chapter

At present, no NICE guidelines exist for the treatment and management of GAD in CYP. This likely reflects, in part, the limited availability of developmentally informed theoretical models of GAD in younger populations, as well as an evidence base in which treatment outcomes are often presented under the broader category of childhood anxiety disorders, rather than for GAD specifically (Shipp et al., 2025). In contrast, multiple theoretical models have been developed for adult GAD (Chapter 1), which have informed the development of clinical guidance, with CBT recommended as the first-line psychological treatment (NICE, 2020)

Freeston (2023) outlined that many of these models overlap in their conceptualisation of the key mechanisms and processes that underpin GAD. However, it remains unclear to what extent these models are applicable to CYP, and which, if any, of these core processes can be considered a priority when treating GAD in youth.

The proceeding chapter sought to begin closing this gap by synthesising evidence examining the relationship between five key psychological processes and GAD in CYP. The findings provided an empirical bridge between adult models of GAD and their relevance in younger populations, with intolerance of uncertainty emerging as a particularly salient process in youth and therefore representing a potentially promising target for treatment.

However, given that this evidence is in its infancy, it is unclear how these theoretical advances translate into clinical practice. In the absence of clear guidance, there may be variability in how GAD is conceptualised and treated within CYP services. The empirical paper presented in the following chapter seeks to address this by examining the identification and treatment of GAD in CYP by clinicians.

Chapter Four

Empirical Study

Prepared for submission to Child and Adolescent Mental Health (see Appendix A for author guidelines).

Chapter 4: Empirical Study

Identification and psychological treatment of Generalised Anxiety Disorder (GAD) in children and young people (CYP): A survey of Mental Health Clinicians in England.

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Ethical approval:

Approval for this study was given by the Faculty of Medicine and Health Sciences Research Ethics Subcommittee at the University of East Anglia (ETH2425-2058).

Word count (excluding references): 5529

Abstract

Word count: 250

Background

Generalised Anxiety Disorder (GAD) is a common and enduring mental health condition. While, clinical guidelines recommend Cognitive Behavioural Therapy (CBT) for adults with GAD, no such guidance exists for children and young people (CYP). Consequently, it remains unclear how GAD in CYP is managed in clinical practice. This study sought to address this by examining clinicians' identification and psychological treatment of GAD in CYP.

Method

Clinicians with experience of working with CYP in England were recruited to complete an online survey. Participants read a vignette depicting a young person with GAD and rated the applicability of different diagnoses and psychological treatments. Descriptive statistics examined patterns of diagnostic and treatment recommendations, and regression analyses examined whether professional role, years of experience, and self-rated confidence were associated with GAD recognition or endorsement of CBT relative to alternative options.

Results:

Among clinicians, GAD was typically rated highly representative of the presenting issue (median = 90%), and CBT was endorsed as a suitable treatment (median = 100%). Clinicians frequently distributed weight across multiple diagnoses and therapeutic approaches (GAD alignment: M = 51%, SD = 27.1; CBT alignment: M = 34.74%, SD = 23.1). Regression models predicting GAD and CBT alignment explained little variance, indicating that additional factors likely influence clinicians' diagnostic and treatment decisions. Most clinicians wanted additional training for assessing (72.3%) and treating GAD (83.2%) in CYP.

Conclusion:

Clinicians recognise GAD and recommend evidence-based interventions for its treatment. Further research evaluating effective treatments for in CYP is needed to inform clinical guidance.

Key Practitioner Message:

What is known?

- GAD is a common and impairing disorder across age groups.
- No disorder specific guidance exists for the treatment and management of GAD in CYP.

What is new?

- Clinicians can accurately recognise GAD in CYP and endorse CBT as a treatment approach.
- Most clinicians feel they would benefit from additional training for GAD in CYP.

What is significant for clinical practice?

- In the absence of guidance for GAD in CYP, clinicians appear to draw on a range of diagnostic and therapeutic frameworks.
- Empirical evaluation of GAD-specific interventions in CYP is needed to inform national guidance and work force training.

Keywords: Generalised Anxiety Disorder; Child; Adolescent; Clinical practice.

Introduction

Generalised anxiety disorder (GAD) is characterised by persistent anxiety and excessive worry across multiple domains (World Health Organization [WHO], 2025). In children and young people (CYP) it is associated sleep disturbance, academic difficulties and broader functional impairment (Alfano, 2012; Alfano, Ginsburg & Kingery, 2007; Nail et al., 2015, Kajastus et al., 2024), and is found to frequently co-occur with depression and other anxiety disorders (Masi et al., 2004).

The symptoms of GAD are often chronic and enduring (Robichaud, Koerner & Dugas, 2019), with longitudinal evidence indicating childhood GAD is associated with poorer psychosocial outcomes and increased risk of depression in adulthood (Copeland et al., 2014; Copeland et al., 2009), as well as the persistence of its diagnosis over time (Newman, Shin & Zuellig, 2016). Given these findings and the economic burden associated with GAD in adulthood (Fineberg et al., 2013; Wittchen, 2002), the importance of the early identification and intervention for GAD in CYP is clear.

Despite this, GAD is among one of the least recognised childhood mental health conditions (Burke et al., 2016). With diagnostic challenges including, high comorbidity with other anxiety disorders (Franz et al., 2013; Masi et al., 2004), weak multi-informant agreement across assessment tools (Spence, 2018), and the misattribution of somatic symptoms to physical health conditions (Bandelow et al., 2013; Dillon-Naftolin, 2016).

In terms of treatment, Cognitive Behavioural Therapy (CBT) is recommended for several anxiety disorders in CYP, including Social Anxiety Disorder and Obsessive–Compulsive Disorder (OCD) (National Institute for Health Care Excellence [NICE], 2003, 2005) and as a first-line treatment for GAD in adults (NICE, 2020). However, no equivalent guidance has been developed for GAD in CYP.

The CYP increasing access to psychological therapies (IAPT) curriculum, acknowledges this gap and advised clinicians to use the Coping Cat programme as a guide when working with GAD (NHS England, 2014) which targets youth anxiety across disorders (Beidas, Podell & Kendall, 2008; Kendall,

Aschenbrand & Hudson, 2003; Kendall & Hedtke, 2006) and has been found effective in reducing symptoms (Ewing et al., 2015; Lenz, 2015).

At the same time, evidence suggests that core processes central to adult GAD models, such as intolerance of uncertainty, are also present in youth (Burt, Chiu & Crook, 2026; Osmanağaoğlu, Creswell & Dodd, 2018) and may therefore represent disorder-specific treatment targets. Consistent with this, preliminary findings indicate that disorder-specific interventions are acceptable and effective in treating GAD in CYP (Holmes et al., 2014; Perrin et al., 2019).

However, few studies have directly compared the effectiveness of disorder-specific to transdiagnostic treatments for GAD in CYP (Oldham-Cooper & Loades, 2017) and a lack of disorder-level outcome reporting has limited attempts to synthesis the existing evidence (Shipp et al., 2025). Therefore, conclusions regarding the optimal treatment approach for GAD in CYP are limited.

Moreover, the lack of guidance and the uncertainty within the evidence base raises questions on how GAD CYP is being identified and managed in routine services. This is particularly relevant, in the context of findings that suggest access to evidence-based treatments among CYP with anxiety disorders is limited (Reardon, Harvey & Creswell, 2020).

While previous research has examined clinicians' recognition and treatment of panic disorder in CYP (Baker & Waite, 2020), no equivalent research has focused on GAD. The present study therefore surveyed clinicians with experience working with CYP to (a) assess their ability to identify GAD from a clinical vignette and (b) examine their recommended treatment approaches. Associations between clinician factors and GAD recognition and CBT alignment were also explored using regression analyses.

Method

Design

This study employed a cross-sectional self-report survey design. A bespoke questionnaire was developed in line with the research aims and completed by participants online, between May and August 2025.

Ethical considerations

Ethical approval was obtained from the Faculty of Medicine and Health Sciences Research Ethics Subcommittee at the University of East Anglia (ETH2425-2058) (Appendix G).

Participants

Participants were eligible if they worked in England and had experience delivering psychological therapies to CYP with mental health disorders. Of 138 respondents, one was excluded for not meeting eligibility criteria, resulting in a final sample of 137. Participants were predominantly female (89.1%) and aged between 21–60 years (M = 33.25, SD = 8.87). Participants from all regions of England were represented in the sample and worked across NHS, education, private and voluntary sectors (see Table 1).

Potential participants were recruited via social media (Facebook, Instagram, and X) using posts shared by a study page created by EB (Appendix H). Posts were distributed within publicly accessible groups for mental health professionals, and paid Facebook advertisements were used to increase their reach.

Professional training courses affiliated with the University of East Anglia (UEA) were approached and gatekeeper permission was granted to circulate invitations to clinician's enrolled on their programmes. These included the Educational Mental Health Practitioner PG Diploma training programme, the Clinical Psychology Doctoral Programme and the Clinical Associate in Psychology

Masters Apprenticeship. Invitations were also distributed via JISC email to local Clinical Psychologists listed in UEA'S internal directory.

All recruitment materials included a study summary, a link to the information sheet, online consent form and questionnaire. The specific focus on GAD was omitted from recruitment materials, and the study was described broadly, as relating to CYP mental health difficulties. This allowed us to examine clinicians' ability to recognise GAD without explicit cues. To support recruitment, participants were offered the opportunity to enter a prize draw to win one of four £25 shopping vouchers.

Table 1

Summary of sample characteristics (N = 137)

Sample Characteristics	N (%)	Mean (SD), Range
Sex assigned at birth		
Female	122 (89.1%)	-
Male	14 (10.2%)	-
Prefer not to say	1 (.7%)	-
Age		
21-30	72 (52.6%)	
31-40	34 (24.8%)	-
41-50	24 (17.5%)	-
51-60	7 (5.1%)	-
		-
Job Role		
Psychiatrist	2 (1.5%)	-
Clinical Psychologist	26 (19%)	-

Cognitive Behavioural Therapist	12 (8.8%)	
Mental Health Nurse	6 (4.4%)	-
Nursing Associate	1 (.7%)	-
Social worker	1 (.7%)	-
Assistant Psychologist	22 (16.1%)	-
Psychotherapist	4 (2.9%)	-
Educational Mental Health Practitioner	12 (8.8%)	-
Psychological Well-being Practitioner	12 (8.8%)	-
Clinical Associate in Psychology	3 (2.2%)	-
Mental Health Support Worker	2 (1.5%)	-
Health Psychologist	1 (0.7%)	-
Senior Well-being Practitioner	2 (1.5%)	-
Counsellor	1 (0.7%)	-
Mental Health Practitioner	1 (0.7%)	-
Child and Young Person's Well-being Practitioner	6 (4.4%)	-
Cognitive Behavioural Therapy Assistant	1 (0.7%)	-
Therapeutic Practitioner	1 (0.7%)	-
Trainee [a]	21 (15.3%)	-
Service Context		
NHS	109 (80%)	
Educational sector	8 (5.8%)	
Private sector	8 (5.8%)	
Voluntary sector	10 (7.3%)	
Other [b]	2 (1.5%)	

Experience and training		
Additional post-qualified training	71 (51.8%)	
Years of clinical experience	-	4.8 (5.1), <1- 31

[a] Trainees were training in/as Cognitive Behavioural Therapy (n = 2, 1.5%), Child and Young Person's Well-being Practitioner (n = 1, 0.7%), Clinical Psychology (n = 13, 9.5%), Educational Mental Health Practitioner (n = 4, 2.9%), Senior Well-being Practitioner (n = 1, .7%). [b] other employment contexts were local authority (n =1, .7%) and social care (n = 1, .7%). NHS = primary, secondary and tertiary mental health services and physical health hospitals.

Procedure

Upon accessing the link, participants were first presented with the information sheet and asked to complete the online consent form (Appendix I). Participants were then directed to complete the questionnaire (Appendix J). Once completed, participants were presented with the debrief form and given the option to follow a separate link where they could provide an email address to enter the prize draw (Appendix K).

Measures

Clinicians were first asked to provide demographic information, as well as details of their professional role and experience working with CYP. Following this, participants were instructed to read a clinical vignette describing a 15-year-old named "Sam," whose symptoms met the ICD-11 criteria for a diagnosis of GAD (WHO, 2025) and did not meet the full criteria for any other disorder. Based on the vignette, clinicians were presented with a list of common mental health diagnoses and asked to rate their level of agreement, with each one, as representing Sam's primary presenting issue. Each diagnosis could be given a rating between 0 and 100%. To prevent clinicians being primed toward a GAD specific formulation, the study's focus on GAD was not disclosed in the recruitment materials, and clinicians were only directed to consider GAD until after completing the diagnostic ratings in response to the vignette.

The next section asked clinicians to assume that GAD was Sam's primary presenting issue and indicate their agreement with the suitability of a range of psychological interventions. Following this, clinicians were asked to assume that Sam would receive CBT and to indicate their preferred treatment approach, as well as to rate how likely they would be to include a range of treatment components.

The final section asked clinicians to rate their confidence in assessing and treating GAD in CYP and whether they felt they would benefit from additional training. Backward navigation between sections was disabled to prevent retrospective modification of earlier responses, and free-text boxes were provided to allow clarification when "other" was the selected response.

All survey materials including the questionnaire and vignette were developed in collaboration with psychologists within the research team who have clinical experience working with GAD in CYP. Feedback was also obtained from external researchers, whose prior work using similar methodology in the context of panic disorder, informed the conceptualisation and methodology of the present study (Baker & Waite, 2020).

Data analysis

Data from each section of the survey was analysed using IBM SPSS (version 31). Descriptive statistics were used to summarise clinicians' responses to the vignette, treatment-related questions, self-reported confidence, and training needs.

As participants could assign ratings of up to 100% for each diagnosis and treatment option independently, responses were not constrained to sum to 100% across options. Therefore, to assess GAD recognition from the clinical vignette, we calculated a proportional *GAD-alignment score* for each participant. This score represented the proportion of total diagnostic weight assigned to GAD across all selected diagnoses and was used to quantify how closely each participant's diagnostic

judgement aligned with the predefined expert definition of GAD. For example, if a clinician assigned ratings to four possible diagnoses summing to 120% and, within this, allocated 60% of that weight to GAD, the *GAD-alignment score* would be 50%. This allowed for the comparison of the relative weighting of GAD across clinicians. The same process was undertaken to analyse treatment selection, with a *CBT-alignment score* calculated to reflect the proportion of total treatment endorsement clinicians devoted to CBT.

Multiple linear regressions examined factors associated with GAD and CBT-alignment. In each model, the predicted variable was the respective alignment score. Predictor variables included years of experience working with CYP, professional role, and self-rated confidence in assessing GAD (GAD model) or treating GAD (CBT model). Categorical variables were dummy coded prior to analysis.

For analysis, professional roles were grouped into three categories to reflect differences in UK training pathways and workforce structures within mental health services (Health Education England, 2021, 2022): (1) clinicians with core training across a range of psychological models and diagnostic frameworks as part of HCPC-regulated doctoral training or medical training (e.g., clinical psychologists and psychiatrists); (2) clinicians primarily trained in the delivery of psychological therapies, often within NHS Talking Therapies (e.g., CBT therapists, psychological wellbeing practitioners , clinical associates in psychology) and (3) other healthcare professionals (HCPs) not primarily trained in psychological therapies (e.g., mental health nurses, social workers, assistant psychologists). These groupings were consistent with those used in previous research (Baker & Waite, 2020).

Exploratory analysis was conducted to examine statistical differences in clinicians' confidence in assessing versus treating GAD, using a paired-samples t-test on matched confidence ratings for each participant.

An a priori power analysis for a multiple regression with seven predictors, reflecting the number of variables entered in the final model, was conducted using G*Power (version 3.1) (Faul et

al., 2009). This indicated an estimated minimum sample of N = 103 was needed to detect a medium effect f2 = .15 (Cohen, 2013), α = .05, and power (1-β) = .80. This was consistent with Green's (1991) recommendation of N ≥ 104 + k (k =7; N= 111) for multiple regression. The final sample size (n = 137) exceeded both thresholds.

Results

Identification and Treatment of GAD

Overall, 35% (n= 48) of participants indicated 100% agreement that GAD was the primary presenting issue. Median attribution to GAD was 90% (IQR = 0–100), while most other diagnoses had median ratings of 0%. The mean GAD-alignment score was 51% (SD = 27.03), indicating that, on average, participants attributed approximately half of the diagnostic weight to GAD relative to alternative diagnoses.

When asked to rate the suitability of psychological treatments for Sam, over half of participants assigned a rating of 100% to CBT (56.9%, n= 78). CBT received a median rating of 100% (IQR = 80–100) whereas the mean CBT-alignment score was 34.74% (SD = 23.1), indicating that participants typically attributed approximately one third of the treatment suitability to CBT relative to alternative approaches. Table 2 presents a summary of findings.

Table 2

Descriptive statistics for diagnostic and treatment ratings

	Median % (IQR)	Mean % (SD)
Primary Presenting Issue		
Bipolar Affective Disorder	0 (0 – 0)	-
Generalised Anxiety Disorder	90 (0 – 100)	-

Adjustment Disorder	0 (0 – 0)	-
Eating Disorder	0 (0 – 0)	-
Unspecified or Other Anxiety Disorder	0 (0 –30)	-
Anxiety secondary to a medical condition	0 (0 – 0)	-
Selective Mutism	0 (0 – 0)	-
Obsessive Compulsive Disorder (OCD)	0 (0 – 10)	-
Separation Anxiety	0 (0 – 20)	-
Agoraphobia	0 (0 – 10)	-
Major Depressive Disorder	10 (0 – 30)	-
Panic Disorder	10 (0 – 30)	-
Social Anxiety Disorder	20 (0 – 40)	-
Other [a]	0 (0 – 0)	-
GAD alignment score		51 (27)

Treatment Approach

Brief Solution Focused Therapy	0 (0 – 10)	-
Play Therapy	0 (0 – 0)	-
Psychoeducation only	0 (0 – 20)	-
Applied Relaxation	0 (0 – 20)	-
Non-directive Supportive Therapy	0 (0 – 0)	-
EMDR	0 (0 – 0)	-
Interpersonal Psychotherapy	0 (0 – 0)	-
Parent and Child Interaction Therapy	0 (0 – 0)	-

Acceptance and Commitment Therapy	20 (0 – 50)	-
Psychodynamic Therapy	0 (0 – 0)	-
Family Therapy	0 (0 – 40)	-
Art Therapy	0 (0 – 20)	-
Behavioural Activation	0 (0 – 10)	-
Dialectic Behavioural Therapy	0 (0 – 0)	-
Mindfulness Based Therapy	20 (0 – 40)	-
Parent or Caregiver Focused Training	0 (0 – 20)	-
Cognitive Behavioural Therapy	100 (80 – 100)	-
Other treatment [b]	0 (0 – 0)	-
CBT alignment score	*M* = 34.74 (SD = 23.1)	

[a] Other responses were varied and included alternative and non-diagnostic descriptions. [b] Specified other treatments were Integrative or formulation approach (2.19%,, n= 3), Person centred therapy (0.73%, n=1), Compassion Focused therapy (1.46%, n = 2), Other ACT-based models (0.73%, n= 1), Parent led CBT (0.73%, n= 1), Cognitive Analytic therapy (0.73%, n=1), Worry management (0.73%, n=1).

Logistic regression analyses

Assumptions were assessed in accordance with established guidelines Stoltzfus (2011) (see Appendix L). Years of experience working with CYP, professional role (reference group = Group 1), and assessment/treatment confidence (reference category = "very confident") were entered into the models predicting accurate GAD alignment and CBT alignment respectively.

GAD alignment model

The model predicting GAD-alignment was significant, F (7, 128) = 2.45, p = .02, but explained only a small proportion of the variance in scores (R^2 = .12, adjusted R^2 = .07). Professional role was

significantly associated with GAD alignment, with clinicians not primarily trained in the delivery of psychological therapies (Group 3) found to have lower alignment scores than clinicians with core training in diagnostic frameworks and broad range of diagnostic models (Group 1). No significant difference in alignment scores was observed between clinicians with core training in diagnostic training (Group 1) and clinicians be primarily trained in the planning and delivery of psychological therapies (Group 2).

Confidence in the assessment of GAD was also a significant predictor, with those reporting being "somewhat confident" demonstrating lower GAD alignment than those who were "very confident". No other predictors were significant (see Table 3).

Table 3

Regression Model Predicting GAD Alignment Scores

Predictor	B	SE	β	p
Years of experience	-13.54	.48	-.6	.52
Professional group (ref. Group 1[a])				
Group 2[b]	.55	5.62	.01	.92
Group 3[c]	-13.54	6.69	-.21	.05
Confidence Assessing GAD (ref. very confident)				
Not at all confident	-49.68	26.78	-.16	.66
Somewhat Unconfident	1.95	15.73	.01	.90
Somewhat Confident	-15.94	6.56	-.24	.02
Confident	-9.4	5.25	-.17	.08

[a] Clinicians with core training in diagnostic frameworks and a broad range of psychological models. [b] Clinicians primarily trained in the planning and delivery of psychological therapies. [c] Other HCPs not primarily trained in psychological therapies.

CBT alignment model

The regression model predicting CBT alignment scores was significant, F (6, 129) = 4.102, p = <.001, however explained a minimal level of variance (R^2 = .16, adjusted R^2 = .12). Professional role was associated with CBT alignment, with significantly higher alignment scores observed in clinicians in group two, relative to those in group 1. No others significant predictors were identified (Table 4).

Table 4

Regression Model Predicting CBT Alignment Scores

Predictor	B	SE	β	p
Years of experience	-.32	0.41	-0.71	.43
Professional group (ref= Group 1)				
Group 2	16.07	4.65	.39	<.001
Group 3	.72	4.65	.01	.90
Confidence Treating (ref. very confident)				
Not at all confident [a]	-	-	-	-
Somewhat Unconfident	4.94	8.05	.058	.54
Somewhat Confident	-8.26	5.57	-.17	.14
Confident	-4.74	5.27	-.10	.37

[a] SPPS excluded “not at all confident” as category as no participant selected it as an option.

Approach to CBT for GAD

Most participants indicated that they would deliver CBT using a disorder specific approach (80%, n= 110). The Intolerance of Uncertainty model was the most frequently endorsed disorder-

specific model (37, n= 41%), while the Beckian Model was the most selected among transdiagnostic approaches (59.26%, n = 16).

Most treatment components were highly endorsed (median = 70–100%), with lower endorsement observed for imaginal exposure and thought suppression (median = 50% and 30%, respectively). A summary of treatment preferences is presented in Table 5, with full details provided in Appendix M.

Table 5.

Summary of treatment preferences

CBT Treatment Approach	% (n)	Median % (IQR)
Delivery model		-
Transdiagnostic	27 (20%)	-
Disorder specific	110 (80%)	-
Disorder specific treatment models		-
Intolerance of Uncertainty Model (Dugas et al., 1998)	41 (37%)	-
Avoidance Model of Worry (Borkovec, Alcaine & Behar, 2004)	12 (11%)	-
Emotional Dysregulation Model (Mennin et al., 2005)	0 (0%)	-
Acceptance-Based Model (Roemer & Orsillo, 2002)	3 (3%)	-
Three-Phase Model (Chigwedere & Moran, 2022)	0 (0%)	-
Mastery of Anxiety and Worry Program (Craske & Barlow, 2006)	22 (20%)	-
Contrast Model of Worry (Llera & Newman, 2014)	1 (1%)	-
Meta-cognitive Model (Wells & Carter, 2016)	9 (8%)	-
Cognitive Behavioural Model for Low Self-esteem (Fennell, 1997)	3 (3%)	-
The Cognitive Model of Worry (Hirsch & Mathews, 2012)	12 (11%)	-
Other disorder specific [a]	7 (6%)	-

Transdiagnostic treatment models		
Coping Cat Programme (Kendall et al., 2006; Podell et al., 2010)	2 (7.41%)	-
Cresswells Parent-Led CBT (Creswell et al., 2019)	2 (7.41%)	-
Beckian Longitudinal Cognitive Behavioural Model (Beck, 1979)	16 (59.26%)	-
Lebowitz SPACE programme (Lebowitz et al., 2014)	0 (0%)	-
Other transdiagnostic [b]	7 (25.93%)	-
Treatment components		
Psychoeducation		100 (100 – 100)
Avoidance hierarchy		70 (40 – 100)
Worry diary		100 (70 – 100)
Behavioural experiments		80 (50 – 100)
Cognitive restructuring		80 (50 – 100)
Relaxation training		80 (55 – 100)
Problem solving skills		80 (50 – 100)
Worry time (Postponing worry)		70 (50 – 100)
Identifying and modifying safety behaviours		80 (50 – 100)
Imaginal exposure		50 (20 – 70)
Challenging beliefs about worry		100 (70 – 100)
Breathing techniques		80 (50 – 100)
Thought suppression experiments		30 (0 – 70)
Relapse Prevention		100 (60 – 100)

[a] Other disorder specific models were DNA-V (Louise et al., 2020) (3.7% n=1), unknown (11.11 % n= 3), Formulation or integrative approach (11.11 % n= 3).[b] Other transdiagnostic models were Unknown (3.64%, n =4), “Worry management”(1.82, n = 2) and “behavioural model” (0.91, n= 1).

Exploratory analysis

A paired-samples t-test was conducted to compare clinicians’ confidence in assessing and treating GAD in CYP. As the assumption of normality was violated, bootstrap confidence intervals were applied. Participants reported significantly greater confidence in assessing GAD (M = 4.04, SD = 0.70) than in treating GAD (M = 3.68, SD = 0.74), mean difference = 0.35, t (135) = 5.93, $p < .001$, 95% BCa CI [.24, .47]. The effect size was medium (Cohen’s d = 0.51). Moreover, more professionals

reported wanting additional training in treating GAD in CYP (n= 114, 83.2%) than in assessing (n = 99, 72.3%).

Discussion:

This present study provides novel insights into how clinicians recognise and approach treatment for GAD in CYP in the absence of disorder-specific clinical guidance. Most participants were employed within the NHS (80%, *n* = 109), with Clinical Psychologist the most represented professional group (*n* = 26, 19%).

GAD was well recognised amongst clinicians' (median = 90%, IQR = 0-100). This findings sits in contrast to previous research by Burke et al., (2016) which identified that GAD was one of the least recognised disorders in CYP. However, the mean GAD alignment score (M = 51%, SD = 27.1) indicates that clinicians also attributed diagnostic weight to other disorders, suggesting clinicians were not exclusively focused on GAD. This may reflect clinicians drawing on their experiences of childhood anxiety disorders, which in practice, rarely occur in isolation from one another (Kendall et al., 2010; Last, Strauss & Francis, 1987). It may also reflect a dimensional approach to conceptualising the symptom among clinicians, rather than strict adherence categorical diagnostic frameworks.

Regression analysis indicated that professional role and confidence in assessing GAD were significant predictors of GAD alignment. Lower alignment was observed among Group 3 clinicians (not primarily trained in psychological therapies), relative to Group 1 clinicians (trained in a broad range of psychological models and diagnostic frameworks). Similarly, clinicians who reported being only "somewhat confident" in assessing GAD demonstrated lower alignment than those who were "very confident". These findings may suggest formal training in psychological models and diagnostic frameworks, as well as greater confidence in assessment may support more definitive diagnosis decisions.

When informed that the vignette represented GAD, clinicians typically endorsed CBT as a suitable treatment (median = 100%, IQR = 80%–100%). However, the mean CBT-alignment score (M = 34.74%, SD = 23.1) indicates that most clinicians also attributed therapeutic value to a range of interventions. Notably, some endorsement was observed for Acceptance and Commitment Therapy and Mindfulness-Based Therapy (median = 20%), both of which have empirical support for their use with anxious CYP (Borquist-Conlon et al., 2019; Li et al., 2025). Taken together, this pattern suggests that, in the absence of CYP-specific clinical guidelines, clinicians may draw on the adult recommendations for GAD while also remaining open to a broader and evolving evidence base. It may also reflect a flexible and integrative approach commonly adopted by clinicians in CYP services to accommodate complex and comorbid presentations (Dummett, 2006; Timimi, 2015).

Professional role was found to predict CBT alignment scores, with higher alignment observed among Group 2 clinicians (primarily trained in the planning and delivery of psychological therapies) compared to those in Group 1. This likely reflects differences in the training pathways between the two groups: most clinicians in Group 2 held roles commonly associated with training under the CYP IAPT initiative (e.g. CBT therapists and psychological well-being practitioners), which emphasises the delivery of CBT based treatments. (Fonagy, Pugh & O'Herlihy, 2017; Timimi, 2015). In contrast, clinical psychologists, who were most represented in Group 1, are trained to draw on multiple models, and often rely on formulation to guide treatment decisions (British Psychological Society, 2013) which may explain their comparatively lower CBT alignment scores.

Most clinicians indicated a preference for disorder-specific CBT for GAD in CYP (n = 124, 91%), with the Intolerance of Uncertainty Model (IUM) (Dugas et al., 1998), most frequently endorsed. This aligns with evidence supporting the applicability of adult models of in CYP, as well as findings that intolerance of uncertainty (IU) is associated with GAD in youth (Burt et al., 2026). It may also suggest that clinicians recognise IU has a central maintaining feature of GAD in CYP, and therefore a key target in treatment.

In contrast, amongst those who endorsed a transdiagnostic approach, the Beckian Longitudinal Cognitive Behavioural Model (Beck, 1979) was most frequently selected (n = 16, 59.26%). This is notable given that the longitudinal model does not explicitly target processes associated with the maintenance of worry and transdiagnostic CBT for youth has been most extensively evaluated through structured, manualised programmes such as Coping Cat (Higa-McMillan et al., 2016).

Most treatment components were highly endorsed by clinicians for the treatment of GAD (median range = 70–100). This was observed for generic CBT components such as psychoeducation and cognitive restructuring, and worry-specific components such as worry diaries. This suggest that clinicians can recognise the core components of CBT, while also considering components that are more specific to the treatment of GAD.

On the other hand, lower endorsement was observed for imaginal exposure (IE; Median = 50) and thought suppression experiments (Median = 30). In reference to IE, this pattern is consistent with previous research findings amongst community based clinicians' (Whiteside, 2025) and could be reflective of broader anxieties regarding the use of exposure techniques in children (Reid et al., 2018; Teunisse et al., 2022). Moreover, thought suppression may have been perceived by clinicians as more relevant to diagnoses such as OCD (Tolin et al., 2002) rather than to cognitive avoidance as conceptualised in adult models of GAD (Sibrava & Borkovec, 2006).

Exploratory analyses indicated that clinicians reported greater confidence in assessing than treating GAD in CYP (mean difference= 0.35, $t(135) = 5.93$, $p < .001$, 95% BCa CI [.24, .47]. This may be understood in the context of the absence of treatment guidance for GAD in CYP and may explain why more clinicians wanted additional training in treatment (n = 114, 83.2%) than in assessment (n = 99, 72.3%).

Implications on clinical practice

Overall, the findings suggest that Clinicians working with CYP are able to recognise GAD in CYP and typically endorse evidence-informed interventions, such as CBT, for its treatment. This indicates that, even in the absence of disorder-specific guidance, young people presenting with GAD are likely to be identified in by the CYP workforce, who are also able to draw on the existing evidence based when making treatment decisions. Importantly, these findings suggest that GAD recognition may not represent a primary challenge in clinical practice.

Moreover, the variability in diagnostic weighting and treatment endorsement may reflect the complexity of clinical decision making in CYP services, as well as the need for clinicians to adopt a flexible, formulation-drive approach in response to high levels of comorbidity (Masi et al., 2004).

Most clinicians indicated that they would benefit from additional training in the assessment and treatment of GAD in CYP. However, before clinical guidance and training initiatives can be meaningfully developed to meet these needs, further evidence from clinical trials evaluating the effectiveness of interventions for GAD in CYP is required. In addition, to facilitate robust synthesis of findings across studies, we echo calls for improved disorder-specific reporting within CYP research (Shipp et al., 2025).

Strengths and limitations

A strength of the present study is the inclusion of a multidisciplinary sample of professionals with experience working with CYP, the majority of whom were employed within the NHS. This enhances the potential generalisability of the findings to NHS CYP services and offers novel insights into how GAD is recognised and treated in practice. Additionally, the clinical vignette and survey questions were developed in consultation with clinical psychologists experienced in working with CYP and informed by authors of previously published research (Baker & Waite, 2020).

However, the validity of the vignette could have been further strengthened by consultation with professionals from a wider range of clinical roles, whose feedback would have helped to ensure

the materials were clinically relevant and reflective of experiences across the broader CYP workforce. Additionally, while the case presented in the vignette was clinically informed and designed to meet the ICD-11 criteria for GAD, it was not based on a real clinical case. As such, it may not have fully captured the complexity and comorbidity that clinicians may encounter when assessing or treating GAD within CYP services. This limits the ecological validity of the vignette and raises uncertainty regarding the extent to which the findings reflect clinicians' true ability to recognise GAD in the real-world practice, where symptoms are often less well defined and anxiety disorders frequently overlap.

Moreover, the use of a single vignette to assess GAD recognition may represent a further limitation. While the vignette enabled assessment of clinicians' recognition of a presentation consistent with GAD, it did not allow us to examine how this compares to clinicians' recognition of other disorders in CYP. Likewise, it did not permit assessment of clinicians' ability to discriminate between GAD and alternative diagnosis such as SAD. The inclusion of a second vignette would therefore have strengthened the study by enabling a more comprehensive assessment of GAD recognition and allowing the consideration of both diagnostic sensitivity and specificity.

In addition to this, the categorisation of professional roles arguably represents an oversimplification of the contemporary mental health workforce, in which training pathways, therapeutic competencies, and clinical responsibilities frequently overlap (Corney, 1999; Harkness & Bower, 2009). As such, these groupings may not have meaningfully captured differences in clinical reasoning or treatment decision-making between professionals. Furthermore, the categories reflect workforce structures specific to England and are unlikely to be directly comparable to psychological service models in other countries, thereby limiting the generalisability of the findings.

Although, statistically significant, the regression models predicting GAD alignment and CBT alignment explained only a modest proportion of variance in scores (Adjusted R^2 = .07 and .12, respectively), indicating that most the variability in alignment scores remained unaccounted for. This aligns with previous research indicating that both recognition of mental health difficulties and fidelity

to evidence-based practice in CYP are influenced by a range of clinician-related factors, including gender, attitudes towards evidence-based treatments, and parental status (O'Brien, Harvey & Creswell, 2019; Peters-Corbett., 2024). Therefore, further research is needed to better understand the broader range of factors that may influence clinical decision-making for GAD.

Finally, the confidence categories used within the regression were unevenly distributed, with small numbers in the lowest-confidence groups ($n \leq 3$ for "not at all confident" and "slightly unconfident"), which may have resulted in unstable parameter estimates. Therefore, findings relating to these categories should therefore be interpreted with caution.

Conclusion:

Clinicians can recognise GAD in CYP and typically recommend evidence-informed treatments such as CBT. However, further research is still needed to evaluate interventions for GAD in CYP, which could inform the development of clinical guidance and address workforce training needs.

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Chapter Five

General Discussion and Critical Evaluation

General discussion and critical evaluation

The present thesis aimed to broaden understanding of GAD in CYP across both theory and clinical practice. The systematic review and meta-analysis were grounded in theoretical conceptualisations of GAD, developed in adult populations, and aimed to outline how they may support our understanding of GAD in youth. In parallel, the empirical study aimed to clarify how GAD in CYP is managed within routine services. This chapter aims to summarise and critically appraise the work presented, as well as consider it's wider theoretical and clinical implications.

Summary of Systematic review

The systematic review synthesised evidence examining the association between five key psychological processes and GAD in CYP and to our knowledge was the first of its kind.

All processes

IU, PBW/NBW, CA, and NPO were all found to have significant pooled correlations with GAD in CYP. All pooled associations were in a consistent positive direction, indicating that higher measures of these processes were associated with GAD diagnoses or greater GAD symptomology in youth.

Intolerance of uncertainty

Effect sizes varied across analyses, suggesting that some processes were more strongly associated with GAD in CYP than others. Notably, IU emerged as having the strongest association, with a pooled effect size comparable to those reported for adult populations with GAD (Gentes & Ruscio, 2011). This suggests that IU may be a stable process in GAD irrespective of age and may be central to developing treatments for CYP.

In adult populations, NPO has been found to have a stronger correlation with IU than with worry (Clarke et al., 2017). This aligns with some theoretical frameworks which argue that processes such as CA, NPO, and PBW operate in relation to IU rather than as discrete constructs (Koerner & Dugas, 2006). Therefore, the comparatively weaker associations observed for these processes in our

review may similarly reflect their relationship with IU, rather than independent relationships with GAD in CYP.

Beliefs about worry

Differences were observed between the pooled effect sizes for PBW and NBW, with NBW demonstrating a stronger association with GAD in CYP than PBW. This is noteworthy, given that within the metacognitive model of GAD, PBW is viewed as central to the initial development of generalised worry, and over time this leads to the emergence of NBW and further anxiety (Wells, 1995). Therefore, we might have expected PBW to be more equally associated with GAD in CYP.

On the other hand, it could be argued that this finding aligns more closely with the metacognitive account of the transition from generalised worry to disordered worry, in which NBW is more central to the development of GAD itself (Wells, 2010). This finding is also consistent with previous research, in which a similar difference in effect size have been observed when examining the relationships between N/PBW and worry in CYP (Köcher et al., 2021).

NPO and CA

Moderate to large, pooled associations were observed for NPO and CA. This aligns with clinical findings on worry in adults (Clarke et al., 2017; Sexton & Dugas, 2009), as well as theoretical accounts of GAD (Sibrava & Borkovec, 2006). However, the small number of included studies for these analyses ($k < 10$) reduces the confidence we can claim in the stability and precisions of these estimates. This limits what conclusions can be draw regarding the relationship between these process and GAD in CYP.

Heterogeneity

Across analyses, heterogeneity was a recurrent feature, ranging from moderate for PBW ($I^2 = 48.1\%$) to highly substantial for IU ($I^2 = 95.1\%$). This suggests that while observed associations consistently followed the same direction, with no 95% confidence intervals crossing zero, there was

substantial variability in effect sizes for each process across studies. This pattern was also reflected in wide 95% prediction intervals observed for several analyses.

Critical evaluation of Systematic review

Inclusion criteria and heterogeneity

The use of broad inclusion criteria allowed us to maximise the reach of our search, in the context of a limited evidence base, particularly for processes such as NPO. However, this likely contributed to the significant heterogeneity observed across analyses, much of which remained unaccounted for.

Age ranges varied across included studies, with some samples including young people up to 20 years old. These studies were retained in recognition of the variable age classifications between countries and to maximise the breadth of available data. Nevertheless, it remains unclear how developmental differences may have influenced the observed associations. Moreover, evidence suggests that GAD and worry may manifest differently across stages of development (Songco et al., 2020; Vasey et al., 1994). Therefore, the relevance of these processes may also be age dependent. This limits our ability to determine whether interventions targeting them would be equally effective across the full developmental range of CYP.

Previous research has also identified differences in the levels of IU, NPO and PBW between girls and boys during adolescence (Barahmand, 2008). This is significant given that the proportion of females across studies ranged between 31% and 80.4%. However, due to the inconsistent reporting of sample characteristic, we were unable to assess how this may have contributed to between-study variability across analyses. Consequently, it remains unclear whether the relationships between these processes and GAD are comparable across girls and boys.

However, the use of sensitivity analyses allowed us to examine whether influential outliers may have contributed to heterogeneity across studies. For IU, PBW, NBW, removing outliers resulted

in reduced heterogeneity and narrower 95% prediction intervals, while pooled estimated remained stable. This strengthens our findings because it suggests that observed associations for these analyses were robust and not driven by a few influential cases.

Quality assessment

The quality of included studies was assessed using the Joanna Briggs Institute (JBI) critical appraisal tools, which are widely used to evaluate internal validity in quantitative studies and have been adapted to align with recommendations for risk-of-bias assessments (Munn et al., 2023; Stone et al., 2023). However, the subsequent categorisation of studies as high, moderate, or low risk of bias resulted in most studies being classified as low risk. While, this pattern may reflect strong methodological standards across included studies, it may also indicate limitations in the categorisation approach or reduced sensitivity of check-list based tools to detect more subtle differences in methodological quality.

Cultural Considerations

The review draws on psychological models of GAD developed in adult populations and considers their relevance to CYP. However, the cross-cultural applicability of these findings warrants consideration. Most included studies were conducted in the US or European countries, with limited representation from non-western countries. In addition, the psychological processes examined are typically associated with adult models developed predominately within western frameworks of research. Such frameworks have been criticised for their reliance on Western, Educated, industrialized, Rich and Democratic (WEIRD) samples and for privileging western assumptions about the nature and expression of psychological distress (de Oliveira & Baggs, 2023; Henrich et al., 2010). As such, it remains unclear whether these processes would demonstrate comparable relevance to all CYP who are seen within services for GAD and raises questions about the usefulness of this research across cultures.

Best practice guidelines

This review was strengthened by our adherence to best practice guidelines. This included pre-registration with PROSPERO and compliance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. Additionally, 95% prediction intervals were reported and discussed for each meta-analysis in line with recommendations made by IntHout et al. (2016).

Summary of Empirical paper

The study presented within the empirical paper aims to provide insight into how clinicians working with CYP in England recognise and approach treatment for GAD in CYP, in the absence of clinical guidelines.

Recognition of GAD

Across the 137 clinicians included in the survey, GAD was typically rated as highly representative of the symptoms described in the vignette. Additionally, one third of clinicians indicated 100% agreement that GAD was the primary presenting issue. This sits in contrast with previous findings suggesting that GAD in CYP is under recognised by healthcare professionals (Burke et al., 2016) and instead offers support for the argument that GAD may be more "visible" and therefore more detectable than other common anxiety disorders (Kasper, 2006). This interpretation is also supported when comparing these findings to findings for panic disorder in CYP, in which panic was less well recognised by clinicians (Baker & Waite, 2020), suggesting that GAD may be more easily identifiable in youth populations.

Treatment recommendations for GAD

Clinicians typically showed high endorsement of CBT for GAD in CYP, with over half of clinicians reporting they would be 100% likely to recommend it as a suitable treatment. This is consistent with adult recommendations for GAD (NICE, 2020) and the broader evidence base for

childhood anxiety disorders (Borquist-Conlon et al., 2019). This also mirrors findings in adults, in which clinicians such as psychologists have been found to default to CBT when treating anxiety disorders (Clark et al., 2017).

Acceptance and Commitment Therapy (ACT) and Mindfulness-Based Therapy (MBT) also received some endorsement across clinicians. ACT has historically been positioned as a viable treatment alternative to CBT in the treatment of anxious youth (Hancock et al., 2018). More recently, however, a network meta-analysis conducted by Li et al. (2025) suggested that ACT may be the most effective treatment for anxiety disorders in CYP, outperforming CBT. However, the authors cautioned that these findings should be interpreted carefully due to low study quality and high heterogeneity (Li et al., 2025). Additionally, the absence of longitudinal data in this review limits conclusions regarding the durability of treatment effects associated with ACT in CYP. This is particularly relevant given that, while third-wave approaches have been found to be comparably effective to CBT in the short-term for treating GAD in adults, long-term effectiveness was only found for CBT (Papola et al., 2024).

Similar issues can be observed in the evidence base for MBT. While some findings suggest that mindfulness-based interventions may reduce anxiety in youth (Borquist-Conlon et al., 2019), others suggest that these effects may be short-lived (Odgers et al., 2020). Additionally, Ruiz-Íñiguez et al. (2020) highlighted that the small and heterogeneous evidence base makes it difficult for firm conclusions to be drawn regarding the effectiveness of MBT as a treatment for anxiety in CYP.

This broader context may explain why clinicians in our study endorsed ACT and MBT to a lesser extent than CBT, with median ratings of 20%. This indicates that these were viewed as possible, but not primary, treatment options for GAD.

GAD and CBT alignment scores

In this study, mean alignment scores were used to assess the relative diagnostic weighting clinicians assigned to GAD and their relative endorsement of CBT as a treatment, compared to alternative diagnoses and interventions. Alignment scores for both GAD and CBT indicated that clinicians rarely prioritised a single diagnosis or treatment in isolation, instead distributing weight across multiple diagnostic and therapeutic options.

This aligns with research highlighting that diagnostic decisions in Child and Adolescent Mental Health Services (CAMHS) are often iterative and provisional rather than definitive (O'Connor et al., 2020). It is also consistent with evidence suggesting that clinicians commonly adopt modular approaches to treatment, drawing on multiple evidence-based components in response to each young person's presenting needs (Park et al., 2018).

Regression analyses

When examining clinician-related predictors of GAD and CBT alignment, professional role emerged as a significant predictor in both models. In each model, clinicians with training across a broad range of psychological models (e.g., clinical psychologists and trainee psychologists and psychiatrists) were entered as the reference group, against which other professional groups were compared.

In the GAD model, clinicians considered not primarily trained in psychological therapies, such as mental health nurses, social workers and assistant psychologists, were found to have significantly lower GAD alignment relative to the reference group. This could reflect differences in training, with professionals in the reference group more likely to have received in- depth training in diagnostic frameworks.

In contrast, higher CBT alignment was observed, relative to the reference group, among clinicians primarily trained the delivery of psychological therapies, such as CBT therapists, Psychological Well-being Practitioners and Clinical associates in Psychology. This finding may reflect

training differences between these two groups, with the higher alignment score observed for those who are predominately trained in delivering CBT.

Additionally, previous research examining the treatment of anxiety disorders in adults found that, although, most psychologists reported using CBT, almost a quarter reported adopting a more eclectic/integrative approach (Clark et al., 2017). Our findings may therefore indicate that clinicians in the reference group, the majority who were psychologists, favoured integrative approaches treatment, resulting in the lower CBT alignment.

No significant difference was observed in CBT-alignment between the reference group and clinicians not primarily trained in psychological therapies. This contrasts with previous research suggesting that practitioners with graduate-level training demonstrate greater knowledge of evidence-based practice in youth (Nakamura et al., 2011) and indicates that, in the context of GAD, level of qualification did not significantly influence alignment with CBT as an evidence-based treatment.

However, neither model demonstrated a strong overall fit for alignment scores, explaining only small proportions of variance. This suggests that additional factors, not captured within regression models, are likely to have a more substantial influence on clinicians' diagnostic and treatment decisions for GAD in CYP.

Clinician approaches to CBT

Most clinicians reported that they would use a disorder-specific approach to delivering CBT for GAD in CYP. Notably, the most favoured disorder specific approach was the IoU model (Dugas et al., 1998). This may reflect clinicians drawing on their knowledge of the evidence base for adults. It could also suggest that they view IU as a salient feature of GAD in CYP. This interpretation aligns closely with the findings from our systematic review, in which IU was identified as having the largest association with GAD in CYP.

Clinicians typically showed high endorsement for generic CBT components often included in the treatment of anxiety disorders such as psychoeducation, cognitive restructuring, relaxation training and relapse intervention (Ginsburg & Kingery, 2007). However, they also showed high endorsement for some worry-specific components such as worry diaries and challenging beliefs about worry. This suggests that, when considering their treatment approach, clinicians were able to recognise the importance of transdiagnostic components, as well as those which directly target the core symptoms of GAD.

Moreover, this indicates that clinicians have a good understanding of what a CBT intervention looks like for CYP. This is significant in the context of concerns that have been raised in the wider literature, regarding a gap between labelling an intervention as CBT and delivering CBT in practice (Waller et al., 2012).

Training needs

Despite, what appeared to be good recognition of GAD amongst clinicians, as well as high endorsement of evidence-based treatments, most clinicians reported feeling like they would benefit from additional training in treating and assessing GAD in CYP. While this could reflect an underestimation of their knowledge and abilities, it may also highlight the value that mental health professionals place on further training (Cleary et al., 2011) and the emphasis that is placed on continued professional development in the UK (Karas et al., 2020).

Notably, more clinicians reported wanting additional training in treatment (83.2%) than in assessment (72.3%). This may help to explain the difference observed between mean GAD alignment (51%) and CBT alignment (34.74%). One perspective may be that the comparatively lower alignment score for CBT may reflect some uncertainty amongst clinicians regarding the most appropriate treatment for GAD in CYP. Under this assumption, it would be congruent for clinicians to prioritise training for delivering treatment.

Although, these findings are useful in identifying potential training needs within the CYP workforce, the current lack of clinical guidance for GAD may limit how effectively these needs can be addressed. Further research is required to strengthen the evidence base for GAD in CYP, which can then inform the meaningful development of clinical guidance and protocols. These can then be disseminated to clinicians through training.

Critical evaluation of the empirical paper

Clinical vignette design

Clinical vignettes are recognised as a valid method for assessing clinical decision-making and have been widely used to examine clinical practice for CYP populations (Aydin et al., 2020; Byrne et al., 2023). The vignette used in the present study was developed in collaboration with Clinical Psychologists with experience of working with GAD in CYP within routine services and reviewed by experts in the field (Baker & Waite, 2020), therefore strengthening its validity.

However, this approach was not without limitations. The vignette described a young person whose symptoms met full ICD-11 criteria for GAD and no other diagnosis. However, in practice, anxiety disorders in CYP, including GAD, typically present as highly comorbid (Esbjørn et al., 2010; Verduin & Kendall, 2003). As such, the vignette may not to have emulated a typical presentation of GAD to CYP services. Furthermore, diagnostic accuracy for youth has been found to be higher when presentations are less complex and comorbidity is lower (Jensen-Doss et al., 2014). Therefore, GAD recognition in this study may have been bolstered by the text-book presentation depicted in the vignette and may not fully reflect how accurately GAD in CYP is identified in real-world practice.

Additionally, while the use of the vignette and subsequent questions were designed to assess clinicians' recognition and treatment of GAD, they did not examine the clinical reasoning that underpinning decision-making. Therefore, our ability to understand how and why clinical judgements are made in relation to GAD in CYP is limited. This could have been addressed by

exploring which aspects of the vignette guided clinicians the most and whether certain symptoms were perceived as more indicative of GAD than others. Similarly, it may have been valuable to understand whether clinicians felt guided by theoretical knowledge or professional experience when considering treatment options.

Sample characteristics

It was considered that social media would increase the accessibility and reach of the survey. However, using this as a primary recruitment method may have precluded some clinicians from taking part. For clinicians, who were not enrolled on training programmes or within the JISC directory, seeing the recruitment materials required them to use or at least have access to social media. Therefore, the sample may not be fully representative of all clinicians with experience of CYP mental health.

In addition to this, the NHS CYP mental health workforce census reports 69% of staff identify as White-British (NHS England, 2025b) compared to 82.48% of clinicians in the present sample. This suggests that this group may have been over-represented and thus weakens the generalisability of the findings to the wider NHS workforce.

However, it should be noted that 20% of our sample were not employed with the NHS. The decision to include non-NHS clinicians was made on the basis that clinicians with relevant experiences of GAD in CYP may work across sectors or move between services over the course of their careers. Furthermore, it was considered that not all CYP present to NHS services exclusively. Therefore, the sample was not designed to only represent NHS clinicians but a broad range of professionals working across service contexts.

Theoretical and clinical Implications of thesis portfolio

Taken together, the findings from the systematic review and empirical study contribute to the on-going discussion regarding how GAD in CYP should be conceptualised and treated.

The systematic review expands our theoretical understanding of GAD in CYP by highlighting that psychological processes central to adult models are also relevant to youth and may represent key maintaining mechanisms across development. These findings also suggest that adult models of GAD may provide a useful framework for developing future interventions for CYP. More specifically, given IU had the largest pooled associations with GAD in CYP, it may represent a particularly promising treatment target in clinical practice.

The empirical study also supported these finding from a clinical perspective, with most clinicians reporting they would adopt a disorder-specific approach to GAD. Among this group the IoU model was most frequently selected. This suggests that clinicians may already be operating in line with a disorder-specific conceptualisation of GAD in CYP, even in the absence of formal guidance and that IU may be appraised by clinicians as a clinically relevant treatment target.

Further clinical implications can also be drawn from the empirical study. First, the findings provide reassurance that GAD is identifiable in CYP and that clinicians are likely to recommend evidence-based treatments for these young people when working with them in services. It also highlights that in the absence of guidance; clinicians may be drawing on adult models of GAD to guide their practice.

Second, most clinicians reported feeling like they would benefit from additional training in assessing and treating GAD. This mirrors findings in relation to panic disorder in CYP, where half of clinicians reported wanting further training (Baker & Waite, 2020). Together, this suggests the existence of a wider need for training in childhood anxiety disorders across the CYP workforce, alongside clearer, disorder-specific guidance.

Although, it is also important to acknowledge that neither the systematic review nor the empirical study can speak to that diagnostic specificity or distinctiveness of GAD in CYP. The systematic review relied primarily on correlational evidence, meaning that the observed associations cannot be interpreted as evidence that these processes are unique to GAD in CYP, or that they are not equally prevalent across other disorders in youth. We also can't be certain whether these processes are better understood as associated with anxiety more broadly, rather than GAD specifically.

Similarly, while the empirical study provides evidence that clinicians are able to recognise GAD from a single vignette, it does not address the question of diagnostic specificity; that is whether clinicians can accurately identify incidences where GAD is not present. This issues could have been addressed by the inclusion of a secondary vignette depicting a different clinical presentation, allowing us to assess whether GAD is recognised as distinct from other disorders in CYP.

Future research

To address the training needs highlighted in the empirical study, as well as the development of disorder-specific guidelines, more research is needed on the effectiveness of treatments for GAD in CYP. Historically, the evidence base has been difficult to interpret due to a lack of disorder specific outcome reporting (Shipp et al., 2025), therefore we echo calls for future studies to take this into consideration. Moreover, further qualitive research exploring how clinicians formulate and make treatment decisions for GAD in CYP would be valuable. Such work could help us to understand what factors influence clinicians' identification and management of GAD more clearly.

Another possible direction for future research would be to examine the experiences of CYP with GAD when accessing routine services. Crouch et al. (2019) found that parents of CYP suffering from anxiety described having to fight to obtain appropriate support from services, with "box-ticking" diagnostic processes sometimes delaying access to treatment. In the context of limited disorder-specific guidance and high comorbidity, it would be useful to explore whether these

barriers are experienced more frequently by CYP with GAD, compared to those presenting to with other disorders.

Additionally, while the systematic review provides a foundation for the theoretical conceptualisation of GAD in CYP, further research is required to determine how these psychological processes operate across different childhood anxiety disorders. In clarifying the relative specificity of these processes in youth, this will also help to evaluate the utility of transdiagnostic versus disorder-specific approaches to the assessment and treatment of GAD in CYP.

Overall conclusion

In summary, the systematic review and empirical study both offer advances in the understanding of GAD in CYP across theory and clinical practice. The systematic review provides insights into the psychological processes that are associated with GAD in CYP, identifying potential treatment targets and offering support for the applicability of adult models to younger populations. At the same time, the empirical study sheds light on how GAD in CYP is being identified and treated by clinicians in the absence of clinical guidance, while also highlighting training needs within the workforce. Together, this portfolio draws attention to the limitations within the existing evidence base and underscores the need for on-going theoretical and clinical advancements around GAD in CYP.

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Appendix A

Author guidelines

Once the submission materials have been prepared in accordance with the author guidelines, new submissions should be made via the Research Exchange submission portal: https://wiley.atyponrex.com/journal/CAMH.Please be advised that if your paper is submitted via the ReX portal and unsubmitted for corrections to be made, or you otherwise wish to manage your paper, you may do so through the same link. If your paper was submitted using the previous portal (prior to September 23, 2024), please access your paper via the following link: ScholarOne Manuscripts (manuscriptcentral.com).

You may check the status of your submission at any time by logging on to submission.wiley.com and clicking the "My Submissions" button. For technical help with the submission system, please review our FAQs or contact submissionhelp@wiley.com.

For editorial enquiries, please contact the Child and Adolescent Mental Health Editorial Office at publications@acamh.org.

Why submit to Child and Adolescent Mental Health?

- An international journal with a growing reputation for publishing work of clinical relevance to multidisciplinary practitioners in child and adolescent mental health
- Ranked in ISI: 67/129 (Paediatrics); 121/156 (Psychiatry); 100/143 (Psychiatry (Social Science)); 89/131 (Psychology, Clinical).
- 7,319 institutions with access to current content, and a further 6,696 institutions in the developing world
- High international readership - accessed by institutions globally, including North America (34%), Europe (34%) and Asia-Pacific (11%)
- Excellent service provided by editorial and production offices

- Opportunities to communicate your research directly to practitioners
- Every manuscript is assigned to one of the Joint Editors as decision-making editor; rejection rate is around 82%
- Acceptance to Early View publication averages 5 weeks
- Simple and efficient online submission
- Early View – articles appear online before the paper version is published. Click here to see the articles currently available
- Authors receive access to their article once published as well as a 25% discount on virtually all Wiley books
- All articles published in CAMH are eligible for Panel A: Psychology, Psychiatry and Neuroscience in the Research Excellence Framework (REF)

1. Contributions from any discipline that further clinical knowledge of the mental life and behaviour of children are welcomed. Papers need to clearly draw out the clinical implications for mental health practitioners. Papers are published in English. As an international journal, submissions are welcomed from any country. Contributions should be of a standard that merits presentation before an international readership. Papers may assume any of the following forms: Original Articles; Review Articles; Innovations in Practice; Narrative Matters; Debate Articles.

CAMH considers the fact that services are looking at treating young adults up until the age of 25, with the evidence that brains continue to develop until the age of 25, as well as the fact that a lot of issues that affect young adults and students are also relevant and topical to older adolescents. CAMH offers a discretionary approach and will take into consideration papers that extend into young adulthood, if they are pertinent developmentally to the younger population and contribute further to a developmental perspective across adolescence and early adult years.

Authors are asked to remember that CAMH is an international journal and therefore clarification should be provided for any references that are made in submitted papers to the practice within the

authors' own country. This is to ensure that the meaning is clearly understandable for our diverse readership. Authors should make their papers as broadly applicable as possible for a global audience.

Original Articles: Original Articles make an original contribution to empirical knowledge, to the theoretical understanding of the subject, or to the development of clinical research and practice.

Review Articles: These papers offer a critical perspective on a key body of current research relevant to child and adolescent mental health. The journal requires the pre-registration of review protocols on any publicly accessible platform (e.g. The International Prospective Register of Systematic Reviews, or PROSPERO).

Short Research Articles: Short Research Articles should consist of original research of any design that presents succinct findings with topical, clinical or policy relevance. For example, preliminary novel findings from pilot studies, important extensions of a previous study, and topical surveys.

Letters to the Editor: These are short articles that offer readers the opportunity to respond to articles published in CAMH. Letters must only discuss issues directly relevant to the content of the original article such as to add context, correction, offer a different interpretation, or extend the findings.

Innovations in Practice: These papers report on any new and innovative development that could have a major impact on evidence-based practice, intervention and service models.

Narrative Matters: These papers describe important topics and issues relevant to those working in child and adolescent mental health but considered from within the context and framework of the Humanities and Social Sciences.

Debate Articles: These papers express opposing points of view or opinions, highlighting current evidence-based issues, or discuss differences in clinical practice.

Technology Matters: These papers provide updates on emerging mental health technologies and how they are being used with and by children and young people.

2. Submission of a paper to Child and Adolescent Mental Health will be held to imply that it represents an original submission, not previously published; that it is not being considered for publication elsewhere; and that if accepted for publication it will not be published elsewhere without the consent of the Editors.

3. Manuscripts should be submitted online. Check for an existing account if you have submitted via Research Exchange before, or have forgotten your details. If you are new to Research Exchange, please create a new account.

4. Authors' professional and ethical responsibilities

Disclosure of interest form

All authors will be asked to download and sign a full Disclosure of Interests form and acknowledge this and sources of funding in the manuscript.

Ethics

Authors are reminded that the Journal adheres to the ethics of scientific publication as detailed in the Ethical principles of psychologists and code of conduct (American Psychological Association, 2010). These principles also imply that the piecemeal, or fragmented publication of small amounts of data from the same study is not acceptable. The Journal also generally conforms to the Uniform Requirements for Manuscripts of the International Committee of Medical Journal Editors (ICJME) and is also a member and subscribes to the principles of the Committee on Publication Ethics (COPE).

Informed consent and ethics approval

Authors must ensure that all research meets these ethical guidelines and affirm that the research has received permission from a stated Research Ethics Committee (REC) or Institutional Review Board

(IRB), including adherence to the legal requirements of the study county. Within the Methods section, authors should indicate that 'informed consent' has been appropriately obtained and state the name of the REC, IRB or other body that provided ethical approval. When submitting a manuscript, the manuscript page number where these statements appear should be given.

Preprints

CAMH will consider for review articles previously available as preprints. Authors may also post the submitted version of a manuscript to a preprint server at any time. Authors are requested to update any pre-publication versions with a link to the final published article. Please find the Wiley preprint policy here.

Recommended guidelines and standards

The Journal requires authors to conform to CONSORT 2010 (see CONSORT Statement) in relation to the reporting of randomised controlled clinical trials; also recommended is the Extensions of the CONSORT Statement with regard to cluster randomised controlled trials). In particular, authors must include in their paper a flow chart illustrating the progress of subjects through the trial (CONSORT diagram) and the CONSORT checklist. The flow diagram should appear in the main paper, the checklist in the online Appendix. Trial registry name, registration identification number, and the URL for the registry should also be included at the end of the methods section of the Abstract and again in the Methods section of the main text, and in the online manuscript submission. Trials must be registered in one of the ICJME-recognised trial registries:

Australian New Zealand Clinical Trials Registry

Clinical Trials

Netherlands Trial Register

ISRCTN Registry

UMIN Clinical Trials Registry

Manuscripts reporting systematic reviews or meta-analyses will only be considered if they conform to the PRISMA Statement. We ask authors to include within their review article a flow diagram that illustrates the selection and elimination process for the articles included in their review or meta-analysis, as well as a completed PRISMA Checklist. The journal requires the pre-registration of review protocols on any publicly accessible platform (e.g. The International Prospective Register of Systematic Reviews, or PROSPERO).

The Equator Network is recommended as a resource on the above and other reporting guidelines for which the editors will expect studies of all methodologies to follow. Of particular note are the guidelines on qualitative work http://www.equator-network.org/reporting-guidelines/evolving-guidelines-for-publication-of-qualitative-research-studies-in-psychology-and-related-fields and on quasi-experimental http://www.equator-network.org/reporting-guidelines/the-quality-of-mixed-methods-studies-in-health-services-research and mixed method designs http://www.equator-network-or/reporting-guidelines/guidelines-for-conducting-and-reporting-mixed-research-in-the-field-of-counseling-and-beyond.

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5. Manuscripts should be double spaced and conform to the house style of CAMH. The title page of the manuscript should include the title, name(s) and address(es) of author(s), an abbreviated title (running head) of up to 80 characters, a correspondence address for the paper, and any ethical

information relevant to the study (name of the authority, data and reference number for approval) or a statement explaining why their study did not require ethical approval.

Summary: Authors should include a structured Abstract not exceeding 250 words under the sub-headings: Background; Method; Results; Conclusions.

Key Practitioner Message: Below the Abstract, please provide 1-2 bullet points answering each of the following questions:

- What is known? - What is the relevant background knowledge base to your study? This may also include areas of uncertainty or ignorance.
- What is new? - What does your study tell us that we didn't already know or is novel regarding its design?
- What is significant for clinical practice? - Based on your findings, what should practitioners do differently or, if your study is of a preliminary nature, why should more research be devoted to this particular study?

Keywords: Please provide 4-6 keywords use MeSH Browser for suggestions

6. Papers submitted should be concise and written in English in a readily understandable style, avoiding sexist and racist language. Articles should adhere to journal guidelines and include a word count of their paper; occasionally, longer article may be accepted after negotiation with the Editors.

7. Authors who do not have English as a first language may choose to have their manuscript professionally edited prior to submission; a list of independent suppliers of editing services can be found at http://authorservices.wiley.com/bauthor/english_language.asp. All services are paid for and arranged by the author, and use of one of these services does not guarantee acceptance or preference for publication.

8. Headings: Original articles should be set out in the conventional format: Methods, Results, Discussion and Conclusion. Descriptions of techniques and methods should only be given in detail

when they are unfamiliar. There should be no more than three (clearly marked) levels of subheadings used in the text.

9. All manuscripts should have an Acknowledgement section at the end of the main text, before the References. This should include statements on the following:

Study funding: Please provide information on any external or grant funding of the work (or for any of the authors); where there is no external funding, please state this explicitly.

Contributorships: Please state any elements of authorship for which particular authors are responsible, where contributorships differ between author group. (All authors must share responsibility for the final version of the work submitted and published; if the study include original data, at least one author must confirm that they had full access to all the data in the study and take responsibility for the integrity of the data in the study and the accuracy of the data analysis). Contributions from others outside the author group should also be acknowledged (e.g. study assistance or statistical advice) and collaborators and study participants may also be thanked).

Conflicts of interest: The journal requires that all authors disclose any potential sources of conflict of interest. Any interest or relationship, financial or otherwise that might be perceived as influencing an author's objectivity is considered a potential source of conflict of interest. These must be disclosed when directly relevant or directly related to the work that the authors describe in their manuscript. Potential sources of conflict of interest include but are not limited to patent or stock ownership, membership of a company board of directors, membership of an advisory board or committee for a company, and consultancy for or receipt of speaker's fees from a company, in the past 5 years. The existence of a conflict of interest does not preclude publication. Authors of all articles submitted to the journal are encouraged to adhere to open research principles, where relevant. However, in the presence of a potential conflict of interest or the perception thereof, editors reserve the right to expect particular adherence to relevant open research practices, such as a publicly available study protocol, a pre-registered plan of analysis, and public availability of the data used, to address

potential appearances of bias. If the authors have no conflict of interest to declare, they must also state this at submission. It is the responsibility of the corresponding author to review this policy with all authors and collectively to disclose with the submission ALL pertinent commercial and other relationships.

10. For referencing, CAMH follows a slightly adapted version of APA Style http:www.apastyle.org/. References in running text should be quoted showing author(s) and date. For up to three authors, all surnames should be given on first citation; for subsequent citations or where there are more than three authors, 'et al.' should be used. A full reference list should be given at the end of the article, in alphabetical order.

References to journal articles should include the authors' surnames and initials, the year of publication, the full title of the paper, the full name of the journal, the volume number, and inclusive page numbers. Titles of journals must not be abbreviated. References to chapters in books should include authors' surnames and initials, year of publication, full chapter title, editors' initials and surnames, full book title, page numbers, place of publication and publisher.

11. Tables: These should be kept to a minimum and not duplicate what is in the text; they should be clearly set out and numbered and should appear at the end of the main text, with their intended position clearly indicated in the manuscript.

12. Figures: Any figures, charts or diagrams should be originated in a drawing package and saved within the Word file or as an EPS or TIFF file. See http://authorservices.wiley.com/bauthor/illustration.asp for further guidelines on preparing and submitting artwork. Titles or captions should be clear and easy to read. These should appear at the end of the main text.

13. Footnotes should be avoided, but end notes may be used on a limited basis.

Data Availability

If the study includes original data (except qualitative studies or systematic reviews), at least one author must confirm that they had full access to all the data in the study and take responsibility for the integrity of the data and the accuracy of the data analysis. Please identify the author in the manuscript. The journal expects all authors to share the data (except for qualitative studies or systematic reviews), analysis code, and other artefacts supporting the results in the paper by archiving it in an appropriate public repository (e.g. osf.io). Authors should provide a data availability statement, including a link to the repository they have used, in order that this statement can be published in their paper. Shared data should be cited. All data must be made available on request of the editor-in-chief either before or after submission. Failure to do so before acceptance will result in rejection of the paper and after acceptance in retraction of the paper. In the exceptional case where it is not possible to publicly share data, authors should use the data access statement to justify this and provide sufficient detail on how others can access the data used in the study.

Data Sharing and Supporting Information

CAMH encourages authors to share the data and other artefacts supporting the results in the paper by archiving them by uploading it upon submission or in an appropriate public repository. Examples of possible supporting material include intervention manuals, statistical analysis syntax, and experimental materials and qualitative transcripts.

1. If uploading with your manuscript please call the file 'supporting information' and reference it in the manuscript.

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Original Articles

Original Articles make an original contribution to empirical knowledge, to the theoretical understanding of the subject, or to the development of clinical research and practice. Adult data is not usually accepted for publication unless it bears directly on developmental issues in childhood and adolescence.

Your Original Article should be no more than 5,000 words including tables, figures and related captions, excluding only references. Please note that for our own calculation of word counts, we include all text in the submitted paper, excluding only the references. Please note that for our own calculation of word counts, we include all text in the submitted paper, excluding only the references.

Review Articles

Research Articles offer our readers a critical perspective on a key body of current research relevant to child and adolescent mental health and maintain high standards of scientific practice by conforming to systematic guidelines as set out in the PRISMA statement. These articles should aim to inform readers of any important or controversial issues/findings, as well as the relevant conceptual and

theoretical models, and provide them with sufficient information to evaluate the principal arguments involved. All review articles should also make clear the relevancy of the research covered, and any findings, for clinical practice.

Research Articles offer our readers a critical perspective on a key body of current research relevant to child and adolescent mental health and maintain high standards of scientific practice by conforming to systematic guidelines as set out in the PRISMA statement. These articles should aim to inform readers of any important or controversial issues/findings, as well as the relevant conceptual and theoretical models, and provide them with sufficient information to evaluate the principal arguments involved. All review articles should also make clear the relevancy of the research covered, and any findings, for clinical practice.

Your Review Article should be no more than 6,000 words excluding tables, figures and references and no more than 8,000 including tables, figures and references. For Systematic Reviews, your paper should be no more than 6,000 words excluding tables, figures and references. Qualitative papers should instead be no more than 8000 words, including quotes and figures, but excluding references.

Short Research Articles

Short Research Articles should consist of original research of any design that presents succinct findings with topical, clinical or policy relevance. For example, preliminary novel findings from pilot studies, important extensions of a previous study, and topical surveys. Short Research Articles will be peer reviewed, and authors might be asked to revise and edit their article to acceptable standards for publication. Short Research Articles should follow standard guidelines, such as STROBE for observational studies, CONSORT extension for pilot trials etc.

Your Short Research Article should be 1500 words, excluding references, tables and graphs/figures. Your article should be structured, including the subheadings

Introduction/Methods/Results/Discussion. There is a maximum of 1 table and 1 graph/figure. Please do not include more than 12 references.

Narrative Matters: The Medical Humanities in CAMH

These articles are both submissions and directly commissioned papers. They will be peer-reviewed. The articles should be on a humanities topic relevant to those working in child and adolescent mental health. The topics can include but are not restricted to: aspects of child mental health service history; representations of abnormal mental states or mental illness in children and teenagers in film, literature or drama; depictions of child mental health clinicians within popular culture; ethical dilemmas in the speciality. Interest and originality are valued. If in doubt, please contact the section editor: gdlbates66@gmail.com.

The essays should be between 1500 and 2000 words and written for an audience of child mental health professionals. For publishing reasons, there is an upper limit of 8 references for the article. Additional references may be given in the text if necessary.

Letters to the Editor

Letters to the Editor are short articles that offer readers the opportunity to respond to articles published in CAMH. Letters must only discuss issues directly relevant to the content of the original article such as to add context, correction, offer a different interpretation, or extend the findings. Letters will be evaluated for relevance to the index paper, scientific merit, and importance.

Letters should be submitted not later than 2 weeks after publication of the print issue of the Journal containing the paper of interest. Please note - all papers are published on Early View as soon as they are accepted. The letters should avoid personal attacks and unscholarly communication.

Letters will not be peer reviewed. However, the section Editor will review the letters and might consult another Editor before acceptance or rejection.

Due to the short length of this article type, your Letter should be between 500 and 700 words with a maximum of one figure or table. If in doubt, please contact the section editor at c.ani@imperial.ac.uk.

Innovations in Practice

Innovations in Practice promote knowledge of new and interesting developments that have an impact on evidence-based practice, intervention and service models. These might have arisen through the application of careful, systematic planning, a response to a particular need, through the continuing evolution of an existing practice or service, or because of changes in circumstances and/or technologies. Submissions should set out the aims and details of the innovation including any relevant mental health, service, social and cultural contextual factors, and give a close, critical analysis of the innovation and its potential significance for the practice of child and adolescent mental health.

Due to the short length of this article type, your Innovations in Practice article should be no more than 2,200 words including tables, figures and references and contain no more than 8 references.

Debate Articles

Our debate articles express opposing points of view or opinions, highlighting current evidence-based issues, or discuss differences in clinical practice. Although discussion of evidence is welcome, these articles generally do not include primary data. The evidence on which your arguments are based and how that was sourced should be explicit and referenced, and the quality of your evidence made clear.

Due to the short length of this article type, your Debate article should be no more than 1,000 words and contain no more than 10 references. If in doubt, please contact the section editor Rachel.Elvins@mft.nhs.uk

Technology Matters

Technology Matters provides updates on emerging mental health technologies and how they are being used with and by children and young people. We aim to cover established technologies such as computer-assisted psychological interventions as well as more novel technologies (e.g. mobile apps, therapeutic games, virtual reality). We will present the evidence base for their use, showcase how they can complement other interventions and are being used in practice and address wider cross-cutting issues (such as technology accreditation, regulation, cost etc.) relevant to practitioners and service funders.

Your paper should be between 1000 and 1500 words. Please do not include more than 7 references. If in doubt, please contact the section editors Kapil.Sayal@nottingham.ac.uk or Jennifer.Martin@nottingham.ac.uk.

Manuscript Processing

Peer Review Process: All material submitted to CAMH is only accepted for publication after being subjected to external scholarly peer review, following initial evaluation by one of the Editors. Both original and review-type articles will usually be single-blind reviewed by a minimum of two external referees and only accepted by the decision Editor after satisfactory revision. Any appeal of an editorial decision will first be considered by the initial decision Editor, in consultation with other Editors. Editorials and commissioned editorial opinion articles will usually be subject to internal review only, but this will be clarified in the published Acknowledgement section. Editorial practices and decision making will conform to COPE http://publicationethics.org/resources/guidelines and ICMJE http://icmje.org/best practice.

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Appendix B

PRISMA Checklist

Section and Topic	Item #	Checklist item	Location where item is reported
TITLE			
Title	1	Identify the report as a systematic review.	Title page
ABSTRACT			
Abstract	2	See the PRISMA 2020 for Abstracts checklist.	Prisma abstract not used due to journal requirements
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of existing knowledge.	Introduction
Objectives	4	Provide an explicit statement of the objective(s) or question(s) the review addresses.	Introduction
METHODS			
Eligibility criteria	5	Specify the inclusion and exclusion criteria for the review and how studies were grouped for the syntheses.	Method
Information sources	6	Specify all databases, registers, websites, organisations, reference lists and other sources searched or consulted to identify studies. Specify the date when each source was last searched or consulted.	Method
Search strategy	7	Present the full search strategies for all databases, registers and websites, including any filters and limits used.	Appendix C
Selection process	8	Specify the methods used to decide whether a study met the inclusion criteria of the review, including how many reviewers screened each record and each report retrieved, whether they worked independently, and if applicable, details of automation tools used in the process.	Method
Data	9	Specify the methods used to collect data from reports, including how many reviewers collected data from each	Method

Section and Topic	Item #	Checklist item	Location where item is reported
collection process		report, whether they worked independently, any processes for obtaining or confirming data from study investigators, and if applicable, details of automation tools used in the process.	
Data items	10a	List and define all outcomes for which data were sought. Specify whether all results that were compatible with each outcome domain in each study were sought (e.g. for all measures, time points, analyses), and if not, the methods used to decide which results to collect.	Method
	10b	List and define all other variables for which data were sought (e.g. participant and intervention characteristics, funding sources). Describe any assumptions made about any missing or unclear information.	Method
Study risk of bias assessment	11	Specify the methods used to assess risk of bias in the included studies, including details of the tool(s) used, how many reviewers assessed each study and whether they worked independently, and if applicable, details of automation tools used in the process.	Method
Effect measures	12	Specify for each outcome the effect measure(s) (e.g. risk ratio, mean difference) used in the synthesis or presentation of results.	Method
Synthesis methods	13a	Describe the processes used to decide which studies were eligible for each synthesis (e.g. tabulating the study intervention characteristics and comparing against the planned groups for each synthesis (item #5)).	Method
	13b	Describe any methods required to prepare the data for presentation or synthesis, such as handling of missing summary statistics, or data conversions.	Method
	13c	Describe any methods used to tabulate or visually display results of individual studies and syntheses.	Method
	13d	Describe any methods used to synthesize results and provide a rationale for the choice(s). If meta-analysis was performed, describe the model(s), method(s) to identify the presence and extent of statistical heterogeneity, and software package(s) used.	Method
	13e	Describe any methods used to explore possible causes of heterogeneity among study results (e.g. subgroup analysis, meta-regression).	Method
	13f	Describe any sensitivity analyses conducted to assess robustness of the synthesized results.	Method
Reporting bias assessment	14	Describe any methods used to assess risk of bias due to missing results in a synthesis (arising from reporting biases).	Method/Results
Certainty	15	Describe any methods used to assess certainty (or confidence) in the body of evidence for an outcome.	Method

Section and Topic	Item #	Checklist item	Location where item is reported
assessment			
RESULTS			
Study selection	16a	Describe the results of the search and selection process, from the number of records identified in the search to the number of studies included in the review, ideally using a flow diagram.	Results
	16b	Cite studies that might appear to meet the inclusion criteria, but which were excluded, and explain why they were excluded.	N/A
Study characteristics	17	Cite each included study and present its characteristics.	Result
Risk of bias in studies	18	Present assessments of risk of bias for each included study.	Results, Appendix E
Results of individual studies	19	For all outcomes, present, for each study: (a) summary statistics for each group (where appropriate) and (b) an effect estimate and its precision (e.g. confidence/credible interval), ideally using structured tables or plots.	Results, table 1 and Appendix D
Results of syntheses	20a	For each synthesis, briefly summarise the characteristics and risk of bias among contributing studies.	Results
	20b	Present results of all statistical syntheses conducted. If meta-analysis was done, present for each the summary estimate and its precision (e.g. confidence/credible interval) and measures of statistical heterogeneity. If comparing groups, describe the direction of the effect.	Results
	20c	Present results of all investigations of possible causes of heterogeneity among study results.	Results
	20d	Present results of all sensitivity analyses conducted to assess the robustness of the synthesized results.	Results
Reporting biases	21	Present assessments of risk of bias due to missing results (arising from reporting biases) for each synthesis assessed.	N/A
Certainty of evidence	22	Present assessments of certainty (or confidence) in the body of evidence for each outcome assessed.	Results
DISCUSSION			
Discussion	23a	Provide a general interpretation of the results in the context of other evidence.	Discussion

Section and Topic	Item #	Checklist item	Location where item is reported
	23b	Discuss any limitations of the evidence included in the review.	Discussion
	23c	Discuss any limitations of the review processes used.	Discussion
	23d	Discuss implications of the results for practice, policy, and future research.	Discussion
OTHER INFORMATION			
Registration and protocol	24a	Provide registration information for the review, including register name and registration number, or state that the review was not registered.	Method
	24b	Indicate where the review protocol can be accessed, or state that a protocol was not prepared.	Method
	24c	Describe and explain any amendments to information provided at registration or in the protocol.	n/a
Support	25	Describe sources of financial or non-financial support for the review, and the role of the funders or sponsors in the review.	n/a
Competing interests	26	Declare any competing interests of review authors.	n/a
Availability of data, code and other materials	27	Report which of the following are publicly available and where they can be found: template data collection forms; data extracted from included studies; data used for all analyses; analytic code; any other materials used in the review.	n/a

From: Page MJ, McKenzie JE, Bossuyt PM, Boutron I, Hoffmann TC, Mulrow CD, et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. BMJ 2021;372:n71. doi: 10.1136/bmj.n71. This work is licensed under CC BY 4.0. To view a copy of this license, visit https://creativecommons.org/licenses/by/4.0/

Appendix C

Full search strategy

Search terms:

Block A: GAD related terms

("Generalised anxiety disorder" OR "Generalized anxiety disorder" OR GAD OR "excessive worry" OR "high worry" OR "General worry")

Block B: Cognitive constructs

AND ("Intolerance of uncertainty" OR IU OR "uncertainty intolerance" OR "intolerance of ambiguity" OR “uncertainty avoidance”

OR "beliefs about worry" OR "metacognitive beliefs" OR Metacogni* OR "positive beliefs `zabout worry" OR "negative beliefs about worry" OR MCQ

OR "cognitive avoidance" OR "avoidant thinking" OR "thought suppression" OR "worry avoidance" OR CAQ

OR NPO OR "problem orientation" OR "negative problem orientation" OR "problem solving")

Block C: Population

AND (Child* OR Adolescen* OR Infant OR Paediatric OR teen* OR youth OR "school aged" OR "young people" OR CYP)

Full search string:

("Generalised anxiety disorder" OR "Generalized anxiety disorder" OR GAD OR "excessive worry" OR "high worry" OR "general worry") AND ("Intolerance of uncertainty" OR IU OR

"uncertainty intolerance" OR "intolerance of ambiguity" OR "uncertainty avoidance" OR "beliefs about worry" OR "metacognitive beliefs" OR Metacogni* OR "positive beliefs about worry" OR "negative beliefs about worry" OR MCQ OR "cognitive avoidance" OR "avoidant thinking" OR "thought suppression" OR "worry avoidance" OR CAQ OR NPO OR "problem orientation" OR "negative problem orientation" OR "problem solving") AND (Child* OR Adolescen* OR Infant OR Paediatric OR teen* OR youth OR "school aged" OR "young people")

*Database-specific filters restricted results to English-language publications and participants under 21 years old where available.

Appendix D

Study Characteristic (full)

Table A1

Full summary of study characteristic

Author/Year	Country	Study Design	N	Age range/ Mean (years)	% Female	Sample type	GAD outcome	GAD measure	IU	CA	NPO	PBW	NBW	Reporter	Effect Size Reported
Allred (2019)	US	Cross-sectional	143	11	60.8%	Community	Dimensional	RCADS / GAD	–	–	–	MCQ-C30	MCQ-C30	Child	Pearson's Correlation (r)
Bacow (2009)	US	Case-control	98	Clinical sample: 11.9; Community sample: 12.4	Clinical sample: 62.8%; Community sample: 65%	Mixed	Dimensional	PSWQ-C	–	–	–	MCQ-C	MCQ-C	Child	Partial Correlation (r, controlled for covariates)
Boelen (2010)	Netherlands	Cross-sectional	191	16.1	51%	Community	Dimensional	PSWQ-C	IUS-12	–	–	–	–		Pearson's Correlation (r)

Comer (2009)	US	Case-control	197	11.6	50.8%	Mixed	Dimensional	PSWQ-C	IUS-C	–	–	–	–		Pearson's Correlation (r)
Cowie (2018)	US	Case-control	98	9.1	49%	Mixed	Dimensional	PSWQ-C	IUS-C	–	–	–	–	Child	Pearson's Correlation (r)
Donovan (2016)	Australia	Case-control	GAD:25; Control: 25	9.9	GAD: 60%; Control: 60%	Clinical	Diagnosis	ADIS-IV-C/P	IUS-C	WBSI	SPSI-R-SF	MCQ-C	MCQ-C	Child	F statistic (group comparison)
Donovan (2017)	Australia	Cross-sectional	114	9.9	50.9%	Community	Dimensional	PSWQ-C	IUS-C	WBSI	SPSI-R-SF	MCQ-C	MCQ-C	Child	Pearson's Correlation (r)
Dugas (2012)	Canada	Longitudinal	Time 1: 282	NA	NA	Community	Dimensional	PSWQ-C	IUS	–	–	–	–	Child	Pearson's Correlation (r)
Ellis (2011)	Australia	Case-control	123	12 –17	NA	Mixed	Dimensional	SCAS/ GAD	–	–	–	MCQ-A	MCQ-A	Child	Pearson's Correlation (r)
Esbjørn 2013)	Denmark	Cross-sectional	974	9 –17	55.2%	Mixed	Dimensional	PSWQ-C	–	–	–	MCQ-A	MCQ-A	Child	Pearson's Correlation (r)
Esbjørn (2015) Study 1	Denmark	Cross-sectional	587	Ages 9–12: 11;	Ages 9-12: 55%;	Mixed	Dimensional	PSWQ-C	–	–	–	MCQ-C	MCQ-C	Child	Standardised regression coefficient (β)

				Ages 13–17: 14	Ages 13-17: 55%										
Esbjørn (2015) Study 2	Denmark	Case-control	GAD: 22; Control: sa43	7–13	NA	Mixed	Diagnosis	ADIS-IV-C/P	–	–	–	MCQ-A	MCQ-A	Child	Group means and SDs
Fialko (2012)	UK	Cross-sectional	515	7–19	53%	Community	Dimensional	PSWQ-C	Brief IUS	Brief-CAQ	–	Brief-WW-II	–	Child	Pearson's Correlation (r)
Fisak (2014)	US	Cross-sectional	175	13.9	66.3%	Community	Dimensional	PSWQ-C	–	–	–	MCQ-C	MCQ-C	Child	Standardised regression coefficient (β)
Geronimi (2019)	US	Cross-sectional	47	10.4	61.7%	Community	Dimensional	PSWQ-C	IUS-C	–	NPOQ - adapted	MCQ-C	MCQ-C	Child	Pearson's Correlation (r)
Gini (2019)	Italy	Cross-sectional	1169	15.8	47.7%	Community	Dimensional	GAD-7	–	–	–	MCQ-30	MCQ-30	Child	Pearson's Correlation (r)
Gosselin (2007)	Canada	Cross-sectional	777	14.9	49.7%	Community	Dimensional	PSWQ-C	–	CAQ	–	–	–	Child	Pearson's Correlation (r)

Hearn (2017)	Australia	Case-control	GAD: 20; Control: 20	8-12	GAD: 42.9%; Control: 42.9%	Community	Diagnosis	ADIS-IV-C/P	IUS-12	WBSI	SPSI-R-SF	MCQ-30	MCQ-30	Child	Group means and SDs
Kertz (2013)	US	Cross-sectional	80	9.6	71%	Community	Dimensional	PSWQ-C	IUS-C	–	SPSI - adapted	MCQ-C	MCQ-C	Child	Partial Correlation (r, controlled for covariates)
Krain (2006)	US	Cross-sectional	12	16.4	41.7%	Community	Dimensional	PSWQ-C	IUS	–	–	–	–	Child	Pearson's Correlation (r)
Laugesen (2003)	Canada	Cross-sectional	528	15.6	49.1%	Community	Dimensional	PSWQ-C	IUS	WBSI	SPSI-R-SF	WW-II	–	Child	Partial Correlation (r, controlled for covariates)
Lee (2018)	US	Cross-sectional	76	9.7	50%	Community	Dimensional	PSWQ-C	IUS-C	–	NPOQ-adapted	–	–	Child	Pearson's Correlation (r)
Martinez-Snyder (2022)	US	Cross-sectional	305	17.1	71.%	Community	Dimensional	SCARED/GAD	IUS-C	–	–	–	–	Child	Pearson's Correlation (r)

Poh (2021)	Singapore	Cross-sectional	385	12.5	58.9%	Community	Dimensional	RCADS/GAD	IUS-C	–	–	–	–	Child	Pearson's Correlation (r)
Przeworski (2009)	US	Cross-sectional	34	10.4	47.4%	Community	Dimensional	PSWQ-C	IUS-C	–	–	–	–	Child	Pearson's Correlation (r)
Read (2013)	US	Case-control	GAD: 46; SAD: 31	7-17	Full sample: 47.7%	Community	Diagnosis	ADIS-IV-C/P	IUS-C	–	–	–	–	Composite*	Group means and SDs
Ryan (2025)	UK	Longitudinal	180	4	Not reported	Community	Dimensional	SCAS-P/GAD	RULES	–	–	–	–	Child	Pearson's Correlation (r)
Shen (2020)	China	Cross-sectional	591	10.5	51.3%	Community	Dimensional	PSWQ-C	IUS-C	–	–	–	–	Child	Pearson's Correlation (r)
Thielsch (2015)	Germany	Cross-sectional	521	17.2	80.4%	Community	Dimensional	PSWQ	IUS	–	–	MCQ	MCQ	Child	Pearson's Correlation (r)
Watts (2021)	UK	Cross-sectional	326	13.2	48%	Community	Dimensional	PSWQ-C	SV-IUS-C	R-CAQ	NPOQ-C	WW-II	–	Child	Pearson's Correlation (r)
White (2016)	Australia	Cross-sectional	187	10.6	31%	Community	Dimensional	SCAS-P/GAD	–	–	–	MCQ-CR	MCQ-CR	Child	Pearson's Correlation (r)
Whiting (2015)	US	Cross-sectional	105	15.6	67.6%	Community	Dimensional	PSWQ-C	IUS-C	–	–	–	–	Child	Pearson's Correlation (r)

Wong (2025)	US	Cross-sectional	647	6–17	NA	Community	Dimensional	RCADS-P	IUS-C	–	–	–	–	Parent	Pearson's Correlation (r)
Wright (2016)	Canada	Cross-sectional	128	12.7	49.2%	Community	Dimensional	SCAS/GAD	IUS-R	–	–	–	–	Child	Pearson's Correlation (r)
Ye (2023)	China	Cross-sectional	36180	9 –19	NA	Community	Dimensional	GAD-7	IUI-A-C	–	–	–	–	Child	Pearson's Correlation (r)
Zemestani et al. 2022)	Iran	Case-control	683	14	58.1%	Mixed	Dimensional	SCAS-C/GAD	IUS-C	–	–	–	–	Child	Pearson's Correlation (r)

IU measures: IUS, The Intolerance of Uncertainty Scale; IUS-C, The Intolerance of Uncertainty Scale–Child Adaptation; IUS-12, Intolerance of Uncertainty Scale Short Form – 12; IUI-A-C; The Intolerance of Uncertainty Index-A for Children; Brief IUS; Brief version of the Intolerance of Uncertainty Scale; SV-IUS-C, combines the Intolerance of Uncertainty Scale for Children (IUS-C) with short version of the Intolerance of Uncertainty Scale; IUS-R, The Intolerance of Uncertainty Scale-Revised; RULES, The Responses to Uncertainty and Low Environmental Structure questionnaire.

CA measures: WBSI, The White Bear Suppression Inventory; CAQ/Brief CAQ, The Cognitive Avoidance Questionnaire/Brief version; R-CAQ, The Revised Cognitive Avoidance Questionnaire.

NPO measures: SPSI-R-SF, Social Problem-Solving Inventory-Revised-Short Form; SPSI -adapted, Social Problem-Solving Inventory-Adapted; NPOQ/NPOQ-C/NPOQ-A, Negative problem Questionnaire / children version/ adapted.

PBW/NBW measures: MCQ-30, The Metacognitions Questionnaire-30; MCQ-C, The Metacognitions Questionnaire for Children; MCQ-CR, The Metacognitions Questionnaire-Child Revised; WW-II/Brief, The Why Worry Questionnaire II/ Brief version; MCQ-R, The Metacognitions Questionnaire – revised; MCQ-C30, Meta-Cognitions Questionnaire for Children –30 Item version; MCQ-A, Meta-Cognitions Questionnaire – Adolescent Version.

Note. Negative and Positive belief subscales of the meta-cognitive questionnaires were extracted separately for NPO/PBW.

Appendix E

Risk of bias traffic light plots

Figure A1

Traffic light plot of risk of bias assessments using the Joanna Briggs Institute (JBI) critical appraisal checklist for case–control studies.

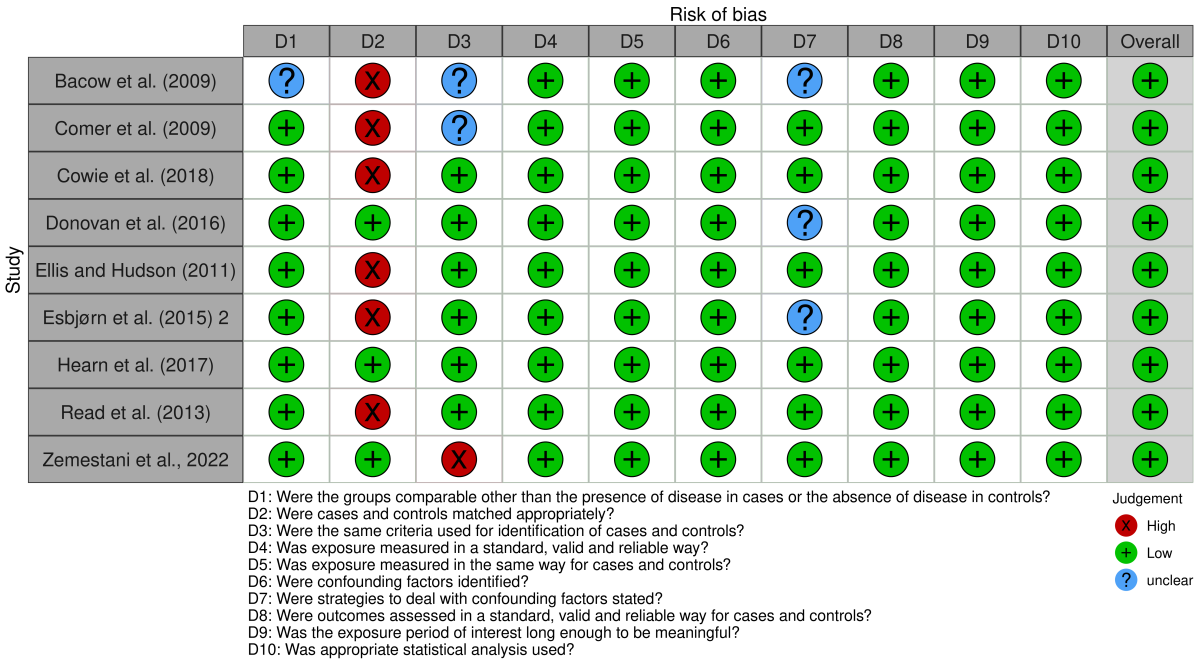
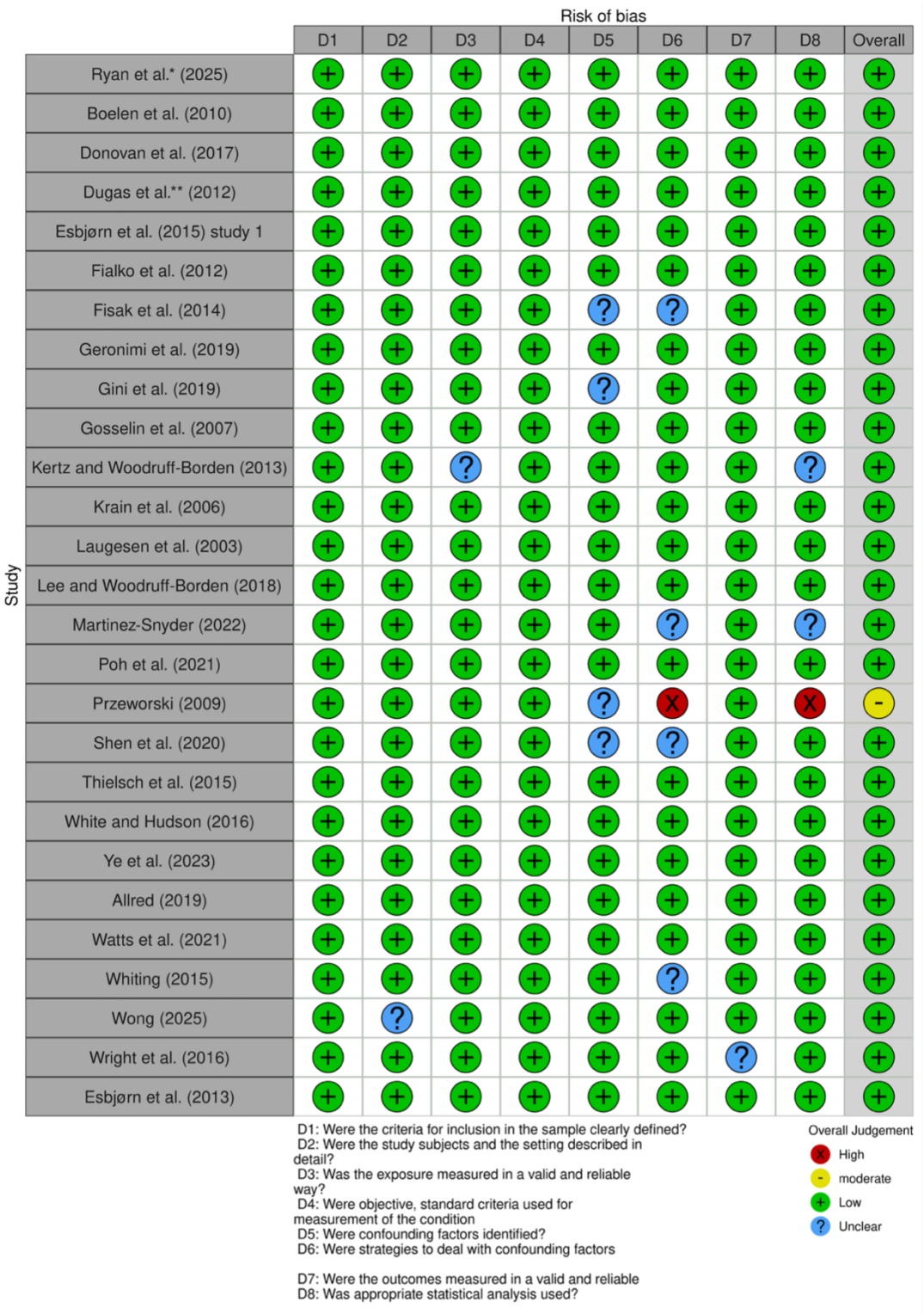


Figure A2

Traffic light plot of risk of bias assessments using the Joanna Briggs Institute (JBI) critical appraisal checklist for cross-sectional studies

Note. Each domain represents a question from the appropriate JBI checklist. Green (+) indicates "Yes", red (×) indicates "No" and blue (?) indicates "Unclear". The overall risk of bias assessment for each study is provided in the last column (low, moderate or high risk).


Risk of bias
D1
D2
D3
D4
D5
D6
D7
D8
Overall
Study
Ryan et al.* (2025)
Boelen et al. (2010)
Donovan et al. (2017)
Dugas et al.** (2012)
Esbjørn et al. (2015) study 1
Fialko et al. (2012)
Fisak et al. (2014)
Geronimi et al. (2019)
Gini et al. (2019)
Gosselin et al. (2007)
Kertz and Woodruff-Borden (2013)
Krain et al. (2006)
Laugesen et al. (2003)
Lee and Woodruff-Borden (2018)
Martinez-Snyder (2022)
Poh et al. (2021)
Przeworski (2009)
Shen et al. (2020)
Thielsch et al. (2015)
White and Hudson (2016)
Ye et al. (2023)
Allred (2019)
Watts et al. (2021)
Whiting (2015)
Wong (2025)
Wright et al. (2016)
Esbjørn et al. (2013)
D1: Were the criteria for inclusion in the sample clearly defined?
D2: Were the study subjects and the setting described in detail?
D3: Was the exposure measured in a valid and reliable way?
D4: Were objective, standard criteria used for measurement of the condition
D5: Were confounding factors identified?
D6: Were strategies to deal with confounding factors
D7: Were the outcomes measured in a valid and reliable
D8: Was appropriate statistical analysis used?
Overall Judgement
High
moderate
Low
Unclear

Appendix F

JBI critical appraisal tools

Checklist for analytical cross-sectional studies:

INTRODUCTION

JBI is an JBI is an international research organisation based in the Faculty of Health and Medical Sciences at the University of Adelaide, South Australia. JBI develops and delivers unique evidence-based information, software, education and training designed to improve healthcare practice and health outcomes. With over 70 Collaborating Entities, servicing over 90 countries, JBI is a recognised global leader in evidence-based healthcare.

JBI Systematic Reviews

The core of evidence synthesis is the systematic review of literature of a particular intervention, condition or issue. The systematic review is essentially an analysis of the available literature (that is, evidence) and a judgment of the effectiveness or otherwise of a practice, involving a series of complex steps. JBI takes a particular view on what counts as evidence and the methods utilised to synthesise those different types of evidence. In line with this broader view of evidence, JBI has developed theories, methodologies and rigorous processes for the critical appraisal and synthesis of these diverse forms of evidence in order to aid in clinical decision-making in healthcare. There now exists JBI guidance for conducting reviews of effectiveness research, qualitative research, prevalence/incidence, etiology/risk, economic evaluations, text/opinion, diagnostic test accuracy, mixed-methods, umbrella reviews and scoping reviews. Further information regarding JBI systematic reviews can be found in the JBI Evidence Synthesis Manual.

JBI Critical Appraisal Tools

All systematic reviews incorporate a process of critique or appraisal of the research evidence. The purpose of this appraisal is to assess the methodological quality of a study and to determine the extent to which a study has addressed the possibility of bias in its design, conduct and analysis. All papers selected for inclusion in the systematic review (that is – those that meet the inclusion criteria described in the protocol) need to be subjected to rigorous appraisal by two critical appraisers. The results of this appraisal can then be used to inform synthesis and interpretation of the results of the study. JBI Critical appraisal tools have been developed by the JBI and collaborators and approved by the JBI Scientific Committee following extensive peer review. Although designed for use in systematic reviews, JBI critical appraisal tools can also be used when creating Critically Appraised Topics (CAT), in journal clubs and as an educational tool.

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JBI CRITICAL APPRAISAL CHECKLIST FOR ANALYTICAL CROSS SECTIONAL STUDIES

Reviewer_____Date_____

Author_____Year_____ Record Number_____

	Yes	No	Unclear	Not applicable
1. Were the criteria for inclusion in the sample clearly defined?	☐	☐	☐	☐
2. Were the study subjects and the setting described in detail?	☐	☐	☐	☐
3. Was the exposure measured in a valid and reliable way?	☐	☐	☐	☐
4. Were objective, standard criteria used for measurement of the condition?	☐	☐	☐	☐
5. Were confounding factors identified?	☐	☐	☐	☐
6. Were strategies to deal with confounding factors stated?	☐	☐	☐	☐
7. Were the outcomes measured in a valid and reliable way?	☐	☐	☐	☐
8. Was appropriate statistical analysis used?	☐	☐	☐	☐

Overall appraisal: Include ☐ Exclude ☐ Seek further info ☐

Comments (Including reason for exclusion)

_____

_____

_____

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EXPLANATION OF ANALYTICAL CROSS SECTIONAL STUDIES CRITICAL APPRAISAL

How to cite: Moola S, Munn Z, Tufanaru C, Aromataris E, Sears K, Sfetcu R, Currie M, Qureshi R, Mattis P, Lisy K, Mu P-F. Chapter 7: Systematic reviews of etiology and risk . In: Aromataris E, Munn Z (Editors). *JBI Manual for Evidence Synthesis*. JBI, 2020. Available from https://synthesismanual.jbi.global

Analytical cross sectional studies Critical Appraisal Tool

Answers: Yes, No, Unclear or Not/Applicable

1. Were the criteria for inclusion in the sample clearly defined?

The authors should provide clear inclusion and exclusion criteria that they developed prior to recruitment of the study participants. The inclusion/exclusion criteria should be specified (e.g., risk, stage of disease progression) with sufficient detail and all the necessary information critical to the study.

2. Were the study subjects and the setting described in detail?

The study sample should be described in sufficient detail so that other researchers can determine if it is comparable to the population of interest to them. The authors should provide a clear description of the population from which the study participants were selected or recruited, including demographics, location, and time period.

3. Was the exposure measured in a valid and reliable way?

The study should clearly describe the method of measurement of exposure. Assessing validity requires that a 'gold standard' is available to which the measure can be compared. The validity of exposure measurement usually relates to whether a current measure is appropriate or whether a measure of past exposure is needed.

Reliability refers to the processes included in an epidemiological study to check repeatability of measurements of the exposures. These usually include intra-observer reliability and inter-observer reliability.

4. Were objective, standard criteria used for measurement of the condition?

It is useful to determine if patients were included in the study based on either a specified diagnosis or definition. This is more likely to decrease the risk of bias. Characteristics are another useful approach to matching groups, and studies that did not use specified diagnostic methods or definitions should provide evidence on matching by key characteristics

5. Were confounding factors identified?

Confounding has occurred where the estimated intervention exposure effect is biased by the presence of some difference between the comparison groups (apart from the exposure investigated/of interest). Typical confounders include baseline characteristics, prognostic factors, or concomitant exposures (e.g. smoking). A confounder is a difference between the comparison groups and it influences the direction of the study results. A high quality study at the level of cohort design will identify the potential confounders and measure them (where possible). This is difficult for studies where behavioral, attitudinal or lifestyle factors may impact on the results.

6. Were strategies to deal with confounding factors stated?

Strategies to deal with effects of confounding factors may be dealt within the study design or in data analysis. By matching or stratifying sampling of participants, effects of confounding factors can be adjusted for. When dealing with adjustment in data analysis, assess the statistics used in the study. Most will be some form of multivariate regression analysis to account for the confounding factors measured.

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7. Were the outcomes measured in a valid and reliable way?

Read the methods section of the paper. If for e.g. lung cancer is assessed based on existing definitions or diagnostic criteria, then the answer to this question is likely to be yes. If lung cancer is assessed using observer reported, or self-reported scales, the risk of over- or under-reporting is increased, and objectivity is compromised. Importantly, determine if the measurement tools used were validated instruments as this has a significant impact on outcome assessment validity.

Having established the objectivity of the outcome measurement (e.g. lung cancer) instrument, it's important to establish how the measurement was conducted. Were those involved in collecting data trained or educated in the use of the instrument/s? (e.g. radiographers). If there was more than one data collector, were they similar in terms of level of education, clinical or research experience, or level of responsibility in the piece of research being appraised?

8. Was appropriate statistical analysis used?

As with any consideration of statistical analysis, consideration should be given to whether there was a more appropriate alternate statistical method that could have been used. The methods section should be detailed enough for reviewers to identify which analytical techniques were used (in particular, regression or stratification) and how specific confounders were measured.

For studies utilizing regression analysis, it is useful to identify if the study identified which variables were included and how they related to the outcome. If stratification was the analytical approach used, were the strata of analysis defined by the specified variables? Additionally, it is also important to assess the appropriateness of the analytical strategy in terms of the assumptions associated with the approach as differing methods of analysis are based on differing assumptions about the data and how it will respond.

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Checklist for Case control studies:

JBI CRITICAL APPRAISAL CHECKLIST FOR CASE CONTROL STUDIES

Reviewer_____Date_____

Author_____ Year_____ Record Number_____

	Yes	No	Unclear	Not applicable
1. Were the groups comparable other than the presence of disease in cases or the absence of disease in controls?	☐	☐	☐	☐
2. Were cases and controls matched appropriately?	☐	☐	☐	☐
3. Were the same criteria used for identification of cases and controls?	☐	☐	☐	☐
4. Was exposure measured in a standard, valid and reliable way?	☐	☐	☐	☐
5. Was exposure measured in the same way for cases and controls?	☐	☐	☐	☐
6. Were confounding factors identified?	☐	☐	☐	☐
7. Were strategies to deal with confounding factors stated?	☐	☐	☐	☐
8. Were outcomes assessed in a standard, valid and reliable way for cases and controls?	☐	☐	☐	☐
9. Was the exposure period of interest long enough to be meaningful?	☐	☐	☐	☐
10. Was appropriate statistical analysis used?	☐	☐	☐	☐

Overall appraisal: Include ☐ Exclude ☐ Seek further info ☐

Comments (Including reason for exclusion)

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EXPLANATION OF CASE CONTROL STUDIES CRITICAL APPRAISAL

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Case Control Studies Critical Appraisal Tool

Answers: Yes, No, Unclear or Not/Applicable

1. **Were the groups comparable other than presence of disease in cases or absence of disease in controls?**

   The control group should be representative of the source population that produced the cases. This is usually done by individual matching; wherein controls are selected for each case on the basis of similarity with respect to certain characteristics other than the exposure of interest. Frequency or group matching is an alternative method. Selection bias may result if the groups are not comparable.

2. **Were cases and controls matched appropriately?**

   As in item 1, the study should include clear definitions of the source population. Sources from which cases and controls were recruited should be carefully looked at. For example, cancer registries may be used to recruit participants in a study examining risk factors for lung cancer, which typify population-based case control studies. Study participants may be selected from the target population, the source population, or from a pool of eligible participants (such as in hospital-based case control studies).

3. **Were the same criteria used for identification of cases and controls?**

   It is useful to determine if patients were included in the study based on either a specified diagnosis or definition. This is more likely to decrease the risk of bias. Characteristics are another useful approach to matching groups, and studies that did not use specified diagnostic methods or definitions should provide evidence on matching by key characteristics. A case should be defined clearly. It is also important that controls must fulfil all the eligibility criteria defined for the cases except for those relating to diagnosis of the disease.

4. **Was exposure measured in a standard, valid and reliable way?**

   The study should clearly describe the method of measurement of exposure. Assessing validity requires that a 'gold standard' is available to which the measure can be compared. The validity of exposure measurement usually relates to whether a current measure is appropriate or whether a measure of past exposure is needed.

   Case control studies may investigate many different 'exposures' that may or may not be associated with the condition. In these cases, reviewers should use the main exposure of interest for their review to answer this question when using this tool at the study level.

   Reliability refers to the processes included in an epidemiological study to check repeatability of measurements of the exposures. These usually include intra-observer reliability and inter-observer reliability.

5. **Was exposure measured in the same way for cases and controls?**

   As in item 4, the study should clearly describe the method of measurement of exposure. The exposure measures should be clearly defined and described in detail. Assessment of exposure or

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risk factors should have been carried out according to same procedures or protocols for both cases and controls.

6. Were confounding factors identified?

Confounding has occurred where the estimated intervention exposure effect is biased by the presence of some difference between the comparison groups (apart from the exposure investigated/of interest). Typical confounders include baseline characteristics, prognostic factors, or concomitant exposures (e.g. smoking). A confounder is a difference between the comparison groups and it influences the direction of the study results. A high quality study at the level of case control design will identify the potential confounders and measure them (where possible). This is difficult for studies where behavioral, attitudinal or lifestyle factors may impact on the results.

7. Were strategies to deal with confounding factors stated?

Strategies to deal with effects of confounding factors may be dealt within the study design or in data analysis. By matching or stratifying sampling of participants, effects of confounding factors can be adjusted for. When dealing with adjustment in data analysis, assess the statistics used in the study. Most will be some form of multivariate regression analysis to account for the confounding factors measured. Look out for a description of statistical methods as regression methods such as logistic regression are usually employed to deal with confounding factors/ variables of interest.

8. Were outcomes assessed in a standard, valid and reliable way for cases and controls?

Read the methods section of the paper. If for e.g. lung cancer is assessed based on existing definitions or diagnostic criteria, then the answer to this question is likely to be yes. If lung cancer is assessed using observer reported, or self-reported scales, the risk of over- or under-reporting is increased, and objectivity is compromised. Importantly, determine if the measurement tools used were validated instruments as this has a significant impact on outcome assessment validity.

Having established the objectivity of the outcome measurement (e.g. lung cancer) instrument, it's important to establish how the measurement was conducted. Were those involved in collecting data trained or educated in the use of the instrument/s? (e.g. radiographers). If there was more than one data collector, were they similar in terms of level of education, clinical or research experience, or level of responsibility in the piece of research being appraised?

9. Was the exposure period of interest long enough to be meaningful?

It is particularly important in a case control study that the exposure time was sufficient enough to show an association between the exposure and the outcome. It may be that the exposure period may be too short or too long to influence the outcome.

10. Was appropriate statistical analysis used?

As with any consideration of statistical analysis, consideration should be given to whether there was a more appropriate alternate statistical method that could have been used. The methods section should be detailed enough for reviewers to identify which analytical techniques were used (in particular, regression or stratification) and how specific confounders were measured.

For studies utilizing regression analysis, it is useful to identify if the study identified which variables were included and how they related to the outcome. If stratification was the analytical approach used, were the strata of analysis defined by the specified variables? Additionally, it is also important to assess the appropriateness of the analytical strategy in terms of the assumptions associated with the approach as differing methods of analysis are based on differing assumptions about the data and how it will respond.

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Appendix G

FMH Ethical Approval

University of East Anglia
Norwich Research Park
Norwich. NR4 7TJ

Email: ethicsmonitor@uea.ac.uk
Web: www.uea.ac.uk

Study title: Identification and psychological treatment of Generalised Anxiety Disorder in children and young people (CYP): A survey of mental health clinicians in England.

Application ID: ETH2425-2058 (significant amendments)

Dear Ellena,

The amendment to your study was considered on 28th April 2025 by the FMH S-REC (Faculty of Medicine and Health Sciences Research Ethics Subcommittee).

The decision is: **approved**.

You are therefore able to start your project subject to any other necessary approvals being given.

This approval will expire on **30th September 2026**.

Please note that your project is granted ethics approval only for the length of time identified above. Any extension to a project must obtain ethics approval by the FMH S-REC (Faculty of Medicine and Health Sciences Research Ethics Subcommittee) before continuing.

It is a requirement of this ethics approval that you should report any adverse events which occur during your project to the FMH S-REC (Faculty of Medicine and Health Sciences Research Ethics Subcommittee) as soon as possible. An adverse event is one which was not anticipated in the research design, and which could potentially cause risk or harm to the participants or the researcher, or which reveals potential risks in the treatment under evaluation. For research involving animals, it may be the unintended death of an animal after trapping or carrying out a procedure.

Any amendments to your submitted project in terms of design, sample, data collection, focus etc. should be notified to the FMH S-REC (Faculty of Medicine and Health Sciences Research Ethics Subcommittee) in advance to ensure ethical compliance. If the amendments are substantial a new application may be required.

Approval by the FMH S-REC (Faculty of Medicine and Health Sciences Research Ethics Subcommittee) should not be taken as evidence that your study is compliant with the UK General Data Protection Regulation (UK GDPR) and the Data Protection Act 2018. If you need guidance on how to make your study UK GDPR compliant, please contact the UEA Data Protection Officer (dataprotection@uea.ac.uk).

Please can you send your report once your project is completed to the FMH S-REC (fmh.ethics@uea.ac.uk).

I would like to wish you every success with your project.

On behalf of the FMH S-REC (Faculty of Medicine and Health Sciences Research Ethics Subcommittee)

Yours sincerely,

Dr Paul Linsley

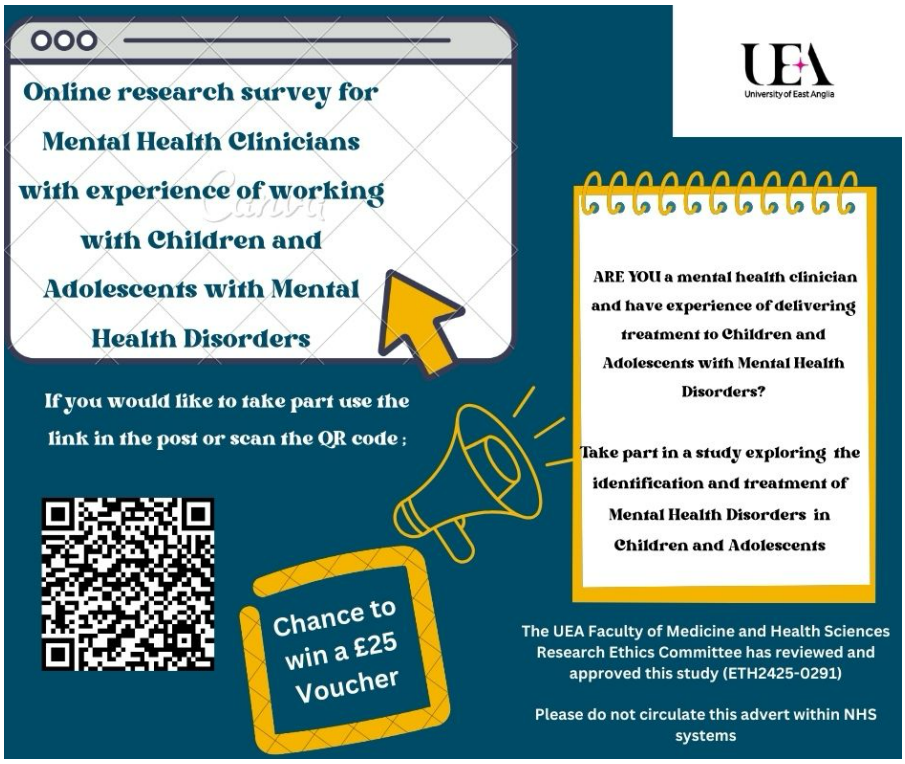
Appendix H

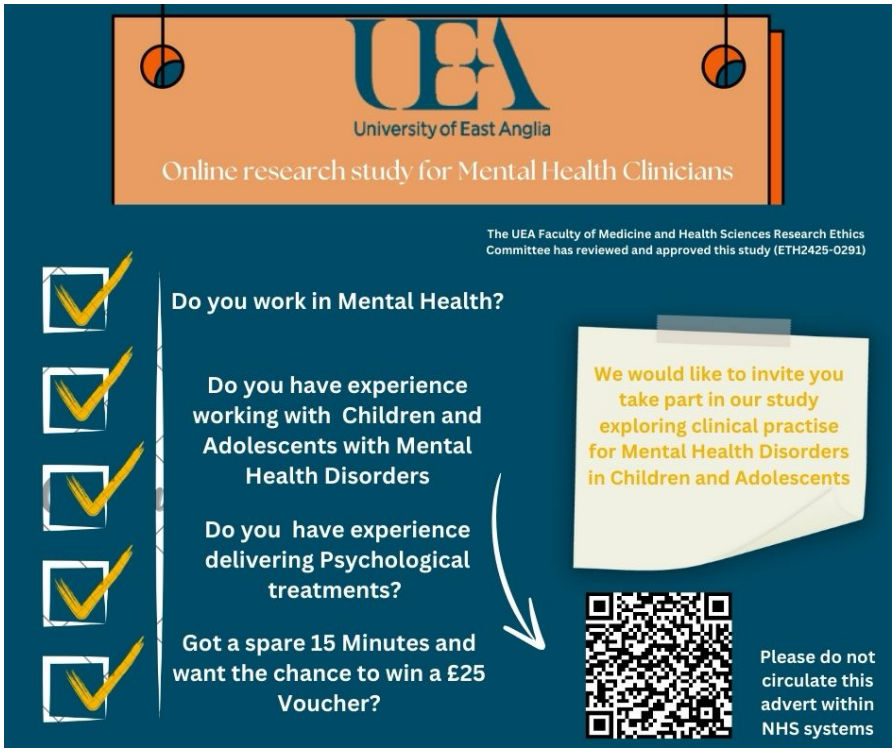
Recruitment materials: social media adverts

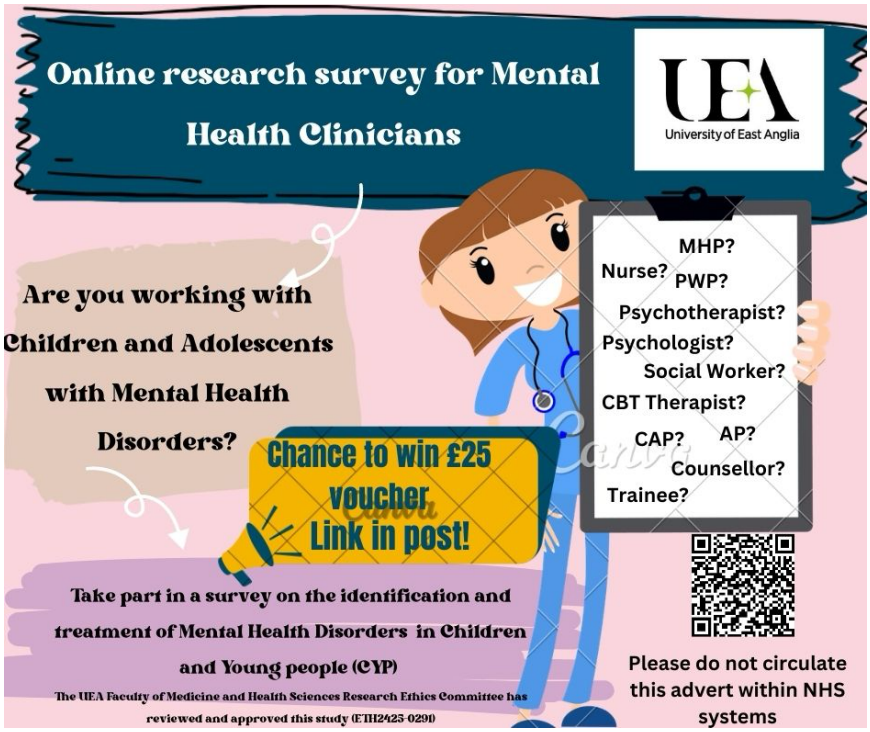
Figure A3

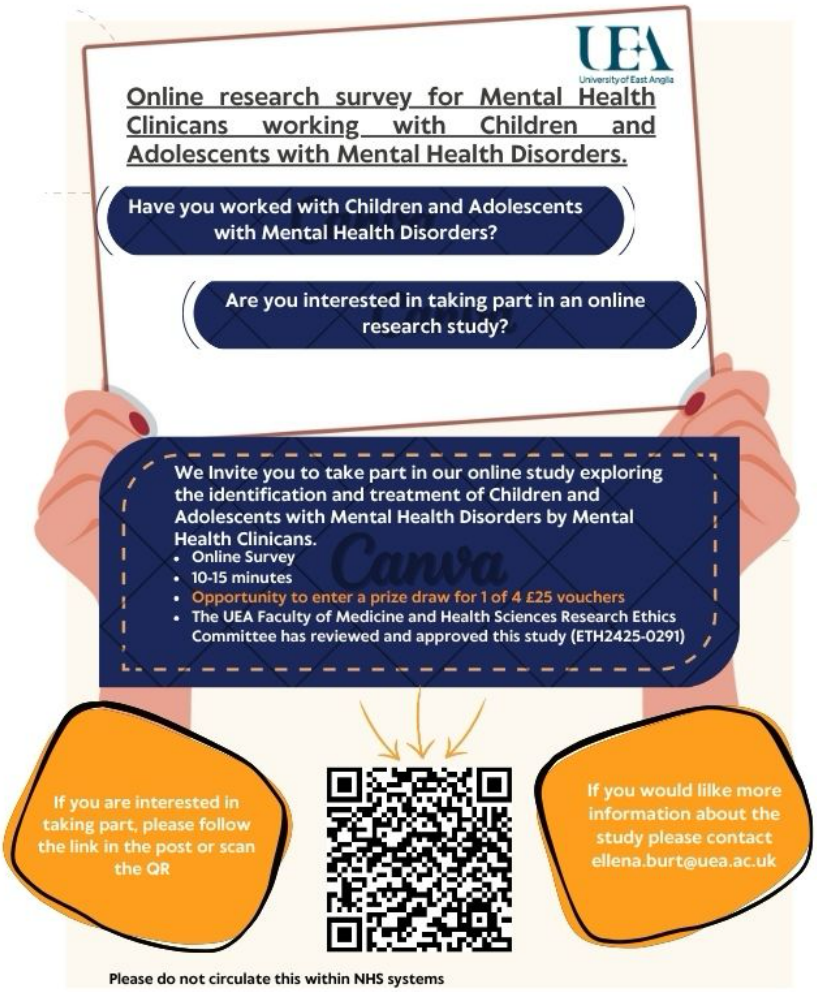
Social media adverts shared on Facebook, Instagram and X






UEA
University of East Anglia
Online research study for Mental Health Clinicians
The UEA Faculty of Medicine and Health Sciences Research Ethics Committee has reviewed and approved this study (ETH2425-0291)
Do you work in Mental Health?
Do you have experience working with Children and Adolescents with Mental Health Disorders
Do you have experience delivering Psychological treatments?
Got a spare 15 Minutes and want the chance to win a £25 Voucher?
We would like to invite you take part in our study exploring clinical practise for Mental Health Disorders in Children and Adolescents
Please do not circulate this advert within NHS systems


Online research survey for Mental Health Clinicians
UEA
University of East Anglia
Are you working with Children and Adolescents with Mental Health Disorders?
Chance to win £25 voucher
Link in post!
MHP?
Nurse?
PWP?
Psychotherapist?
Psychologist?
Social Worker?
CBT Therapist?
CAP?
AP?
Counsellor?
Trainee?
Take part in a survey on the identification and treatment of Mental Health Disorders in Children and Young people (CYP)
The UEA Faculty of Medicine and Health Sciences Research Ethics Committee has reviewed and approved this study (ETH2425-0291)
Please do not circulate this advert within NHS systems


UEA
University of East Anglia
Online research survey for Mental Health Clinicans working with Children and Adolescents with Mental Health Disorders.
Have you worked with Children and Adolescents with Mental Health Disorders?
Are you interested in taking part in an online research study?
We Invite you to take part in our online study exploring the identification and treatment of Children and Adolescents with Mental Health Disorders by Mental Health Clinicans.
Online Survey
10-15 minutes
Opportunity to enter a prize draw for 1 of 4 £25 vouchers
The UEA Faculty of Medicine and Health Sciences Research Ethics Committee has reviewed and approved this study (ETH2425-0291)
Canva
If you are interested in taking part, please follow the link in the post or scan the QR
If you would lilke more information about the study please contact ellena.burt@uea.ac.uk
Please do not circulate this within NHS systems

Appendix I

Online participant information sheet and consent form

Information sheet

Ellena Burt
Trainee Clinical Psychologist

Faculty of Medical and Health Sciences
Department of Clinical Psychology and Psychological Therapies

University of East Anglia
Norwich Research Park
Norwich NR4 7TJ
United Kingdom

Please take the time to read the following information carefully before you decide whether or not you wish to take part. It is important that you understand why the survey is being done and what it will involve.

Primary Researcher: Ellena Burt, Trainee Clinical Psychologist, University of East Anglia

Primary Supervisor: Dr. Hannah Crook, Clinical Psychologist and Clinical Associate Professor in Clinical Psychology, University of East Anglia.

Secondary Supervisor: Dr. Kenny Chiu, Clinical Psychologist and Clinical Lecturer in Clinical Psychology, University of East Anglia.

Study Title: Identification and psychological treatment of mental health disorders in children and young people (CYP): A survey of Mental Health Clinicians.

PARTICIPANT INFORMATION SHEET

(1) What is this study about?

You are invited to take part in an online research study exploring how Mental Health Clinicians in England identify and make psychological treatment decisions around mental health disorders in children and young people within their clinical practice. You have been invited to participate in this study because you are a mental health clinician in England, and you have direct experience of delivering psychological interventions to children and young people with mental health disorders. This Participant Information Sheet tells you about the research study. Knowing what is involved will help you decide if you want to take part in the study. Please read this sheet carefully and ask questions about anything that you don't understand or want to know more about. If you would like a copy of this information to keep, you can request this by contacting the primary researcher (Ellena Burt).

Please note, in the context of this survey, we define children and young people (CYP) as any service user below the age of 18 years old.

Participation in this research study is voluntary. By giving consent to take part in this study you are telling us that you:

- Understand what you have read.
- Agree to take part in the research study as outlined below.
- Agree to the use of your personal information as described.
- You have been advised on how you can request a copy of this Participant Information sheet to keep.

(2) Who is running the study?

The study is being carried out by the following researcher:

Ellena Burt, Trainee Clinical Psychologist, Department of Clinical Psychology and Psychological Therapies, Faculty of Medicine and Health Sciences, University of East Anglia.

This study will take place under the primary supervision of:

Dr. Hannah Crook, Clinical Psychologist and Clinical Associate Professor in Clinical Psychology, Department of Clinical Psychology and Psychological Therapies, Faculty of Medicine and Health Sciences, University of East Anglia.

Hannah.crook@uea.ac.uk

(3) What will the study involve for me?

This study will involve completing an online survey, via JISC in which you will provide some information about your professional background and clinical experiences. You will also be asked to read through a clinical vignette describing a clinical case and answer some questions related to this. This will include questions about what psychological interventions or models you might use to treat children and young people with mental health disorders in your clinical practice and some specific questions about existing guidance and polices in this area.

At the end of the study you will be presented with a debrief, explaining the purpose of the study in more depth. You will also be given the opportunity to enter a prize draw for 1 of 4 £25 Amazon voucher. If you choose to enter the prize draw you will be asked to provide an email address. We will contact you via this email address about the outcome of the prize draw. Your email address will be stored separately to ensure your survey responses remain unidentifiable.

Please note printed versions of the survey can be provided upon request by contacting the primary researcher.

(4) How much of my time will the study take?

It is expected that your participation in this study will take approximately 15-20 minutes to complete.

(5) Do I have to be in the study? Can I withdraw from the study once I have started?

If you decide to take part in the study and then change your mind, you are free to withdraw at any time before you have submitted the questionnaire. You can do this by exiting or closing the browser, at which point your responses will be disregarded. Once you have submitted it, your responses cannot be withdrawn because they are anonymous and therefore, we will not be able to tell which one is yours. If you decide to exit before finishing or submitting the questionnaire you can request a debrief form by contacting the primary researcher (Ellena Burt) at ellena.burt@uea.ac.uk.

(6) What are the consequences if I withdraw from the study?

Being in this study is completely voluntary and you do not have to take part. Your decision whether to participate will not affect your current or future relationship with the researchers or anyone else at the University of East Anglia now or in the future. You can withdraw at any time by closing the browser.

(7) Are there any risks or costs associated with being in the study?

Aside from giving up your time, we do not expect that there will be any risks or costs associated with taking part in this study. However, you will be provided with a full debrief at the end of the study in order to provide more context to the specific questions asked within the study.

(8) Are there any benefits associated with being in the study?

Upon completing the study, you will be given the opportunity to enter a prize draw to win 1 of 4 £25 amazon vouchers. The results from the prize draw will be announced once data collection has ceased and you will be contacted via email if you have been drawn.

(9) What will happen to information provided by me and data collected during the study?

By consenting to participate, you are agreeing to the anonymous research data to be collected and used for the purpose of this research study. Any information provided will only be used for the purposes outlined in this Participant Information Statement unless you consent otherwise. The information you provide is anonymous and as such you are unidentifiable. All data will be stored securely on the UEA One Drive file sharing system. This will ensure that only the primary researcher and supervisors have access to the data during the research and it will not be shared beyond the researchers involved. Findings from this study will be written up to be presented for dissemination or publication, they may also be used for other scholarly and educational purposes such as in teaching, but you will not be identified if you participate in this study. The study findings may also be deposited in a repository to facilitate its reuse. Any deposited data will not include your name or any identifiable information about you. All Data will be stored securely until analysis and publication are completed. After study completion the data will be transferred to the primary supervisor (Dr Hannah Crook) to store securely online within the Norwich Medical School facilities for the purposes of auditing. The anonymous data will be deposited with UEA archives and held indefinitely.

If you wish to be entered for the optional prize draw to win one of four £25 Amazon vouchers, you will be asked to provide your email address. This information will be collected on a different survey platform (Microsoft forms) and will not be linked or be able to be linked to your responses on the research questionnaires. This data will be managed in line with the Data Protection Act 2018 (DPA 2018) and UK General Data Protection Regulation (UK GDPR), and the University of East Anglia's Research Data Management Policy. Your email address will only be made available to the primary researcher (Ellena Burt) and will be stored securely on the researcher's personal UEA One Drive system, separately from all other study data. The four winners will be selected at random by assigning each entrant a number and then using a random number generator to select the four winning entrants. After study completion the data will be transferred to the primary supervisor (Dr Hannah Crook) to store securely online within the Norwich Medical School facilities. The data will be deposited with UEA archives in line with the Research Data Management Policy which states that research data is held by the University for a minimum 10-year period. After this period, the data will be reviewed and either retained or destroyed by UEA.

(10) What if I would like further information about the study?

When you have read this information, Ellena will be available to discuss it with you further and answer any questions you may have about the study. If you have any questions at any stage during or after the submitting the survey, please feel free to contact Ellena at Ellena.Burt@uea.ac.uk.

(11) Will I be told the results of the study?

Consent form

Online Consent form:

University of East Anglia

By acknowledging that I have read this consent form and clicking to proceed with the online survey, I agree to take part in this research study. In giving my consent I state that:

✓ I understand the purpose of the study, what I will be asked to do, and any risks/benefits involved.
✓ I have read the Participant Information Statement and understand how I can discuss my involvement in the study with the researcher if I wish to do so.
✓ I understand that being in this study is completely voluntary and I do not have to take part. My decision to take part in this study will not impact my relationship with the University of East Anglia.
✓ I understand that my data is to be anonymised and held confidentially. Only the researcher, her and supervisors will have access to them.
✓ I understand that I can withdraw from the study at any point during the survey anytime, but partial data may still be used for Surveys left unfinished. Once I have confirmed the submission of my responses and completed the survey, I understand that I will not be able to withdraw my data from the study.
✓ I understand that the information collected will be stored securely and will only be used for the purpose of this research study.
✓ I understand that the results of this study may be published, but these publications will not contain any identifiable information about me.

Please confirm that you have read and understand the above information by ticking the box below. By ticking this box you are giving your consent to proceed with the survey. If you do not wish to proceed, please exit the survey now:

☐ I give my consent to proceed
☐ I do not wish to give my consent

Appendix J

Novel Questionnaire

Please indicate your gender: *

- ◯ Male
- ◯ Female
- ◯ Non Binary/ Third gender
- ◯ Prefer not to say

Please indicate your ethnic group *

- ◯ Asian, Asian British, Asian English, Asian Scottish or Asian Welsh
- ◯ Bangladeshi
- ◯ Indian
- ◯ Pakistani
- ◯ Any other Asian Background
- ◯ Black British, Black English, Black Scottish or Black Welsh
- ◯ Black African
- ◯ Black Caribbean
- ◯ Any other black background
- ◯ Mixed White & Asian
- ◯ Mixed White & Black African
- ◯ Mixed White & Black Caribbean
- ◯ Any other Mixed Background
- ◯ White British - English
- ◯ White British- Scottish
- ◯ White British - Welsh
- ◯ Any other White British Background
- ◯ Irish
- ◯ Any other White Background
- ◯ Chinese
- ◯ Middle Easter/North African
- ◯ Any Other Background
- ◯ Prefer not to say

Any other Asian Background, please specify *

0/32,000 characters

Any other black background please specify: *

0/32,000 characters

Any other Mixed Background please specify:
*

0/32,000 characters

Any other White British Background please specify:

*

0/32,000 characters

Any other White Background please specify:

*

0/32,000 characters

Any other Background please specify:

*

Please indicate your profession.
If you are still training please select "trainee" *

- ◯ Psychiatrist
- ◯ Clinical Psychologist
- ◯ Cognitive Behavioural Therapist
- ◯ Mental Health Nurse
- ◯ Nursing Associate
- ◯ Social Worker
- ◯ Assistant Psychologist
- ◯ Psychotherapist
- ◯ Trainee
- ◯ Educational Mental Health Practitioner
- ◯ Psychological Well-being Practitioner (PWP)
- ◯ Clinical Associate in Psychology
- ◯ Mental Health Support Worker
- ◯ Other

If you selected "Trainee" please tell us what type of training you are undertaking: *

0/32,000 characters

If you selected "Other" please provide more detail below: *

0/32,000 characters

Please indicated how many years you have been in your current role? *

How many years of experience do you have with delivering interventions to children and young people with mental health difficulties?
Please enter this as a single number, rounded to the nearest year: *

0/32,000 characters

Have you received any additional training or accreditations in delivering psychological therapies beyond your core training? *

- ◯ Yes
- ◯ No

If you answered "Yes" please provide more detail about what training or accreditations you have received: *

0/32,000 characters

What type of service do you currently work in? *

- ◯ NHS Primary Care Service
- ◯ NHS Secondary or Community Care Service
- ◯ NHS Inpatient Service
- ◯ School/Education setting
- ◯ The Private Sector
- ◯ The Charity/Voluntary Sector
- ◯ Other

If you selected "Other" please provide more information about the type of service you work in: *

What region of England is your current service based? *

- ◯ South West
- ◯ South East
- ◯ East of England
- ◯ London
- ◯ North East
- ◯ North West
- ◯ East Midlands
- ◯ West Midlands
- ◯ Yorkshire
- ◯ Other

If you selected "Other" please specify below: *

0/32,000 characters

How many hours do you spend clinically working with CYP with mental health difficulties on average per week? Please enter this as a number e.g. 13.5 *

0/32,000 characters

Please read the vignette below and consider what you believe the ***primary diagnosis*** would be in this case.

Please note we have not provided pronouns for Sam for research purposes only:

Sam is 15 years old and is currently in year 10 of secondary school, preparing for their mock exams. They live at home with their mum and dad. They also have an older sister who has recently moved away for university. Sam describes a good relationship with their parents but said they sometime struggle when they feel their mum is overbearing and can become easily stressed over small things. Sam is physically healthy and has no developmental or cognitive difficulties. Their attendance at school has always been good, and they have always worked hard to achieve good grades. Sam hopes to attend university in the future. Sam sometimes struggles with their friendships as they don't always feel like they fit in, but they do have a best friend who they describe as very supportive.

Over the last 8 months, Sam has been feeling more anxious than usual and describes experiencing worry on most days. They said the worry is present for more of the day than not and leaves them feeling constantly tense or uneasy. Sam said once the worries have started, they feel difficult to stop and can often pop into their head at night when they are trying to go to sleep. This has led to them feeling tired on most days and having issues concentrating at school.
Sam said that their worries can be about anything, but recently they have been centred around their mock exams, which are coming up soon. Sam said they have noticed themselves worrying about not being prepared enough, which they think means they will likely fail and disappoint their parents. They said this will also mean they won't be allowed to take the higher-level exams for their GCSEs next year, which will impact their ability to study in the future. Sam also described worrying about other things like being at home alone, their parents' safety, or going to social events such as parties.
Sam said when they experience worries, they often have stomach aches and find themselves feeling tense. They said this is worse on days when they have to face things they find particularly stressful, such as when they have tests at school or when they must go somewhere they've never been before. Sam said they usually cope with this by making excuses to cancel plans or staying up all night to prepare. Sam said that although this sometimes helps them feel more in control of the worries, it often leads to them feeling more exhausted or isolated. They said they have stopped going to swim club, which they used to really enjoy, because they no longer feel like they have the time or energy. Sam said they have noticed themselves feeling more easily annoyed and less connected to their friends as a result.
A couple of days ago, Sam's anxiety became so bad they had to leave during a class test at school. They said during the test they started to feel overwhelmed and could not concentrate on the questions. This led to them becoming tearful and needing to leave the class. Sam said they have not stopped thinking about this since and have been worrying about falling behind. They said they have been trying to study even harder, so they are more prepared for their retake, but this has made it harder for them to keep up with their other work.
Sam's parents describe how Sam has always been a "worrier" and said this made it difficult for Sam to adjust when they first started school. They said Sam would often spend lots of time in the evening double-checking they had everything they needed for the next day and would often ask for reassurance from them. They said more recently, Sam has seemed snappy and distracted when at

home. They are worried that Sam's school grades are starting to suffer too. Sam has said they would like to work on reducing their worry as they feel it is taking over their life.

Based on the information provided in the vignette, please rate how far you agree with each of the following diagnoses for Sam. Please use the scale below to select a percentage from 0% to 100%, where 0% indicates "completely disagree" and 100% indicates "completely agree"
Please note: 1) We recognise that the information provided may be less comprehensive than what is typically needed for a thorough clinical case evaluation. 2) We recognise that some patients experience multiple mental health difficulties at the same time. ***Please only answer in reference to how strongly you agree with each option as a primary diagnosis in this case.*** *

Social Anxiety Disorder/Social Phobia

- ◯ 0
- ◯ 10
- ◯ 20
- ◯ 30
- ◯ 40
- ◯ 50
- ◯ 60
- ◯ 70
- ◯ 80
- ◯ 90
- ◯ 100

Post-Traumatic Stress Disorder

- ◯ 0
- ◯ 10
- ◯ 20
- ◯ 30
- ◯ 40
- ◯ 50
- ◯ 60
- ◯ 70
- ◯ 80
- ◯ 90
- ◯ 100

Specific Phobia

- ◯ 0
- ◯ 10
- ◯ 20
- ◯ 30
- ◯ 40
- ◯ 50
- ◯ 60
- ◯ 70
- ◯ 80
- ◯ 90
- ◯ 100

Specific Phobia

- ◯ 0
- ◯ 10
- ◯ 20
- ◯ 30
- ◯ 40
- ◯ 50
- ◯ 60
- ◯ 70
- ◯ 80
- ◯ 90
- ◯ 100

Major Depressive Disorder

- ◯ 0
- ◯ 10
- ◯ 20
- ◯ 30
- ◯ 40
- ◯ 50
- ◯ 60
- ◯ 70
- ◯ 80
- ◯ 90
- ◯ 100

Panic Disorder

- ◯ 0
- ◯ 10
- ◯ 20
- ◯ 30
- ◯ 40
- ◯ 50
- ◯ 60
- ◯ 70
- ◯ 80
- ◯ 90
- ◯ 100

Agoraphobia

- ◯ 0
- ◯ 10
- ◯ 20
- ◯ 30
- ◯ 40
- ◯ 50
- ◯ 60
- ◯ 70
- ◯ 80
- ◯ 90
- ◯ 100

Generalised Anxiety Disorder

- ◯ 0
- ◯ 10
- ◯ 20
- ◯ 30
- ◯ 40
- ◯ 50
- ◯ 60
- ◯ 70
- ◯ 80
- ◯ 90
- ◯ 100

Obsessive Compulsive Disorder

- ◯ 0
- ◯ 10
- ◯ 20
- ◯ 30
- ◯ 40
- ◯ 50
- ◯ 60
- ◯ 70
- ◯ 80
- ◯ 90
- ◯ 100

Seperation Anxiety Disorder

- ◯ 0
- ◯ 10
- ◯ 20
- ◯ 30
- ◯ 40
- ◯ 50
- ◯ 60
- ◯ 70
- ◯ 80
- ◯ 90
- ◯ 100

Selective Mutism

- ◯ 0
- ◯ 10
- ◯ 20
- ◯ 30
- ◯ 40
- ◯ 50
- ◯ 60
- ◯ 70
- ◯ 80
- ◯ 90
- ◯ 100

Unspecified or Other Anxiety Disorder

- ◯ 0
- ◯ 10
- ◯ 20
- ◯ 30
- ◯ 40
- ◯ 50
- ◯ 60
- ◯ 70
- ◯ 80
- ◯ 90
- ◯ 100

Anxiety secondary to a medical condition

- ◯ 0
- ◯ 10
- ◯ 20
- ◯ 30
- ◯ 40
- ◯ 50
- ◯ 60
- ◯ 70
- ◯ 80
- ◯ 90
- ◯ 100

Eating Disorder

- ◯ 0
- ◯ 10
- ◯ 20
- ◯ 30
- ◯ 40
- ◯ 50
- ◯ 60
- ◯ 70
- ◯ 80
- ◯ 90
- ◯ 100

Adjustment Disorder

- ◯ 0
- ◯ 10
- ◯ 20
- ◯ 30
- ◯ 40
- ◯ 50
- ◯ 60
- ◯ 70
- ◯ 80
- ◯ 90
- ◯ 100

Bi-polar Disorder

- ◯ 0
- ◯ 10
- ◯ 20
- ◯ 30
- ◯ 40
- ◯ 50
- ◯ 60
- ◯ 70
- ◯ 80
- ◯ 90
- ◯ 100


Other
0
10
20
30
40
50
60
70
80
90
100
If you selected "Other" please specify:
0/32,000 characters

Following assessment and MDT discussion it was agreed that Sam was likely presenting with symptoms consistent with a primary diagnosis of Generalised anxiety disorder (GAD). At a follow up appointment, Sam said that they felt this diagnosis described their difficulties well and they felt this is what they would like to receive treatment for. Please answer the following questions with the assumption that the person in the vignette was presenting with Generalised Anxiety Disorder.

Which psychological intervention do you believe Sam should be offered? Please use the grid below to select how far you agree with the suitability each of the treatment options below. Where 0% indicates "completely unsuitable" and 100% indicates "completely suitable" *

Cognitive Behavioural Therapy

- ◯ 0
- ◯ 10
- ◯ 20
- ◯ 30
- ◯ 40
- ◯ 50
- ◯ 60
- ◯ 70
- ◯ 80
- ◯ 90
- ◯ 100
- ◯ Not aware of this treatment programme

Family therapy

- ◯ 0
- ◯ 10
- ◯ 20
- ◯ 30
- ◯ 40
- ◯ 50
- ◯ 60
- ◯ 70
- ◯ 80
- ◯ 90
- ◯ 100
- ◯ Not aware of this treatment programme

Psychodynamic Therapy

- ◯ 0
- ◯ 10
- ◯ 20
- ◯ 30
- ◯ 40
- ◯ 50
- ◯ 60
- ◯ 70
- ◯ 80
- ◯ 90
- ◯ 100
- ◯ Not aware of this treatment programme

Art Therapy

- ◯ 0
- ◯ 10
- ◯ 20
- ◯ 30
- ◯ 40
- ◯ 50
- ◯ 60
- ◯ 70
- ◯ 80
- ◯ 90
- ◯ 100
- ◯ Not aware of this treatment programme

Behavioural Activation (without cognitive components)

- ◯ 0
- ◯ 10
- ◯ 20
- ◯ 30
- ◯ 40
- ◯ 50
- ◯ 60
- ◯ 70
- ◯ 80
- ◯ 90
- ◯ 100
- ◯ Not aware of this treatment programme

Play Therapy

- ◯ 0
- ◯ 10
- ◯ 20
- ◯ 30
- ◯ 40
- ◯ 50
- ◯ 60
- ◯ 70
- ◯ 80
- ◯ 90
- ◯ 100
- ◯ Not aware of this treatment programme

Psycho-education Only

- ◯ 0
- ◯ 10
- ◯ 20
- ◯ 30
- ◯ 40
- ◯ 50
- ◯ 60
- ◯ 70
- ◯ 80
- ◯ 90
- ◯ 100
- ◯ Not aware of this treatment programme

Applied Relaxation

- ◯ 0
- ◯ 10
- ◯ 20
- ◯ 30
- ◯ 40
- ◯ 50
- ◯ 60
- ◯ 70
- ◯ 80
- ◯ 90
- ◯ 100
- ◯ Not aware of this treatment programme

Non-directive Supportive Therapy

- ◯ 0
- ◯ 10
- ◯ 20
- ◯ 30
- ◯ 40
- ◯ 50
- ◯ 60
- ◯ 70
- ◯ 80
- ◯ 90
- ◯ 100
- ◯ Not aware of this treatment programme

EMDR

- ◯ 0
- ◯ 10
- ◯ 20
- ◯ 30
- ◯ 40
- ◯ 50
- ◯ 60
- ◯ 70
- ◯ 80
- ◯ 90
- ◯ 100
- ◯ Not aware of this treatment programme

Interpersonal Psychotherapy

- ◯ 0
- ◯ 10
- ◯ 20
- ◯ 30
- ◯ 40
- ◯ 50
- ◯ 60
- ◯ 70
- ◯ 80
- ◯ 90
- ◯ 100
- ◯ Not aware of this treatment programme

Parent and Child Interaction Therapy

- ◯ 0
- ◯ 10
- ◯ 20
- ◯ 30
- ◯ 40
- ◯ 50
- ◯ 60
- ◯ 70
- ◯ 80
- ◯ 90
- ◯ 100
- ◯ Not aware of this treatment programme

Acceptance and Commitment Therapy

- ◯ 0
- ◯ 10
- ◯ 20
- ◯ 30
- ◯ 40
- ◯ 50
- ◯ 60
- ◯ 70
- ◯ 80
- ◯ 90
- ◯ 100
- ◯ Not aware of this treatment programme

Other

- ◯ 0
- ◯ 10
- ◯ 20
- ◯ 30
- ◯ 40
- ◯ 50
- ◯ 60
- ◯ 70
- ◯ 80
- ◯ 90
- ◯ 100
- ◯ Not aware of this treatment programme

If you selected "Other" please specify below:

0/32,000 characters

On what basis would your service usually offer your preferred therapy? *

- ◯ Individual
- ◯ Group
- ◯ N/A- they do not offer it

Without service constraint, on what basis would you prefer to offer this therapy? *

- ◯ Individual
- ◯ Group

After discussing treatment options with Sam, it was agreed that Sam would be offered Cognitive Behavioural Therapy.

Please indicate which approach to CBT you would recommend to treat Sam for Generalised Anxiety Disorder. *

- ◯ Transdiagnostic
- ◯ Disorder (GAD) specific

Please use the list below to select which transdiagnostic approach you feel would be most suitable for treating Sam: *

- ◯ Kendalls Coping Cat programme
- ◯ Creswells Parent-Led CBT
- ◯ Leibowitz's SPACE programme
- ◯ Beckian Longitudnal Cogntive Behavioural Model
- ◯ Other

If you said "Other" please specify *

0/32,000 characters

Please use the list below to select which disorder specific approach you feel would be most suitable for treating Sam: *

- ◯ Meta-cognitive model (Wells &Carter., 2016)
- ◯ Avoidance Model of Worry (Borkovec et al., 2004)
- ◯ Intolerance of Uncertainty Model (Dugas & Robichaud., 2019)
- ◯ Emotional Dysregulation Model (Mennin et al., 2002)Option 4
- ◯ Acceptance-based model (Roemer & Orsillo., 2002)
- ◯ Three Phase Model (Wilson., 2021)
- ◯ Cognitive Behavioural Model for Low Self Esteem (Fennell., 1997)
- ◯ Mastery of Anxiety and Worry Program (Zinbarg, Craske & Barlow)
- ◯ Contrast Model of Worry (Newman et al., 2013)
- ◯ The Cognitive Model of Worry (Hirsch & Mathews, 2012)

- ◯ Other

If you said "Other" please specify: *

0/32,000 characters

Please indicate how likely you would be to include each of the below components in your treatment approach, where 0% is "not likely at all" and 100% "very likely". *

Psycho-education about Anxiety

- ◯ 0%
- ◯ 10%
- ◯ 20%
- ◯ 30%
- ◯ 40%
- ◯ 50%
- ◯ 60%
- ◯ 70%
- ◯ 80%
- ◯ 90%
- ◯ 100%

Worry log/diary

- ◯ 0%
- ◯ 10%
- ◯ 20%
- ◯ 30%
- ◯ 40%
- ◯ 50%
- ◯ 60%
- ◯ 70%
- ◯ 80%
- ◯ 90%
- ◯ 100%

Avoidance Hierarchy

- ◯ 0%
- ◯ 10%
- ◯ 20%
- ◯ 30%
- ◯ 40%
- ◯ 50%
- ◯ 60%
- ◯ 70%
- ◯ 80%
- ◯ 90%
- ◯ 100%

Behavioural Experiments

- ◯ 0%
- ◯ 10%
- ◯ 20%
- ◯ 30%
- ◯ 40%
- ◯ 50%
- ◯ 60%
- ◯ 70%
- ◯ 80%
- ◯ 90%
- ◯ 100%

Relaxation Training

- ◯ 0%
- ◯ 10%
- ◯ 20%
- ◯ 30%
- ◯ 40%
- ◯ 50%
- ◯ 60%
- ◯ 70%
- ◯ 80%
- ◯ 90%
- ◯ 100%

Problem Solving Skills

- ◯ 0%
- ◯ 10%
- ◯ 20%
- ◯ 30%
- ◯ 40%
- ◯ 50%
- ◯ 60%
- ◯ 70%
- ◯ 80%



- ◯ 90%
- ◯ 100%

Postponing Worry/ Worry Time

- ◯ 0%
- ◯ 10%
- ◯ 20%
- ◯ 30%
- ◯ 40%
- ◯ 50%
- ◯ 60%
- ◯ 70%
- ◯ 80%
- ◯ 90%
- ◯ 100%

Cognitive restructuring

- ◯ 0%
- ◯ 10%
- ◯ 20%
- ◯ 30%
- ◯ 40%
- ◯ 50%
- ◯ 60%
- ◯ 70%
- ◯ 80%
- ◯ 90%
- ◯ 100%

Identification and Modification of Safety Behaviours

- ◯ 0%
- ◯ 10%
- ◯ 20%
- ◯ 30%
- ◯ 40%
- ◯ 50%
- ◯ 60%
- ◯ 70%
- ◯ 80%
- ◯ 90%
- ◯ 100%

Challenging beliefs about worry

- ◯ 0%
- ◯ 10%
- ◯ 20%
- ◯ 30%
- ◯ 40%
- ◯ 50%
- ◯ 60%
- ◯ 70%
- ◯ 80%
- ◯ 90%
- ◯ 100%

Imaginal exposure

- ◯ 0%
- ◯ 10%
- ◯ 20%
- ◯ 30%
- ◯ 40%
- ◯ 50%
- ◯ 60%
- ◯ 70%
- ◯ 80%
- ◯ 90%
- ◯ 100%

Breathing Techniques

- ◯ 0%
- ◯ 10%
- ◯ 20%
- ◯ 30%
- ◯ 40%
- ◯ 50%
- ◯ 60%
- ◯ 70%
- ◯ 80%
- ◯ 90%
- ◯ 100%

Relapse Prevention

- ◯ 0%
- ◯ 10%
- ◯ 20%
- ◯ 30%
- ◯ 40%
- ◯ 50%
- ◯ 60%
- ◯ 70%
- ◯ 80%
- ◯ 90%
- ◯ 100%

Thought suppression experiments

- ◯ 0%
- ◯ 10%
- ◯ 20%
- ◯ 30%
- ◯ 40%
- ◯ 50%
- ◯ 60%
- ◯ 70%
- ◯ 80%
- ◯ 90%
- ◯ 100%

Breathing Techniques

- ◯ 0%
- ◯ 10%
- ◯ 20%
- ◯ 30%
- ◯ 40%
- ◯ 50%
- ◯ 60%
- ◯ 70%
- ◯ 80%
- ◯ 90%
- ◯ 100%

Relapse Prevention

- ◯ 0%
- ◯ 10%
- ◯ 20%
- ◯ 30%
- ◯ 40%
- ◯ 50%
- ◯ 60%
- ◯ 70%
- ◯ 80%
- ◯ 90%
- ◯ 100%

Thought suppression experiments

- ◯ 0%
- ◯ 10%
- ◯ 20%
- ◯ 30%
- ◯ 40%
- ◯ 50%
- ◯ 60%
- ◯ 70%
- ◯ 80%
- ◯ 90%
- ◯ 100%

In your professional experience have you assessed any Children or Young people for GAD *

- ◯ Yes
- ◯ No
- ◯ Unsure

In your professional experience have you completed any psychological interventions with Children or Young people for GAD *

- ◯ Yes
- ◯ No
- ◯ Unsure

Please use the grid below to indicate how confident you feel about identifying and treating CYP with GAD *

Identifying

- ◯ Not at all Confident
- ◯ Slightly unconfident
- ◯ Somewhat confident
- ◯ Confident
- ◯ Very Confident

Treating

- ◯ Not at all Confident
- ◯ Slightly unconfident
- ◯ Somewhat confident
- ◯ Confident
- ◯ Very Confident

Have you received any specific training on assessing and treating GAD in CYP? *

- ◯ Yes
- ◯ No

How many hours of training did you receive? *

- ◯ 1 hour or less
- ◯ Upto 3 hours
- ◯ Half day
- ◯ Full day
- ◯ Multiple days

Do you feel like you would benefit from training specifically for assessing GAD in children and young people? *

- ◯ Yes
- ◯ No

Do you feel like you would benefit from training specifically for treating GAD in children and young people? *

- ◯ Yes
- ◯ No

Appendix K

Participant Debrief form

Thank you very much for taking the time to complete our study: The Identification and psychological treatment of anxiety disorders in children and young people (CYP): A survey of mental health clinicians.

This study is interested in exploring how mental health clinicians identify and treat Generalised Anxiety Disorder (GAD) in Children and Young People (CYP) within mental health services in England and how their decision making may vary based on professional factors such as job role, experience, confidence, and training. We chose to omit our focus on GAD specifically when advertising this study to ensure we capture the genuine responses of Clinicians to our questionnaire.

We are interested in this because anxiety disorders including GAD can often be difficult to distinguish from one another or from other disorders such as depression, especially in CYP. This can lead to GAD being undetected by services and in some cases left untreated. We believe this is likely compounded by the limited amount of research that exists on appropriate evidence-based treatments for GAD in CYP and the absence of any National Institute for Health and Care Excellence (NICE) guidelines which would usually be used by clinicians to support treatment decisions.In line with this, and based on previous studies of the same nature, we expect that, whilst many professionals are adept at recognising and delivering psychological interventions to CYP, there may be varying levels of confidence and consistency in the assessment and treatment strategies employed for GAD specifically. This is a common and understandable challenge given the complexity of anxiety disorders in CYP and the limited existing guidance.The early and accurate identification of GAD in CYP is crucial for providing timely and effective treatment, which can significantly improve their quality of life.

From this research, we aim to gain a better understanding of how clinicians identify and treat GAD within CYP and to pinpoint any challenges within this process. Further to this, we hope these insights can be used to develop resources used to support mental health professionals in their work with GAD and ensure CYP continue to access evidence-based treatments. We hope that you enjoyed your participation, however if you have any questions or concerns, please feel free to contact the primary researcher. You can also request a lay summary of the findings or a copy of the information sheet and debrief using the address below. Please note the lay summary will be a 1-page A4 document summarising our findings.

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Faculty of Medicine and Health Sciences
University of East Anglia
NORWICH NR4 7TJ
Ellena.burt@uea.ac.uk

The UEA Faculty of Medicine and Health Sciences Research Ethics Committee has reviewed and approved this study (ETH2425-0291)

If you are concerned about the way this study is being conducted or you wish to make a complaint to someone independent from the study, please contact the Programme Director, Professor Sian Coker. She can be contacted at Sian.coker@uea.ac.uk.

If you would like to enter the prize draw please continue to the next page using the navigational tools at the top of the page.

Appendix L

Assumption checks for regression analyses

Assumptions for both regression models (predicting GAD and CBT alignment) were assessed prior to analysis in accordance with established statistical guidelines (Stoltzfus, 2011).Inspection of scatterplots of standardised residuals indicated no evidence of non-linearity or heteroscedasticity, with residuals appearing randomly distributed in both models. Visual examination of histograms and normal probability (P–P) plots further suggested approximate normality of residuals. Durbin–Watson statistics indicated no violation of the assumption of independence of errors (GAD model = 2.009; CBT model = 2.012). Inspection of correlations among predictors indicated no problematic intercorrelation and VIF values were below 2 for both models (GAD: 1.041–1.598; CBT: 1.207–1.960), suggesting that multicollinearity was within the acceptable limit. Additionally, Cook's distance values were below conventional thresholds (< 1.0) in both models (GAD = .186; CBT = .203).

Appendix M

Full summary of treatment preferences

Table A2

Full summary of CBT treatment preferences

CBT Treatment Approach	% (n)	Median % (IQR)
Delivery model		-
Transdiagnostic	27 (20%)	-
Disorder specific	110 (80%)	-
Disorder specific treatment models		-
Intolerance of Uncertainty Model (Dugas et al., 1998)	41 (37%)	-
Avoidance Model of Worry (Borkovec, Alcaine & Behar, 2004)	12 (11%)	-
Emotional Dysregulation Model (Mennin et al., 2005)	0 (0%)	-
Acceptance-Based Model (Roemer & Orsillo, 2002)	3 (3%)	-
Three-Phase Model (Chigwedere & Moran, 2022)	0 (0%)	-
Mastery of Anxiety and Worry Program (Craske & Barlow, 2006)	22 (20%)	-
Contrast Model of Worry (Llera & Newman, 2014)	1 (1%)	-
Meta-cognitive Model (Wells & Carter, 2016)	9 (8%)	-
Cognitive Behavioural Model for Low Self-esteem (Fennell, 1997)	3 (3%)	-
The Cognitive Model of Worry (Hirsch & Mathews, 2012)	12 (11%)	-
Other disorder specific [a]	7 (6%)	-
Transdiagnostic treatment models		
Coping Cat Programme (Kendall et al., 2006; Podell et al., 2010)	2 (7.41%)	-
Cresswells Parent-Led CBT (Creswell et al., 2019)	2 (7.41%)	-
Beckian Longitudinal Cognitive Behavioural Model (Beck, 1979)	16 (59.26%)	-
Lebowitz SPACE programme	0 (0%)	-
Other transdiagnostic [b]	7 (25.93%)	-

Service offer		
Individual	124 (91%)	-
Group	12 (9%)	-
Not offered	1 (1%)	-
Personal preference		
Individual	129 (94%)	-
Group	8 (6%)	-
Treatment components		
Psychoeducation		100 (100 – 100)
Avoidance hierarchy		70 (40 – 100)
Worry diary		100 (70 – 100)
Behavioural experiments		80 (50 – 100)
Cognitive restructuring		80 (50 – 100)
Relaxation training		80 (55 – 100)
Problem solving skills		80 (50 – 100)
Worry time (Postponing worry)		70 (50 – 100)
Identifying and modifying safety behaviours		80 (50 – 100)
Imaginal exposure		50 (20 – 70)
Challenging beliefs about worry		100 (70 – 100)
Breathing techniques		80 (50 – 100)
Thought suppression experiments		30 (0 – 70)
Relapse Prevention		100 (60 – 100)