Thesis submitted in partial fulfilment of the degree of Doctor of Clinical Psychology (DClinPsych)

Francis Madden

francis.madden@psy.ox.ac.uk

Worcester College

University of Oxford

March 2026

Word Count

Systematic Review of the Literature: 6781

Service Improvement Project: 5466

Theoretically Driven Research Project: 5500

Executive Summary: 591

Connecting Narrative: 836

Total: 19174

Contents

Abstracts

Systematic Review of the Literature (SRL)

Title: A systematic review and meta-analysis of the relationship between parental and child dental anxiety

Background: Child dental anxiety is a prevalent issue with significant implications for oral healthcare. Intergenerational transmission of anxiety from parent to child is a potential contributing factor. Understanding the relationship between parental and child dental anxiety is crucial for developing effective prevention and intervention strategies.

Objective: This systematic review and meta-analysis examined the relationship between parental and child dental anxiety and assessed the quality of the evidence.

Methods: Searches were conducted in PsycINFO, CINAHL, EMBASE, Ovid Emcare, PubMed, Scopus, and Web of Science (up to April 2025), supplemented by forwards and backwards citation searching. Study selection, data extraction, and risk of bias assessment were dual screened. Inclusion criteria specified quantitative studies investigating an association between parental and child dental anxiety using standardised measures in child/adolescent participants (up to age 18) and their parents or guardians. Patterns across studies were summarised using narrative synthesis alongside random-effects meta-analyses and meta-regression for studies with comparable outcome data.

Results: The review included 32 studies with a total of 10,217 child-parent dyads. A random-effects meta-analysis showed a significant small positive association between parental and child dental anxiety (pooled r = .26, 95% CI [.15, .36], p < .001). Meta-regression suggested a trend toward stronger associations in studies with older children, although this was not statistically significant (p = .09). Meta-analysis of six father-only samples found no significant father-child dental anxiety association (pooled r =.12, 95% CI [-.21, .44], p = .47), though this result was sensitive to the removal of one outlier study.

Narrative synthesis highlighted possible variations in mechanisms of dental anxiety transmission with child age, but that effect sizes were heterogenous.

Conclusions: Meta-analysis demonstrated a statistically significant, albeit small, positive association between parental and child dental anxiety. The evidence for a changing strength of association with child age and a father specific link were inconclusive. The heterogeneity of effect sizes highlighted a complex relationship influenced by other factors. Further methodologically rigorous research is warranted to better understand the mechanisms of transmission of dental anxiety.

Limitations: Most studies used convenience sampling, did not report participant characteristics, conduct power calculations or sufficiently control for confounding. The review itself was limited by solely including English studies, missing study data and needing to convert diverse statistical measures into a common effect size metric.

Funding: This review was conducted as part of a DClinPsy course funded by Health Education England to Oxford Health.

Registration: PROSPERO (CRD42024462398)

Service Improvement Project (SIP)

Title: What are the perceived barriers and facilitators to the treatment of emotional regulation for older people in Berkshire? A mixed methods study

Background: Suicide among older people is a clinical concern, particularly for those with diagnoses such as emotionally unstable personality disorder (EUPD). Research has shown emotional dysregulation, associated with EUPD, presents uniquely in older people.

Aim: This project aimed to address the need for better emotional regulation treatment for older people in Berkshire, exploring barriers and facilitators to its development. It inquired into what elements of existing older people's services were transferable to this end, and what kinds of referrals presented to existing services.

Method: The project was mixed methods. The quantitative component examined patient data for people over 65 with diagnoses related to emotional dysregulation. The qualitative component used semi-structured interviews of eight stakeholders working in Berkshire mental health services, about their experience of emotional regulation and older people.

Results: Patient data indicated clients with clinical presentations indicative of emotional dysregulation saw various services, with differences between those over and under 75. There was a low EUPD prevalence and various diagnostic clusters assigned to clients. Interpretative phenomenological analysis of interviews identified four superordinate themes around reflecting on self, interpersonal humanity, navigating unchartered territory and how progress is made.

Conclusion: Recommendations were made for a new pathway, including clarifying terminology to describe symptoms, team collaboration to share expertise, and age-appropriate interventions.

Keywords: emotional regulation, EUPD, BPD, older people

Theoretically Driven Research Project (TDRP)

Title: Understanding parent-child interactions in parents with psychosis and their young children

Background: Parental psychosis is a significant risk factor for adverse child outcomes, with the quality of the parent-child relationship considered a mediating factor. There is a lack of research directly observing parental sensitivity in this population, particularly beyond infancy into the crucial developmental period of 2-5 years. Furthermore, specific cognitive and emotional processes, such as parental reflective functioning, that may underpin parenting difficulties in psychosis are not well understood. This study aimed to address these gaps by examining parental sensitivity and its associated cognitive factors in parents with psychosis.

Aim: First, the study aimed to compare levels of observed parental sensitivity between a group of parents with psychosis and a non-clinical control group. Second, we explored the association between parental sensitivity and key associated variables: parental reflective functioning, paranoid ideation, parental stress, and general affective distress.

Method: A cross-sectional study was conducted with 50 parents: 20 with psychosis recruited from NHS Early Intervention and secondary care services and 30 non-clinical controls. All participants were mothers or fathers of a child aged between 2 and 5 years. Demographic and clinical history data were collected. Parental sensitivity was coded from a five-minute, video-recorded parent-child free-play interaction using Emotional Availability Scales. Participants completed self-report measures: the Parental Reflective Functioning Questionnaire, the Revised Green et al. Paranoid Thoughts Scale, the Parental Stress Scale, and the Depression Anxiety and Stress Scales. The primary aim was examined using a non-parametric Mann-Whitney U test supplemented by an exploratory Bayesian analysis, with the secondary aim explored using multiple regression.

Results: No significant difference was found in parental sensitivity between the psychosis and control groups ($U = 312.50$, $p = .80$). A Bayesian analysis provided moderate evidence in favour of the null hypothesis ($BF_{01} = 3.20$). The psychosis group did, however, report significantly higher levels of paranoid ideation and anxiety. Across the entire sample, multiple regression analysis revealed that only parental reflective functioning, specifically interest and curiosity in the child's mental states, was a significant unique factor associated with higher parental sensitivity ($\beta = .39$, $p = .01$).

Conclusion: Parental psychosis was not associated with deficits in parental sensitivity. Sensitive parenting appears to be more closely linked to parental reflective functioning than to the presence of a psychosis diagnosis. . The findings suggest that interventions aimed at enhancing parental reflective functioning could be a valuable target for supporting the parent-

child relationship in families affected by psychosis, but more research is needed in larger samples.

Keywords: parent-child, psychosis, parental sensitivity, reflective functioning

Systematic Review of the Literature

A systematic review and meta-analysis of the relationship between parental and child dental anxiety

Internal Supervisors:

Dr Matthew Hotton

The Oxford Institute of Clinical Psychology Training, Oxford Health NHS Foundation Trust

matthew.hotton@psy.ox.ac.uk

Dr Danielle Shore

The Oxford Institute of Clinical Psychology Training, Oxford Health NHS Foundation Trust

danielle.shore@psy.ox.ac.uk

External Supervisor:

Dr Alex Lau-Zhu

alex.lauzhu@psy.ox.ac.uk

Collaborator:

Liam Myles

liam.myles@psy.ox.ac.uk

Proposed Journal: BMC Oral Health

Rationale: This systematic review aligns with BMC Oral Health's mission by providing crucial insights into a prevalent issue with significant implications for oral healthcare.

Abstract

Background: Child dental anxiety is a prevalent issue with significant implications for oral healthcare. Intergenerational transmission of anxiety from parent to child is a potential contributing factor. Understanding the relationship between parental and child dental anxiety is crucial for developing effective prevention and intervention strategies. This systematic review and meta-analysis examined the relationship between parental and child dental anxiety and assessed the quality of the evidence.

Methods: Searches were conducted in PsycINFO, CINAHL, EMBASE, Ovid Emcare, PubMed, Scopus, and Web of Science (up to April 2025), supplemented by forwards and backwards citation searching. Study selection, data extraction, and risk of bias assessment were dual screened. Inclusion criteria specified quantitative studies investigating an association between parental and child dental anxiety using standardised measures in child/adolescent participants (up to age 18) and their parents or guardians. Patterns across studies were summarised using narrative synthesis alongside random-effects meta-analyses and meta-regression for studies with comparable outcome data.

Results: The review included 32 studies with a total of 10,217 child-parent dyads. A random-effects meta-analysis showed a significant small positive association between parental and child dental anxiety (pooled r = .26, 95% CI [.15, .36], p < .001). Meta-regression suggested a trend toward stronger associations in studies with older children, although this was not statistically significant (p = .09). Meta-analysis of six father-only samples found no significant father-child dental anxiety association (pooled r =.12, 95% CI [-.21, .44], p = .47), though this result was sensitive to the removal of one outlier study. Narrative synthesis highlighted possible variations in mechanisms of dental anxiety transmission with child age, but that effect sizes were heterogenous.

Conclusions: Meta-analysis demonstrated a statistically significant, albeit small, positive association between parental and child dental anxiety. The evidence for a changing strength of association with child age and a father specific link were inconclusive. The heterogeneity of effect sizes highlighted a complex relationship influenced by other factors. Further methodologically rigorous research is warranted to better understand the mechanisms of transmission of dental anxiety.

Introduction

Dental caries is one of the most common, yet preventable, chronic diseases affecting children globally. It has been estimated to affect 621 million children worldwide, including a third of 5-year-old children and half of 8-year-old children in the UK (1). This childhood burden forms part of the 3.5 billion individuals affected by oral diseases throughout the lifespan, a figure higher than mental disorders, cardiovascular disease, diabetes mellitus, chronic respiratory diseases and cancers combined (2). The 2022 UK National Dental Epidemiology Programme survey identified 23.7% of 5-year-old children attending state-funded schools had visually obvious dental caries (3), marking a plateau in the improvement observed between 2008 and 2017. The caries issue is marked by social inequalities and disparities: the same review found that children in the most deprived socioeconomic quintile were almost three times as likely to have decay experience (35.1%) as those in the least deprived quintile (13.5%; 3). Higher prevalence was also noted among children from Asian, Asian British and Other ethnic groups compared to White or Black ethnic groups. Dental caries leads to functional, psychological and social impacts including pain, eating and sleeping difficulties, social avoidance and inflammation leading to cardiovascular disease (4–8). To treat dental caries, children can be admitted to hospital and receive general anaesthetic to undergo teeth extraction (9). This is the most common reason a child would need general anaesthetic. However, this procedure carries medical risks such as nausea, pain, and bleeding, affecting at least 30% of postsurgical patients (10). It also represents a substantial cost to healthcare systems. For example, in the 2022-23 financial year, decay-related tooth extractions in the 0-19 age group was estimated to cost the NHS £40.7 million, an increasing figure on previous years (11,12). Crucially, some of these cases did not require general anaesthetic due to physical health reasons, but rather, psychological – it has been estimated

that as high as 86% of paediatric patient cases treated with GA are medically healthy but simply non-cooperative (13)

One psychological reason is dental anxiety, the feeling of apprehension, unease or fear specifically related to dental procedures and clinics (14). The prevalence of child dental anxiety is difficult to pinpoint, with estimates ranging between 4 to 20% among preschool children, 8 to 23% among children aged 6–12, and 7 to 18% among adolescents (15). At higher severity levels, this may become dental phobia, a diagnosed persistent fear of dentists or dental procedures, interfering significantly with the person's normal functioning in work and/or relationships (16). Children with severe dental anxiety or dental phobia may avoid seeing the dentist even when they need treatment, leading to poorer oral health in the long term (17). While general anaesthetic can allow dentally anxious children to undergo treatment for dental caries, anxiety can increase after this procedure because the child does not consciously experience coping with the procedure and retains fear of future dental visits (18). A better understanding of associations between parent and child dental anxiety might help reduce the reliance on general anaesthetic by children, parents, and dentists.

Rationale

The present review aims to build on a previous review of the parent-child dental anxiety relationship. Themessl-Huber et al. (19) found that parental dental anxiety, especially mother dental anxiety, was significantly associated with child dental anxiety. They observed the strongest associations in younger children, when grouping the studies by maximum age of the children in their samples – children under 7, 9, 13 and 19 years of age. However, this review only looked at papers up to 2008, making it out of date, neglected to include father-only samples and permitted papers without standardised measures of dental anxiety. Furthermore, in grouping studies by maximum age of children, samples with wide age ranges had children spanning multiple age groups, limiting how developmentally informative the

review could be. Overall, the variability in measurement tools and reporters (e.g. child, parent, clinician) used underscores the challenge in synthesising data in child dental anxiety (20). This review provides an important update, synthesising evidence from 23 studies published since the previous review, using stricter methodological inclusion criteria and employing meta-regression for more nuanced analysis of developmental effects on the parent-child dental anxiety relationship.

The review rationale also draws on intergenerational transmission models of anxiety (21,22). Such models have proposed various mechanisms, including social learning processes, where children model their parents' fearful non-verbal responses; verbal information transfer, where parents convey threatening information or negative expectations about dental procedures; less autonomy granting by parents in the dental setting, which could inadvertently signal threat and reduce the child's perceived coping abilities; and shared cognitive biases, where parents who may interpret ambiguous situations as threatening might foster similar interpretive biases in their children (23).

Objectives

1. Is parental dental anxiety associated with child dental anxiety?
2. If so, which factors influence the link between parental and child dental anxiety?
3. What is the quality of the evidence in this literature area?

Based on the previous review, it was hypothesised that there would be a stronger relationship between parental and child dental anxiety for children of younger ages, and particularly for mother dental anxiety compared to father dental anxiety.

Method

The present review adhered to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses guidelines (PRISMA; 24) and was pre-registered on PROSPERO (CRD42024462398).

Eligibility Criteria

We included studies meeting the criteria in Table 1.

Table 1

Inclusion and Exclusion Criteria

Inclusion Criteria	Exclusion Criteria
Quantitative designs.	Used only behavioural ratings (e.g. Frankl Behaviour Scale; ,25)
Published in English in a peer-reviewed journal of any publication date or country.	Used only measures assessing general (non-dental-specific) anxiety.
Directly investigated the association between a parental and a child dental anxiety variable, even if not the primary aim.	Measured child dental anxiety using single-item questions, excluded due to poor reliability (26)
Child and/or adolescent participants under 18 years old.	Reviews.
Parent participants of any age.	Qualitative studies.
Used standardised or established measures for child and parental dental anxiety (27–35).	Case studies.

Information Sources

On 19th October 2024, FM searched seven databases (Table 2) for relevant articles. On 17th February 2025, snowball citation searching was conducted for all identified studies, consisting of forward searching using Scopus, and backward searching using reference lists. These searches were re-run on 19th April 2025 to identify additional studies.

Table 2

Databases searched, including interface and dates of coverage

Interface	Database	Coverage
PubMed	PubMed	1946 to present
Ovid	Embase	1974 to present
Ovid	Emcare	1995 to present
Ovid	APA PsycInfo	1806 to present
Scopus	Scopus	1788 to present
EBSCOhost	CINAHL	1981 to present

Interface	Database	Coverage
Web of Science	Web of Science Core Collection	1900 to present

Search Strategy

Candidate search terms were identified by analysing titles, abstracts, and participant indexing of relevant records. These terms were “dental anxiety”, “children”, “adolescents” and “parents” (Table 3).

Table 3

Search Terms Used and Synonyms

Number	Concept	Keywords
1	Dental anxiety	(dental OR dentist) AND (phobia OR fear OR anxious OR afraid)
2	Child	Child OR children OR juvenile OR adolescent OR teen OR young OR youth OR paediatric
3	Parent	Parent OR father OR paternal OR dad OR mother or maternal OR mum
4	Search	1 AND 2 AND 3

The search strategy was then developed in collaboration between FM, supervisors and a university librarian. A draft search strategy was developed (Table 4), with terms translated for each database (Appendix A). The final strategies were validated by testing their ability to retrieve known relevant studies.

Table 4

Example Full Search Strategy (Embase)

Step	Query
1	exp Dental Anxiety/
2	((dental or dentist*) adj7 (fear or anxiety or anxious or phobia or afraid)).ab,kf,ti.
3	1 or 2

4	exp adolescent/ or exp child/ or exp preschool child/
5	(child* or juvenile or adolescen* or teen* or young or youth or p?ediatric*).ab,kf,ti.
6	4 or 5
7	exp parent/ or exp father/ or exp mother/
8	(parent* or mother* or father* or maternal or paternal or mum or mums or dad or dads).ab,kf,ti.
9	7 or 8
10	3 and 6 and 9

Selection Process

Studies were screened for inclusion by two independent researchers (FM and LM), to ensure reliability. Following duplicate removal, FM screened all eligible titles (1361) and LM dual-screened 20% of titles (272 of 1361). FM then screened all eligible abstracts (205) while LM dual-screened 20% of these (41). For full-text screening, FM screened all papers (120) and LM dual-screened 25% of papers (30 of 120). Strong interrater reliability (36) was demonstrated at each stage: for titles (95.22% agreement, k = .83), abstracts (92.7% agreement, k = .85), and full-text articles (93.33% agreement, k = .84). Disagreements were resolved through discussion. Citation searching found seven additional relevant studies, which were then reviewed by FM.

Data Collection

FM and LM independently extracted data from included studies (Table 5), comprising study design, participant demographics and outcome data for the parent-child dental anxiety relationship, entered into an Excel spreadsheet. Disagreements were resolved through discussion.

Any missing data required for meta-analysis (n = 5) were requested by email to the corresponding study authors, but responses were not provided after one-month follow-up (n = 4) or contact details could not be located (n = 1).

Data Items

Table 5

Data Extraction Form

Category	Data Items
Study	Design, location, setting, and sample size.
Child Participants	Age range, mean age (SD), gender distribution, ethnicity, school level.
Parent Participants	Gender distribution, education, socioeconomic status.
Measures	Child and parent dental anxiety mean scores (SDs), child and parental dental anxiety instruments, and parent-child dental anxiety relationship measures (statistic, result, and *p*-value).
Influences on Anxiety	Child anxiety influences (factors, results, *p*-value, and statistic type).
Results	Conclusions

Where multiple relevant analyses were reported, Pearson's correlation was selected as the primary metric. Otherwise, other effect sizes unadjusted for mediators were selected and converted to Pearson's *r*. Where multiple measures were reported, the most common measure was prioritised for the meta-analysis (37): Child Fear Survey Schedule – Dental Subscale (CFSS-DS), or otherwise Corah Dental Anxiety Scale (CDAS). For longitudinal studies, the earliest measurement of dental anxiety was selected to minimise attrition and practice effects. If a stepwise regression was used and separately entered variables of mother and father dental anxiety only, the beta coefficients from the later step were used, accounting for both parents' dental anxiety.

Risk of Bias Assessment

FM assessed the quality of papers using the standard quality assessment criteria for evaluating primary research (38). This rated studies on a three-item scale denoting whether

studies did not meet, partially met, or met each criterion, adding to a total score (Appendix B). Thirty percent of the included papers were appraised by FM and LM independently (Appendix C). Kappa coefficients ranged between .83-1, corresponding to 90-100% agreement. Disagreements were resolved through discussion.

Effect Measures

Pearson's *r* was used to interpret effect size magnitude. Correlations of $r = .10$, $r = .30$, and $r = .50$ were denoted as small, medium, and large effect sizes, respectively (39).

Synthesis Methods

Synthesis eligibility

All studies with a statistic for parent-child dental anxiety relationship were suitable for inclusion in the primary meta-analysis. Studies that reported the mean age of the children were eligible for the meta-regression. Studies with a father-only group of parent participants were eligible for a secondary meta-analysis of father samples. Where studies did not report a relevant statistic or reported a statistic as part of a multiple regression controlling for other confounds, where the parent-child dental anxiety relationship could not be isolated, they were excluded from the meta-analysis. All studies were eligible for the narrative synthesis.

Data preparation

We analysed the parent-child dental anxiety relationship by first standardising all reported effect sizes using the Fisher *r*-to-*z* transformed correlation coefficient (Appendix D). The standard error of each *z* value was calculated for each study using its sample size. A random-effects model was then fitted to the data due to the high variability of the effects of parental dental anxiety (40). Following meta-analysis, the *z* value was converted back into *r* for interpretation.

Displaying results

Meta-analyses were shown using forest plots, which denoted effect sizes, sample size and the confidence intervals of each study. Between-study heterogeneity was evaluated by examining the forest plots and calculating τ^2, I^2 and Q statistics. The meta-regression was visualised using a bubble plot to illustrate the relationship between the continuous moderator of mean child age and individual study effect sizes.

Statistical synthesis

Statistical Package for the Social Sciences (SPSS) version 30 was used for the meta-analysis. The meta-analysis was conducted as a standard two-level meta-analysis, with only one measure per sample selected to avoid data dependencies. While methods such as three-level meta-analysis or robust variance estimation can accommodate multiple dependent measures from the same sample, the two-level approach was chosen for its straightforward implementation and interpretability. This approach also ensured direct methodological comparability with the previous review by Themessl-Huber et al. (19), which employed a standard two-level random-effects model. Moreover, only two of the 30 papers were relevant to this issue, using multiple measures of child dental anxiety, and only one of these was included in the meta-analysis, as the other did not report relevant effect sizes. Given this limited data structure, a three-level model would likely have yielded unstable variance estimates, as cautioned by Cheung (41) who noted that reliable estimation of higher-level variance components requires sufficient numbers of level-2 and level-3 effects. A restricted maximum likelihood variance estimator was used, due its ability to account for between-study variability more accurately than alternatives such as DerSimonian-Laird (42). Narrative synthesis (43) synthesised the results of all studies, including those excluded from the meta-analyses.

In addition to visual inspection of forest plots, three statistics assessed the heterogeneity of studies: τ^2, I^2 and Q statistics. For I^2, values of 25%, 50% and 75% indicated low, moderate and high heterogeneity respectively (44). Higher τ^2 values denoted higher heterogeneity, and statistically significant Q statistics indicated a higher likelihood of heterogeneity.

Sensitivity analyses

Leave-one-out sensitivity analyses assessed the robustness of the meta-analyses (Appendix E). This involved systematically re-running the meta-analyses with one study removed at a time, to examine the impact of individual studies on the overall effect size. Substantial changes in the effect size on the exclusion of a particular study would indicate it had significant influence.

Reporting bias assessment

Funnel plot inspection and Egger's test (45) evaluated publication bias. Publication bias or study heterogeneity would be suggested by an asymmetrical funnel plot or statistically significant Egger's test.

Results

Study Selection and Characteristics

After screening and additional searches, 32 papers met the inclusion criteria (Figure 1). Table 6 contains a summary of study characteristics.

.

Figure 1

PRISMA Flow Diagram (46)

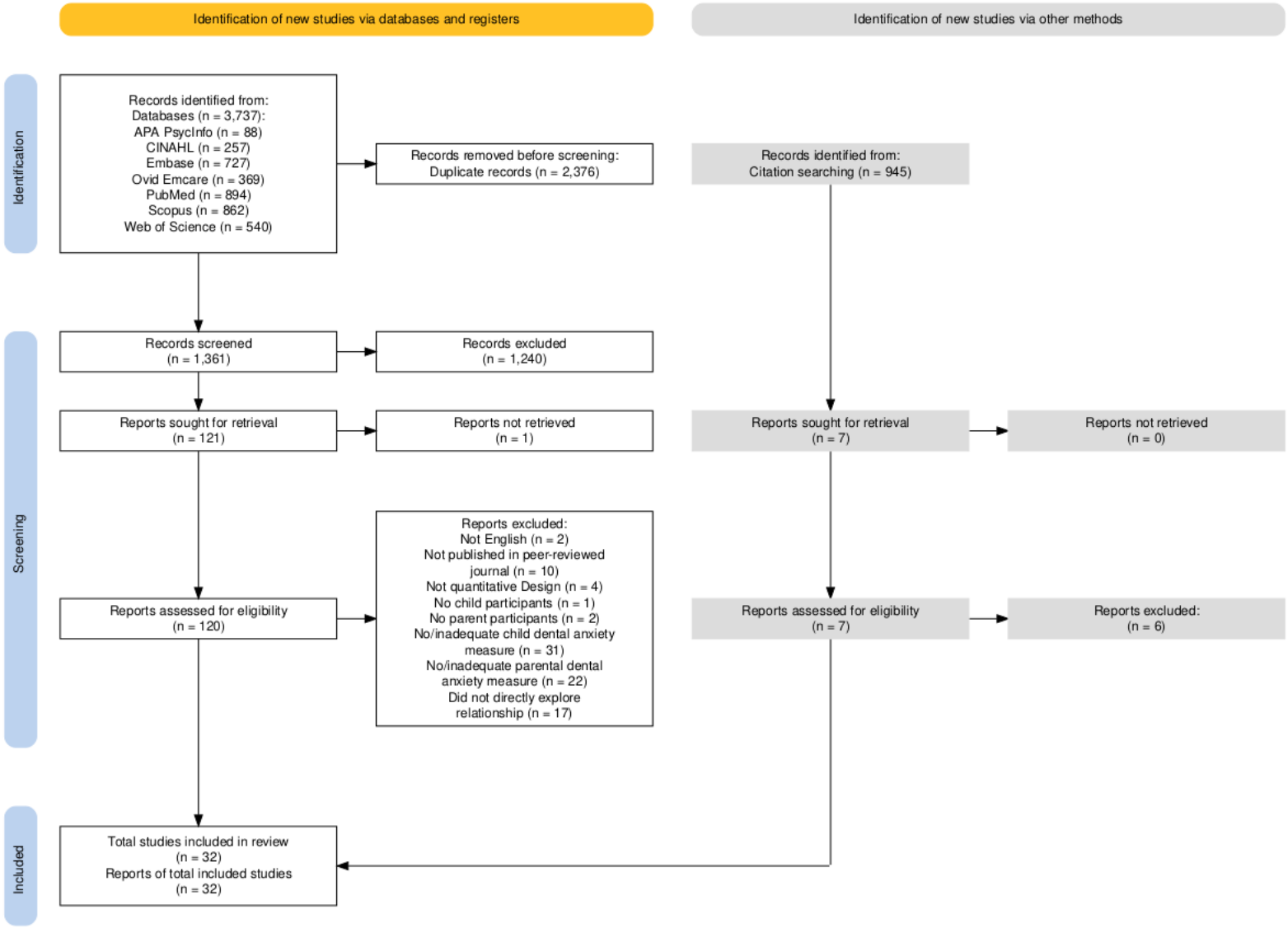


Table 6

Study Characteristics

Study	Design	Location	Setting	Sample size (child/parent)	Child Age Range (years)	Child Gender (%M/F)	Child Ethnicity	Child Education	Parent Gender (%M/F)	Parent Education	Parent SES	MA ?
Assunção et al. (47)	CS	Brazil	Dental Clinic	100[a]/100	8-17	45/55	-	-	13/87	Elementary: 32%, High School: 46%, University Degree: 22%	Low Income: 28%, Medium Income: 50%, High Income: 22%	Y
Baier et al. (48)	CS	United States	Dental Clinics	421/421	.8-12.8	52/48	-	-	-	-	-	Y
Bayón et al. (49)	CS	Spain	Dental Clinic	101/101	4-13	47/53	-	-	-	-	-	Y

Study	Design	Location	Setting	Sample size (child/parent)	Child Age Range (years)	Child Gender (%M/F)	Child Ethnicity	Child Education	Parent Gender (%M/F)	Parent Education	Parent SES	MA ?
Besiroglu-Turgut et al. (50)	CS	Turkey	Dental Clinic	305[a]/305	4-12	54/46	-	-	0/100	Primary School: 4.3%, High School: 2.3%, University: 3.5%, Postgraduate: 8.9%	-	Y
Bezabih et al. (51)	CS	Ethiopia	Dental Clinic	240/240	6-16	61/39	-	Elementary school (67.5%), Junior School (8.9%), High School (12%)	-	-	-	N
Buldur (52)	CS	Turkey	Dental Clinic	583/583	5-12	49/51	-	-	-	High school (32.0%), Elementary (21.9%), Secondary (20.7%), University (16.1%), Postgraduate (3.1%).	Monthly income 1500–3000 TL (41.7%), <1500 TL (27.4%), 3000–5000 TL (26.5%), >5000 TL (13.9%).	N
Busato et al. (53)	CS	Brazil	Dental School Clinic	40/40	5-10	50/50	-	-	0/100	Elementary (31.3%), High school (56.3%), Higher education (12.5%)	<788 R$ (18.8%), 789-1576 R$ (43.8%), 1577-2364 R$ (18.8%), >2364 R$ (18.8%)	Y

Study	Design	Location	Setting	Sample size (child/parent)	Child Age Range (years)	Child Gender (%M/F)	Child Ethnicity	Child Education	Parent Gender (%M/F)	Parent Education	Parent SES	MA ?
Carson & Freeman (54)	CS	Northern Ireland	Dental Clinic	600/600	5-11	53/47	-	-	2/98	73% left school at age 16	Unemployed: 47%, Receiving Government Benefits: 38%	Y
Coric et al. (55)	CS	Bosnia and Herzegovina	Community	114/223[b]	7-15	51/49	-	Primary School	49/51	Mostly secondary education	Mostly monthly household income <US$1,000	Y
Corkey & Freeman (56)	CS	Northern Ireland	Community	60/60	6	50/50	-	-	0/100	-	Modal Mother SES: Skilled Manual Occupations, Non-Manual Occupations	N
Fernandes et.al. (57)	CS	Brazil	School	115/115	8-12	56/44	-	-	30/70	-	-	N

Study	Design	Location	Setting	Sample size (child/parent)	Child Age Range (years)	Child Gender (%M/F)	Child Ethnicity	Child Education	Parent Gender (%M/F)	Parent Education	Parent SES	MA ?
Folayan et al. (58)	CS	Nigeria	Dental Hospital	81/161[b]	8-13	51/49	-	-	50/50	-	-	Y
Klingberg et al. (59)	CS	Sweden	Dental Clinic	3204[a]/3204	4-11	48/52	-	-	-	-	Lower (31.4%), Average (16.0%), Higher (52.6%) SES Areas	N
Klorman et al. (60)	CS	USA	Dental Clinic	101[a]/86	3-13	53/47	88.9% Caucasian	-	0/100	-	-	N
Kroniņa et al. (61)	CS	Latvia	Dental Clinic	240/240	4-12	49/51	-	-	-	-	-	Y

Study	Design	Location	Setting	Sample size (child/parent)	Child Age Range (years)	Child Gender (%M/F)	Child Ethnicity	Child Education	Parent Gender (%M/F)	Parent Education	Parent SES	MA ?
Leal et al. (62)	CS	Brazil	Dental Clinic	50/50	4-12	58/42	-	-	0/100	-	-	Y
Maden et al. (63)	CS	Turkey	Dental Clinic	213/213	13-16	44/56	-	-	-	Mothers mostly 1–4 years (32.9%) or 9–12 years (26.3%); Fathers mostly 9–12 years (32.4%) or ≥13 years (24.9%).	Low (12.2%), Middle (83.6%), High (4.2%) Income	Y
Majstorović et al. (64)	CS	Croatia	Dental Clinic	89/89	5.5-12.5	53/47	-	-	0/100	-	-	N
McNeil et al. (65)	CS	United States	Community	350/515[b]	11-17	50/50	White (80%); Black (16%); Hispanic (1%); Asian (1%); Mixed (2%)	-	34/66	-	-	Y

Study	Design	Location	Setting	Sample size (child/parent)	Child Age Range (years)	Child Gender (%M/F)	Child Ethnicity	Child Education	Parent Gender (%M/F)	Parent Education	Parent SES	MA ?
Milgrom et al. (66)	CS	United States	School	895/895	5-11	52/48	White (30.8%), Chicano/Latino (3.7%), Asian/Pacific Islanders (20.3%), African Americans (41.0%), American Indian/Alaskan Natives (4.2%)	Primary School	0/100	Not beyond high school (52.1%), Beyond High School (47.9%)	Low Income	N
Olle et al. (67)	CS	Brazil	Dental Clinic	48/48	4-8	63/37	-	-	12/88	-	-	Y
Paryab & Hosseinbor (68)	CS	Iran	Dental Clinic	150/150	6-12	44/56	-	-	-	Mothers: 100% Diploma or Higher Education Level	-	Y
Peretz et al. (69)	CS	Israel	Dental School Clinic	88/88	6-14	51/49	-	-	-	-	-	Y

Study	Design	Location	Setting	Sample size (child/parent)	Child Age Range (years)	Child Gender (%M/F)	Child Ethnicity	Child Education	Parent Gender (%M/F)	Parent Education	Parent SES	MA ?
Salem et al. (70)	CS	Iran	Dental Clinic	200/200	3-6	53/47	-	-	0/100	Fathers: High School or Less (73%), College (18.5%), University (8%). Mothers: High School or Less (84%), College (12.5%), University (3.5%)	100% Low to Medium Income	Y
Samami et al. (71)	CS	Iran	School	275/550[b]	7-12	50/50	-	-	50/50	-	-	Y
Shinde and Hegde (72)	L	India	Dental Clinic	175/175	6-12	56/44	-	-	-	-	-	Y

Study	Design	Location	Setting	Sample size (child/parent)	Child Age Range (years)	Child Gender (%M/F)	Child Ethnicity	Child Education	Parent Gender (%M/F)	Parent Education	Parent SES	MA ?
Shindova et al. (73)	CS	Bulgaria	Dental Clinic	67/67	6-12	45/55	-	-	-	-	-	N
Šimunović et al. (74)	CS	Croatia	Online	492/492	5-28	-	-	Primary school (42.1%), secondary school (51.9%)	-	-	-	Y
Uziel et al. (75)	CS	Israel	Dental Clinic	100/200[b]	13-18	52/48	-	-	50/50	Mean Mother: 12.97 Years, Mean Father: 13.73 Years	-	Y
Vasiliki et al. (76)	CS	Greece	Dental Clinic	100/100	4-12	60/40	-	-	-	-	-	N

Study	Design	Location	Setting	Sample size (child/parent)	Child Age Range (years)	Child Gender (%M/F)	Child Ethnicity	Child Education	Parent Gender (%M/F)	Parent Education	Parent SES	MA ?
Wong et al. (77)	L	Hong Kong	School	215/215	12-18	60/40	Southern Chinese	Secondary School	0/100	Completed Junior High School or Below: 79%, High School: 81%, University: 21%	< HKD 10,000: 29.8%, HKD 10,001-HKD 30,000: 59.3%, >HKD 30,000: 1.9%	N
Wu and Gao (78)	CS	Hong Kong	School	405/405	9-13	47/53	-	Primary School 4-6 level	47/53	Mothers: Secondary School (74.3%), Fathers: Secondary School (72.8%)	Moderate Monthly Income (HKD 10,000–39,999): 69.5%	Y

Note. Acronyms used: CS (cross-sectional), L (longitudinal), M/F (male/female), TL (Turkish Lira), HKD (Hong Kong Dollars), MA (meta-analysis). "-" indicates the result was not reported. Studies that were excluded from the meta-analysis did not report statistics on the association between parental and child dental anxiety. Authors were emailed for clarification, but no responses were received. Exceptions were Klorman et al. (60), which was excluded because it did not report n for its correlational analysis; Milgrom et al. (66), which was excluded as it only contained the statistics for dichotomised low and high parent dental anxiety groups; and Wong et al. (77), which was excluded because its methodology for the reported statistics was unclear.

[a] Samples in these studies consisted of two distinct age groups. Assunção et al. 2013 comprised of 73 children aged 8-11 and 27 adolescents aged 12-17. Besiroglu-Turgut et al. (50) comprised of 180 children aged 4-7 and 125 children aged 8-12. Klingberg et al. (59) comprised of 1603 children aged 4-6, and 1601 children aged 9-11. Klorman et al. (60) comprised of 101 children aged 3-13 and 60 children aged 5-12.

[b] These studies contained distinct mother and father samples for the meta-analysis.

Risk of Bias

The risk of bias assessment is detailed in Table 7. Overall summary scores ranged from .64 to .91.

All the studies adopted appropriate study designs for their clearly stated objectives, and the results supported their conclusions. Owing to the review inclusion criteria, outcome measures of all studies were well-defined and minimised risk of measurement and misclassification bias.

However, similar methodological issues were seen across studies, hampering results' generalisability. Convenience sampling was frequently employed in the setting conducting the study (n = 19), such as a single dental clinic. Twelve studies added an element of randomisation such as consecutive sampling or random sampling of schools, from which convenience samples were drawn. One study did not describe how participant selection took place beyond being online (74). Demographic details such as family socioeconomic status, ethnicity and parental characteristics were not fully reported for 30 studies.

Fourteen studies failed to provide a sample size grounded in a power calculation. Twenty-seven raised concerns regarding multiple comparisons, often performing numerous statistical tests without appropriate adjustments. One study provided contradictory descriptions of its statistical methods, making it unclear what effect size was reported (77). Two studies did not report checking assumptions for their tests (60,64). Twenty-two omitted variance estimates such as standard deviations and confidence intervals consistently. Since the studies were all observational rather than interventional, criteria related to randomisation and blinding were not applicable, however this did signal a lack of research into interventions in child dental anxiety involving the parent.

Table 7

Risk of Bias

Paper	Criterion														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Summary Score
Assunção et al. 2013	Yes	Yes	Partial	Partial	N/A	N/A	N/A	Yes	Partial	Partial	No	No	Yes	Yes	.68
Baier et al. 2004	Yes	Yes	Partial	Partial	N/A	N/A	N/A	Yes	Yes	Partial	Partial	Partial	Yes	Yes	.77
Bayón et al. 2025	Yes	Yes	Partial	Partial	N/A	N/A	N/A	Yes	Partial	Partial	Partial	Partial	Partial	Yes	.68
Besiroglu-Turgut et al. 2024	Yes	Yes	Partial	Partial	N/A	N/A	N/A	Yes	Yes	Partial	Partial	Partial	Partial	Yes	.73
Bezabih et al. 2013	Yes	Yes	Yes	Partial	N/A	N/A	N/A	Yes	Yes	Partial	No	No	Yes	Yes	.73
Buldur 2020	Yes	Yes	Partial	Partial	N/A	N/A	N/A	Yes	Yes	Partial	No	Partial	Yes	Yes	.77
Busato et al. 2017	Yes	Yes	Partial	Partial	N/A	N/A	N/A	Yes	Partial	Partial	No	No	Yes	Yes	.68
Carson & Freeman 2001	Yes	Yes	Yes	Partial	N/A	N/A	N/A	Yes	Yes	Yes	Yes	Partial	Yes	Yes	.91
Coric et al. 2014	Yes	Yes	Partial	Partial	N/A	N/A	N/A	Yes	Yes	Yes	No	No	Yes	Yes	.73
Corkey & Freeman 1994	Yes	Yes	Yes	Partial	N/A	N/A	N/A	Yes	Partial	Partial	Yes	Partial	Yes	Yes	.82
Fernandes et.al. 2020	Yes	Yes	Partial	Partial	N/A	N/A	N/A	Yes	Partial	Partial	Partial	Partial	Partial	Yes	.68
Folayan et al. 2002	Yes	Yes	Yes	Partial	N/A	N/A	N/A	Yes	Partial	Partial	Partial	No	Partial	Yes	.68
Klingberg et al. 1995	Yes	Yes	Yes	Partial	N/A	N/A	N/A	Yes	Yes	Partial	Partial	Partial	Yes	Yes	.82
Klorman et al. 1978	Yes	Yes	Partial	Partial	N/A	N/A	N/A	Yes	Partial	Partial	Partial	Partial	Yes	Yes	.73
Kroniņa et al. 2017	Yes	Yes	Partial	Partial	N/A	N/A	N/A	Yes	Yes	Partial	Yes	Partial	Yes	Yes	.82
Leal et al. 2013	Yes	Yes	Partial	Partial	N/A	N/A	N/A	Yes	Partial	Yes	Partial	Partial	Yes	Yes	.77
Maden et al. 2021	Yes	Yes	Partial	Partial	N/A	N/A	N/A	Yes	Yes	Partial	Yes	Partial	Yes	Yes	.82
Majstorović et al. 2001	Yes	Yes	Partial	Partial	N/A	N/A	N/A	Yes	Partial	Partial	Partial	No	Yes	Yes	.68
McNeil et al. 2019	Yes	Yes	Partial	Partial	N/A	N/A	N/A	Yes	Yes	Yes	Partial	Partial	Yes	Yes	.82
Milgrom et al. 1995	Yes	Yes	Yes	Yes	N/A	N/A	N/A	Yes	Yes	Partial	Yes	Partial	Yes	Yes	.91
Olle et al. 2016	Yes	Yes	Partial	Partial	N/A	N/A	N/A	Yes	Partial	Partial	Partial	No	Yes	Yes	.68
Paryab & Hosseinbor 2013	Yes	Yes	Partial	Partial	N/A	N/A	N/A	Yes	Yes	Partial	Partial	Partial	Yes	Yes	.77
Peretz et al. 2004	Yes	Yes	Partial	Partial	N/A	N/A	N/A	Yes	Partial	Partial	Partial	No	Yes	Yes	.68
Salem et al. 2012	Yes	Yes	Yes	Partial	N/A	N/A	N/A	Yes	Yes	Partial	Partial	No	Partial	Yes	.80
Samami et al. 2024	Yes	Yes	Yes	Partial	N/A	N/A	N/A	Yes	Yes	Partial	Yes	Partial	Yes	Yes	.86
Shinde et al. 2017	Yes	Yes	Yes	Partial	N/A	N/A	N/A	Yes	Yes	Partial	Partial	No	Yes	Yes	.77
Shindova et al. 2019	Yes	Yes	Yes	Partial	N/A	N/A	N/A	Yes	Partial	Partial	Partial	No	Partial	Yes	.68
Šimunović et al. 2022	Yes	Yes	No	Partial	N/A	N/A	N/A	Yes	Yes	Partial	Partial	No	Yes	Partial	.64
Uziel et al. 2023	Yes	Yes	Partial	Partial	N/A	N/A	N/A	Yes	Partial	Partial	Yes	Partial	Yes	Yes	.77
Vasiliki et al. 2016	Yes	Yes	Partial	Partial	N/A	N/A	N/A	Yes	Partial	Partial	Partial	No	Yes	Yes	.68
Wong et al. 2020	Yes	Yes	Yes	Yes	N/A	N/A	N/A	Yes	Yes	Partial	Yes	Partial	Yes	Yes	.91
Wu and Gao 2018	Yes	Yes	Yes	Partial	N/A	N/A	N/A	Yes	Yes	Partial	Yes	Partial	Yes	Yes	.86

Note. Criteria taken from Kmet et al. are defined as follows: 1 Question or objective sufficiently described?; 2 Design evident and appropriate to answer study question?; 3 Method of participant selection (and comparison group selection, if applicable) or source of information/input variables (e.g., for decision analysis) is described and appropriate?; 4 Participant (and comparison group, if applicable) characteristics or input variables/information (e.g., for decision analyses) sufficiently described?; 5: If random allocation to treatment group was possible, was it described? 6: If interventional and blinding of investigators to intervention was possible, is it reported? 7: If interventional and blinding of participants to intervention was possible, is it reported? 8 Outcome and (if applicable) exposure measure(s) well defined and robust to measurement/misclassification bias? Means of assessment reported?; 9 Sample size appropriate?; 10 Analysis described and appropriate?; 11 Some estimate of variance (e.g., confidence intervals, standard errors) is reported for the main results/outcomes (i.e., those directly addressing the study question/objective upon which the conclusions are based)?; 12 Controlled for confounding?; 13 Results reported in sufficient detail?; 14 Do the results support the conclusions?

Results of Individual Studies

Table 8 details the results of all included studies. All were observational in examining the parent-child dental anxiety relationship anxiety across 10,217 children and 10,822 parents. Thirty were cross-sectional and two were longitudinal (72,77). Reporting of demographic characteristics varied considerably: two studies did not report the standard deviation of child age (49,56) and 11 did not report mean child age. The breakdown of child gender was reported by all but one study (74). Information on child ethnicity and specific education level was not reported by 28 and 25 studies respectively. Of the four studies that reported child ethnicity, only one broke down the whole sample by ethnicity (65) while the others reported the presence of one particular ethnicity or did not provide proportions of the different ethnicities in the sample (60,66,77). Parental gender was specified in 18 studies, with nine including only mothers and rest including at least 50% mothers, although this information was missing in 14 studies. Parental education and socioeconomic status (SES) were reported in 11 studies respectively; when provided, education often used broad categories such as primary, secondary, which differ between countries, or mean years, while SES was described using diverse metrics such as income brackets, occupational classifications, or composite measures – 21 studies did not report these at all.

A significant positive association between parent and child dental anxiety was concluded from 18 studies, with five specifically pertaining to mother anxiety and one to father dental anxiety.

Table 8

Results of Individual Studies

Paper	n Child	n Parent	Child Age (SD)	Child Dental Anxiety Instrument	Parental Dental Anxiety Instrument	Child DA Mean (SD)	Parent DA Mean (SD)	Statistic	Parent-Child Relationship Result	Parent-Child Relationship *p*-value	Other Influences on Child Dental Anxiety
Assunção et al. 2013 (1)	73	73	10.3 (2.03)	CDAS	CDAS	-	-	Spearman Correlation	rho = .14	Not significant	Low/medium income ($p < .05$); Parental report of child crying previously ($p = .02$).
Assunção et al. 2013 (2)	27	27	10.3 (2.03)	CDAS	CDAS	-	-	Spearman Correlation	rho = .02	Not significant	Low/medium income ($p < .05$); Parental report of child crying previously ($p = .02$).
Baier et al. 2004	421	421	6.8 (2.8)	CFSS-DS	CDAS	29.6 (.7)	8.0 (3.1)	Risk Measures	PR 1.7	.16	Non-dental anxieties/phobias ($p < .01$); Gender ($p < .05$); Age ($p < .05$).
Bayón et al. 2025	101	101	6.4 (-)	VPT	MDAS	-	-	Pearson Correlation	$r = .18$	.01	Crying during treatment ($p = .003$).
Besiroglu-Turgut et al. 2024	180	180	-	VPT	MDAS	-	-	Spearman Correlation	rho = .28	<.001	Mothers' previous dental complications (e.g., bleeding, $p < .001$); Mother Plaque Index (PI) ($p < .001$); Mother Gingival Index (GI) ($p < .001$); Mother DMFT ($p < .001$).

Paper	n Child	n Parent	Child Age (SD)	Child Dental Anxiety Instrument	Parental Dental Anxiety Instrument	Child DA Mean (SD)	Parent DA Mean (SD)	Statistic	Parent-Child Relationship Result	Parent-Child Relationship *p*-value	Other Influences on Child Dental Anxiety
Besiroglu-Turgut et al. 2024	125	125	-	VPT	MDAS	-	-	Spearman Correlation	rho = .48	<.001; <.001	Mothers' previous dental complications (e.g., bleeding, $p < .001$); Mother Plaque Index (PI) ($p < .001$); Mother Gingival Index (GI) ($p < .001$); Mother DMFT ($p < .001$).
Bezabih et al. 2013	240	240	1.45 (3.19)	CDAS; DFS	CDAS	-	-	Chi Square	-	<.001	Age ($p = .029$); Previous painful dental experience ($p = .014$); Level of education ($p < .001$).
Buldur 2020	583	583	8.3 (2.1)	CFSS-DS	CDAS	-	-	Path Analysis	beta = .16	<.001	Child dental visit behaviours ($p < .001$).
Busato et al. 2017	40	40	-	VPT	CDAS	-	-	Chi Square	phi = .35	.03	-
Carson & Freeman 2001	600	600	7.8 (2.1)	CFSS	CDAS	27.1 (7.5)	-	Pearson Correlation	$r = .04$	.39	Offer of relative analgesia ($p < .001$); Offer of general anaesthesia ($p < .001$); Dentinal decay ($p < .001$).
Coric et al. 2014	114	114	11 (2.2)	CFSS-DS; CDAS	CDAS	CDAS: 8.7 (3.7); CFSS-DS: -	Mothers: 7.8 (3.4); Fathers: 7.9 (3.7)	Pearson Correlation	*r* Mothers = .35, *r* Fathers = .17	Mothers <.001, Fathers >.08	Age ($p = .68$), sex ($p = .62$)

Paper	n Child	n Parent	Child Age (SD)	Child Dental Anxiety Instrument	Parental Dental Anxiety Instrument	Child DA Mean (SD)	Parent DA Mean (SD)	Statistic	Parent-Child Relationship Result	Parent-Child Relationship *p*-value	Other Influences on Child Dental Anxiety
Corkey & Freeman 1994	60	60	7 (-)	VPT	CDAS	1.32 (2.44)	-	Regression	Beta = .08	<.001	Mother factors: time since last visit (p = .02), regularity of attendance (p = .05), dislike of fillings (p = .008), general health (GHQ, p < .001). Child factors: irregular attendance (p = .003), previous disruptive behaviour (p < .001), frequent irritability/depression, eating problems/food fads, poor bowel/bladder control, fears of everyday objects (all part of significant regression model, p < .001).
Fernandes et.al. 2020	115	115	9.2 (1.2)	MDAS	MDAS	2.57 (5.69)	11.32 (4.56)	Regression	-	.02	DMFT (p = .001); Child self-perceived oral health (p = .039).
Folayan et al. 2002	81	161	1.98 (1.73)	DFSS-SF	CDAS	-	Mothers: 9.40 (3.4); Fathers: 8.38 (3.1)	Pearson Correlation	*r* mothers = -.02, *r* fathers = -.59	Mothers .82, Fathers .62	-.
Klingberg et al. 1995	3204	3204	-	CFSS-DS	CDAS	23.0 (7.7)	-	Regression	beta 4-6 years = .17, beta 9-11 years = .08	4-6 years .003, 9-11 years .04	General fears (p < .0001); Age (p < .0001).
Klorman et al. 1978	101	86	9.04 (2.65)	VPT	CDAS	.14 (.21)	2.27 (.81)	Pearson Correlation	*r* = .03	Not significant	Mother's rating of child state anxiety (p < .01); Child self-reported anxiety (Melamed, p < .01); Prior dental experience (p < .01).
Kroniņa et al. 2017	240	240	7.96 (2.61)	CFSS-DS	MDAS	31.80 (1.85)	9.76 (3.48)	Pearson Correlation	*r* = .28	<.001	History of crying/difficult treatment; General anxiety/behaviour at dentist; Anxious/cautious attitude towards doctors; Promising prizes before treatment; Number of children; Mother's age; Perceiving brushing as an obligation.

Paper	n Child	n Parent	Child Age (SD)	Child Dental Anxiety Instrument	Parental Dental Anxiety Instrument	Child DA Mean (SD)	Parent DA Mean (SD)	Statistic	Parent-Child Relationship Result	Parent-Child Relationship *p*-value	Other Influences on Child Dental Anxiety
Leal et al. 2013	50	50	10 (3.07)	FS	CDAS	2.87 (.57)	2.97 (.95)	Spearman Correlation	rho = .09	.55	
Maden et al. 2021	213	213	14.36 (1.12)	CDAS	CDAS	8.87 (3.10)	8.97 (3.24)	Pearson Correlation	$r = .35$	<.01	Previous application to dentist ($p < .05$, negative); Negative past experience ($p < .05$, positive); Choice of dental centre ($p < .01$, positive); Training re: dental treatment ($p < .05$, negative); Mother education level ($p < .05$, negative); Family Functionality (Communication, Affective Involvement, General Functions) ($p < .05$).
Majstorović et al. 2001	89	89	-	CDAS	CDAS	-	-	Pearson Correlation	-	-	Previous traumatic medical experiences; General medical fear (CMFQ scores).
McNeil et al. 2019	350	515	13.5 (1.8)	DFS	DFS	33.3 (14.4)	41.3 (18.1)	Regression	beta mothers .10, beta fathers .22	mothers .20, fathers .005	Child's own fear of pain ($p < .001$)
Milgrom et al. 1995	895	895	-	CFSS-DS	DFS	Boys: 31.1 (1.3); Girls: 34.3 (11.0)	-	Risk Measures	-	-	Child oral health status (>8 yrs, $p < .001$); Guardian's rating of child dental health ($p < .05$); History of toothache/extraction ($p < .05$); Gender ($p < .01$); Age ($p < .001$); Non-dental anxiety ($p < .001$); Guardian education level ($p < .001$); Dental care availability ($p < .05$); Interaction: age*oral health status.
Olle et al. 2016	48	48	7.1 (1.1)	VPT	MDAS	-	-	Chi Square	Cramer's v = .397	.023	History of invasive dental procedures ($p = .021$); History of dental pain ($p = .002$); Bruxism ($p = .028$); Stress level of dental student operator ($p = .005$).

Paper	n Child	n Parent	Child Age (SD)	Child Dental Anxiety Instrument	Parental Dental Anxiety Instrument	Child DA Mean (SD)	Parent DA Mean (SD)	Statistic	Parent-Child Relationship Result	Parent-Child Relationship *p*-value	Other Influences on Child Dental Anxiety
Paryab & Hosseinbor 2013	150	150	-	MCDAS	CDAS	2.81 (6.97)	-	Regression	beta = -.169	.21	Child age (p = .006, negative); Regular dental visits (p = .045, positive).
Peretz et al. 2004	88	88	10 (.3)	CDAS	CDAS	8.8 (3.9)	8.3 (2.9)	Pearson Correlation	r = .41	<.001	Previous fearful behaviour during treatment (p < .05).
Salem et al. 2012	200	200	-	CFSS-DS	CDAS	32.15 (1.9)	9.38 (3.4)	Spearman Correlation	rho = .186	Not significant	Gender (girls, p = .031); Age 5-6 (p = .034); General anxiety (p < .001).
Samami et al. 2024	275	550	9.32 (1.85)	MCDAS	MDAS	11.89 (4.21)	Mothers: 11.41 (4.77); Fathers: 8.44 (3.51)	Chi Square	phi mothers = .11, phi fathers = .24	Mothers .071, Fathers .624	Child sex (p = .007); History of dental clinic visits (p = .045); DMFT Index (p = .023).
Shinde et al. 2017	175	175	-	CFSS-DS	CDAS	34.07 (11.97)	-	Pearson Correlation	r = .4344	<.001	-.
Shindova et al. 2019	67	67	7.87 (1.8)	CFSS-DS	CDAS	3.28 (1.17)	-	Pearson Correlation	-	Not significant	-

Paper	n Child	n Parent	Child Age (SD)	Child Dental Anxiety Instrument	Parental Dental Anxiety Instrument	Child DA Mean (SD)	Parent DA Mean (SD)	Statistic	Parent-Child Relationship Result	Parent-Child Relationship *p*-value	Other Influences on Child Dental Anxiety
Šimunović et al. 2022	492	492	-	CDAS	CDAS	8.73 (-)	8.28 (-)	Spearman Correlation	rho = .484	<.01	Country of residence ($p < .05$); Child's level of education.
Uziel et al. 2023	100	200	14.87 (1.57)	CDAS	CDAS	9.83 (2.05)	Mothers: 1.51 (2.21); Fathers: 9.48 (2.38)	Pearson Correlation	*r* Mother = .79; *r* Father = .52	Mother: <.001; Father: <.001	Accompanied by father ($p < .05$); Last visit >1 year ago ($p < .05$); Not firstborn child ($p < .05$); Parent's tense behaviour at clinic ($p < .05$); Parents' negative memories of own dental encounters ($p < .05$); Number of children in family ($p < .01$); Parent's education level ($p < .01$).
Vasiliki et al. 2016	100	100	7.7 (4.2)	CFSS-DS	MDAS	33.1 (11.86)	12.51 (5.65)	Spearman Correlation	-	Not significant	Pro-social behaviour score (SDQ) (negative association).
Wong et al. 2020	215	215	-	MDAS	MDAS	-	-	Regression	-	Not significant	Snack frequency (re: fear of drilling, 12 yrs).
Wu and Gao 2018	405	405	-	CFSS-DS	CDAS	29.1 (11.0)	Mothers: 9.2 (3.0); Fathers: 8.2 (2.9)	Chi Square	phi mothers .10, phi fathers .13	mothers .41, fathers .14	Having siblings ($p = .025$); Single-parent family ($p = .029$, negative); Interaction: Boys with siblings ($p = .010$, positive); Interaction: Girls from single-parent families ($p = .015$, negative).

Note. Acronyms used: CDAS (Corah's Dental Anxiety Scale), CFSS-DS (Children's Fear Survey Schedule-Dental Subscale), VPT (Venham Picture Test), MDAS (Modified Dental Anxiety Scale), DFSS-SF (Dental Fear Survey Schedule-Short Form), DFS (Dental Fear Survey), FS

(Fear Survey), MCDAS (Modified Child Dental Anxiety Scale). "-" indicates the result was not reported. Assunção et al. (47) consisted of two subsamples, (1) of children aged 8-11 years old and (2) of children aged 12-17 years old, hence being reported across two rows. The same applies to Besiroglu-Turgut et al. (50), which consisted of subsample (1) of children aged 4-7 years and (2) aged 8-12 years. Reported means and other influences on child dental anxiety were the same across both subsamples in both studies as these were not reported separately.

Primary synthesis – mother-only and mixed parent samples

Figure 2 details the results of the primary meta-analysis, which included 23 samples across 21 studies consisting of five mother-only, eight mixed and ten unreported parental gender samples. Overall, parental dental anxiety was positively associated with child dental anxiety, with a pooled effect size of $z = .26$ (95 % CI: .15 to .37, $p < .001$, $\tau^2 = .06$, $I^2 = 92.40$ %, $Q(22) = 344.07$, $p < .001$). Converted back into Pearson's r this equated to an effect size of .26, a small positive effect. Sensitivity analysis showed this finding to be robust, with the pooled effect size remaining significant regardless of the study removed, ranging from .22 when Uziel et al. (75) was removed, to .28 when Paryab and Hosseinbor (68) was removed.

The sample also remained heterogenous across the sensitivity analysis, with I^2 ranging from 85.05% when Uziel et al. (75) was removed, to 92.93% when Busato et al. (53) was removed. Figure 2 presents a forest plot for this meta-analysis.

Visual funnel plot inspection of the sample (Figure 3) showed some asymmetry due to the large effect size of Uziel et al. (75), which could constitute evidence of publication bias. Egger's test confirmed this to be statistically significant, intercept = .32, $p = .03$. However, this must be considered alongside the high heterogeneity, which itself can contribute to funnel plot asymmetry. The significant heterogeneity statistics suggest that a large proportion of the variance in effect size was attributable to between-study variance.

Figure 2

Forest Plot of Primary Meta-Analysis

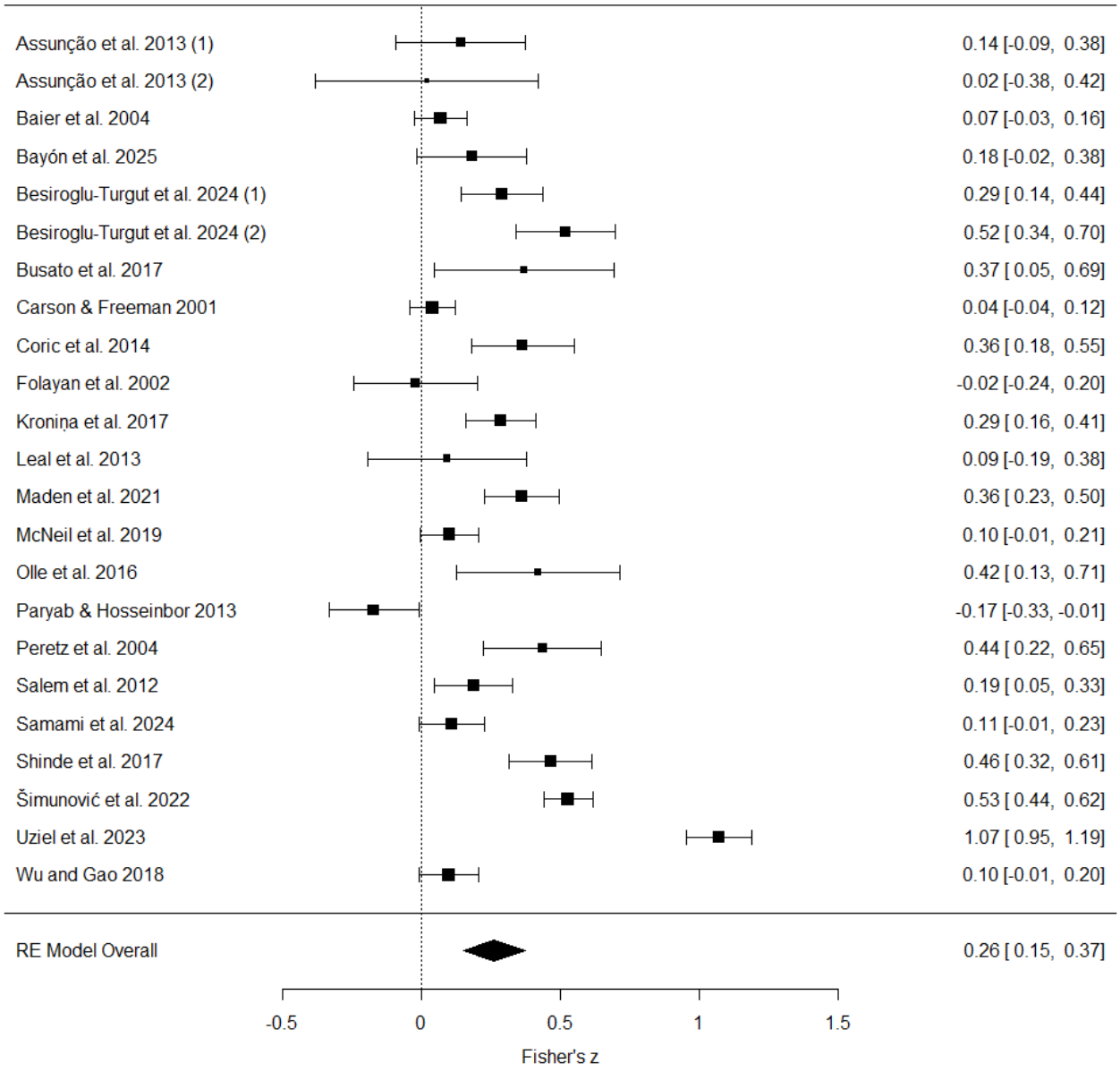


Figure 3

Funnel Plot of Primary Meta-Analysis

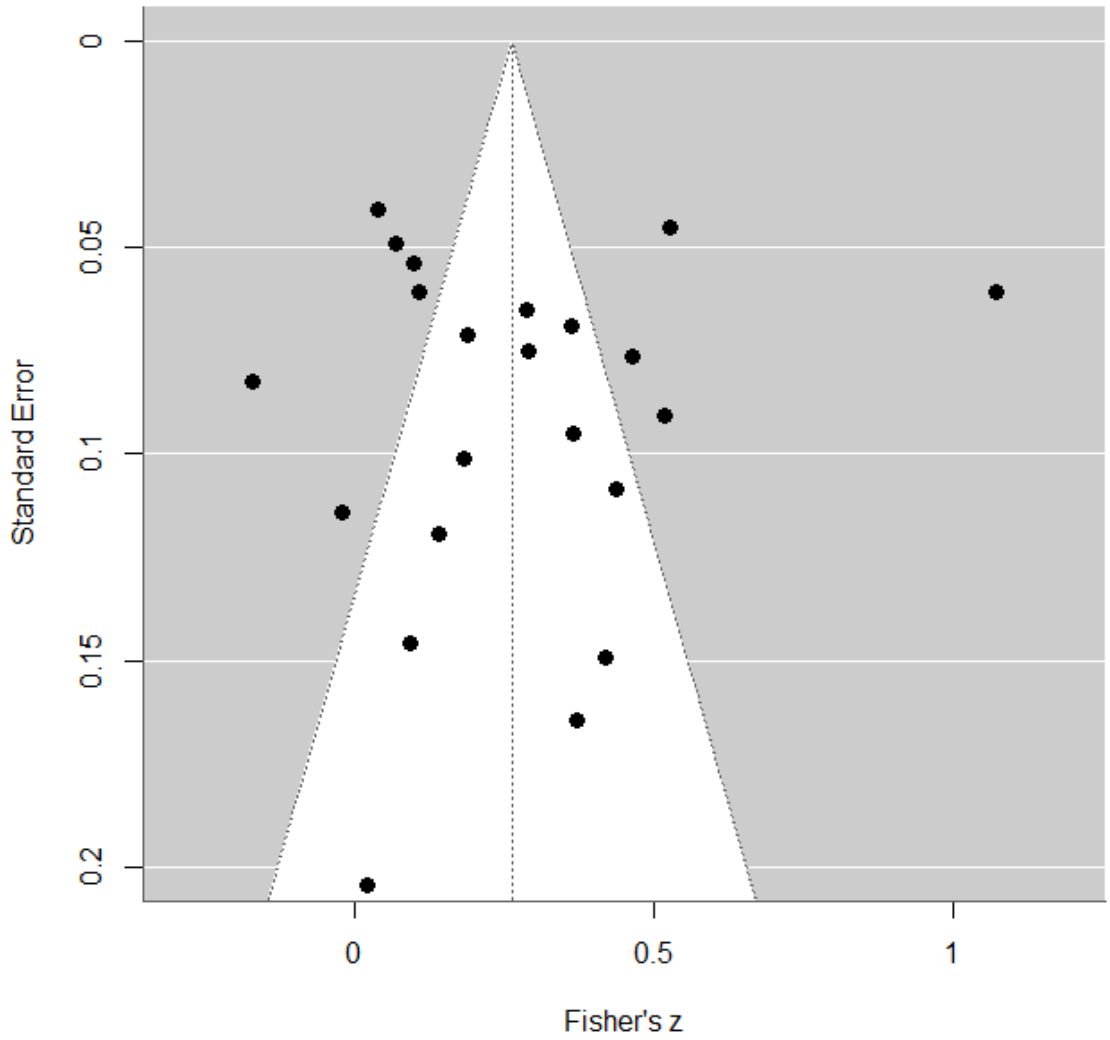
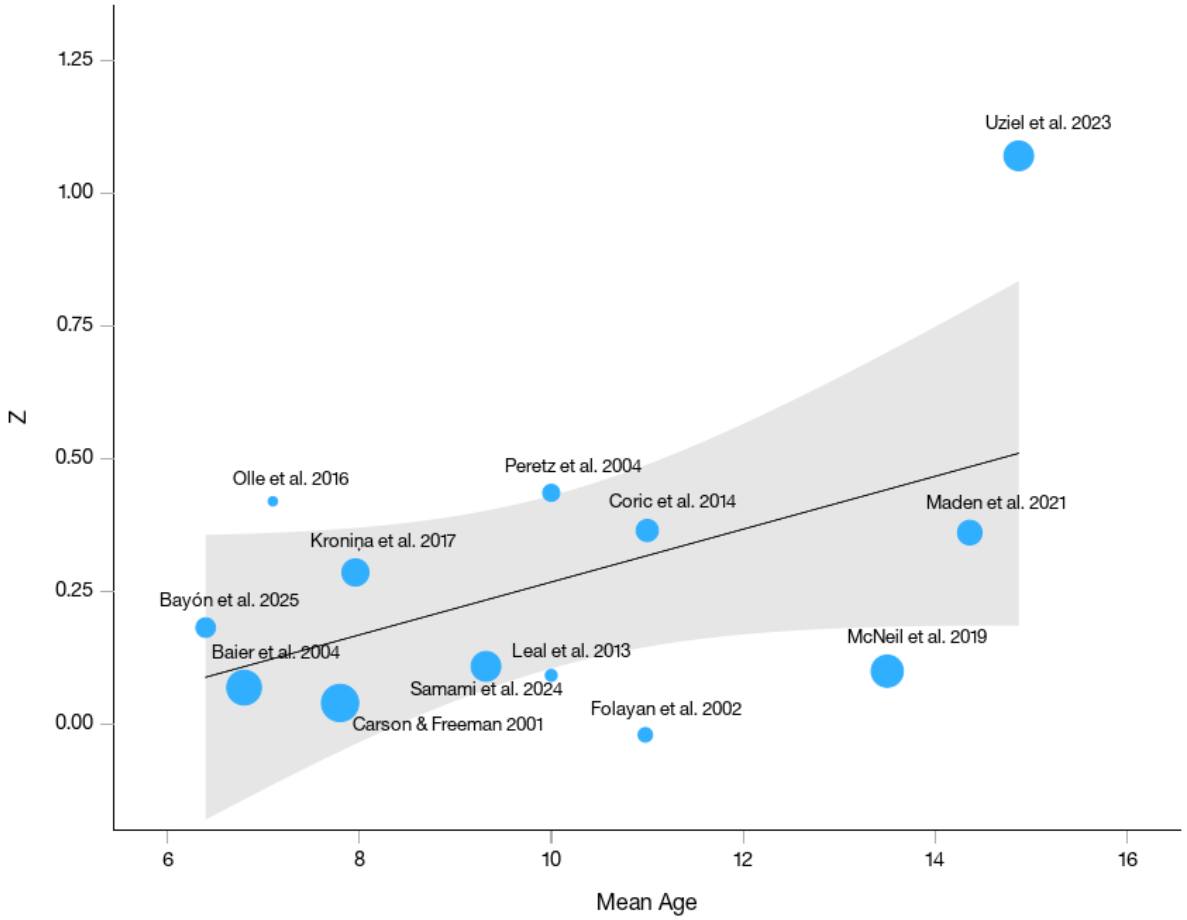


Figure 4 depicts the results of the meta-regression which included 13 samples across 13 studies consisting of one mother-only, seven mixed and five unreported parental gender samples. The mean age of child participants was not a statistically significant moderator of the effect size of parent-child dental anxiety relationship, despite showing a positive trend (β = .05, SE = .03, 95% CI [-.01, .11], p = .09). Child mean age accounted for 20.4% (R^2) of the between-study variance. A substantial, statistically significant amount of heterogeneity remained unexplained by the model (Q(11) = 158.12, p < .001, I^2 = 92.5%, τ^2 = .06), confirming that a large proportion of effect size variance was attributable to factors other than child mean age.

Figure 4

Bubble plot of primary meta-regression using child mean age as a moderator of the relationship between parent and child dental anxiety



Note. Shaded area indicates 95% confidence interval of *z*.

Secondary synthesis: father-only samples

In the secondary meta-analysis using father-only samples, there were six samples from six studies (55,58,65,75,78,79). Across the father-only model, father dental anxiety was not significantly associated with child dental anxiety, with a pooled effect size of .12 (95 % CI: -.21 to .44, $p = .47$, $\tau^2 = .16$, $I^2 = 97.30$ %, $Q(5) = 10.24$, $p < .001$). Converted back into Pearson's *r* this equated to an effect size of .12, a small positive effect.

Figure 5 presents the forest plot for this meta-analysis.

Visual funnel plot inspection of the father-only samples (Figure 6) showed asymmetry, with all studies falling to the right of the central estimate of effect size except for

Folayan et al. (58), which showed a large negative effect. Egger's test was not significant, intercept = 1.02, p = .07, suggesting a low chance of publication bias despite the asymmetrical funnel plot. In the sensitivity analysis (Table E2) when Folayan et al. (58) was removed, the association between parental and child dental anxiety became significant, with pooled effect size .27 (95 % CI: .12 to .43, $p < .001$, $\tau^2 = .03$, $I^2 = 87.74\%$, $Q(4) = 33.49$, $p < .001$). Converted back into Pearson's r this equated to an effect size of .27, a small positive effect. The high heterogeneity and sensitivity to one outlier make definitive conclusions about the father-child association difficult, but a potential small positive association may exist.

Figure 5

Forest Plot of Father-Only Samples

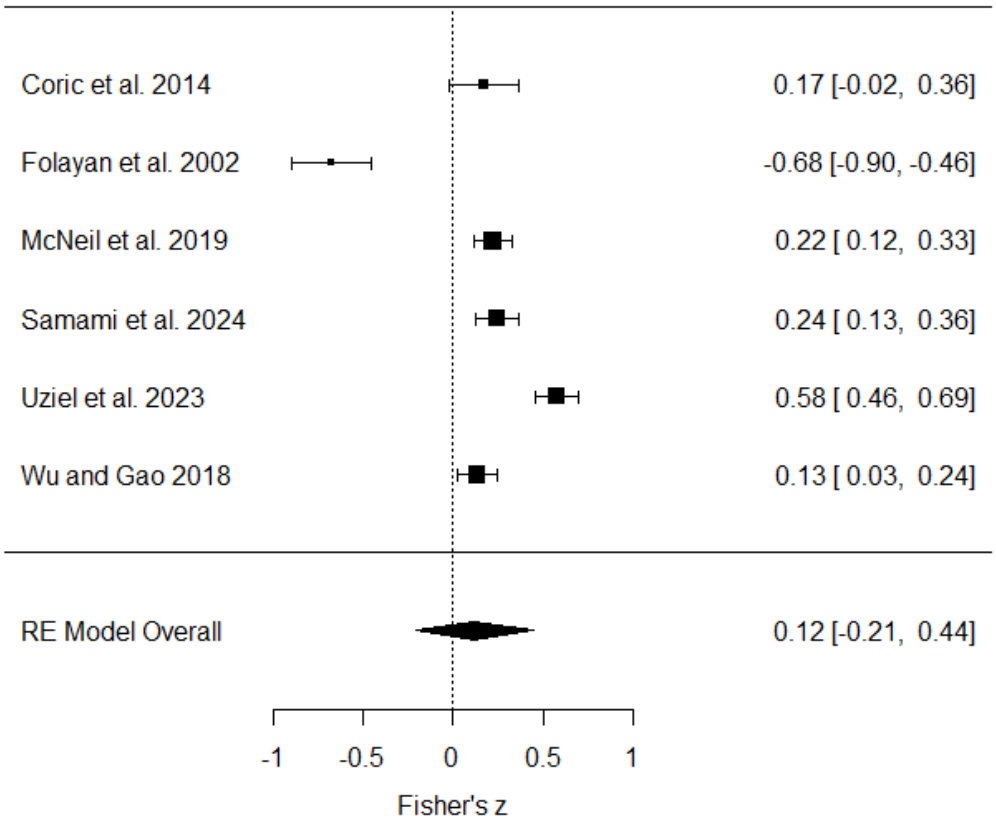
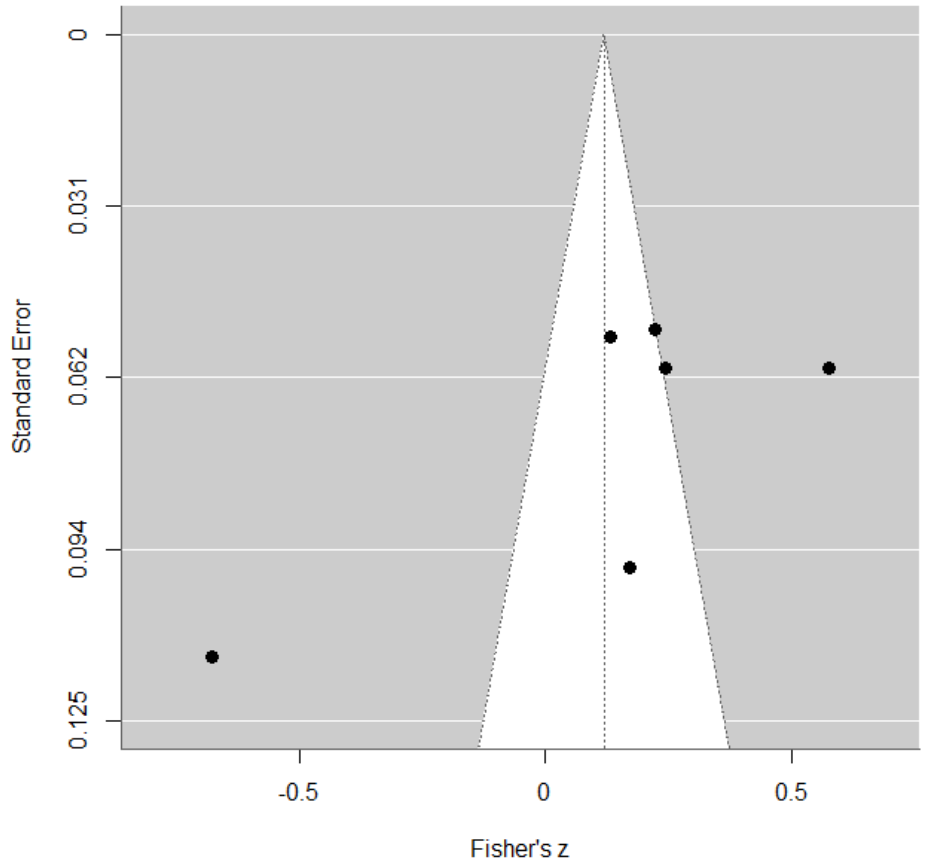


Figure 6

Funnel Plot of Father-Only Samples



Narrative synthesis

Narrative synthesis explored the heterogeneity of included studies using specific developmental stages (80).

Early childhood (ages 3-8)

Early in childhood, children often have limited dental experience, meaning parental anxiety can directly contribute to their perception of dentistry. To this end, parental modelling received support as a primary pathway for anxiety transmission. Several studies with varying methodologies found a direct, significant, positive correlation between parental and child dental anxiety (50,53,59,61,67). Excluded from the meta-analysis, Corkey and Freeman (56) identified mothers' dental anxiety as a significant predictor of child dental anxiety, and Milgrom et al. (66), testing Rachman's theory of fear acquisition (81), found

parental modelling independently predicted child dental anxiety, with children of moderate-highly anxious parents more than twice as likely to be fearful themselves.

However, a direct transmission via parental modelling was not always evidenced - it appeared its effect could be moderated or obscured by other child-specific variables. Several large-sample studies reported non-significant correlations between parent and child anxiety scores (48,54,70,73,76). One possible moderator was the child's own temperament and psychological profile. Multiple studies identified that a child's general fearfulness as a strong, independent predictor of their dental fear, suggesting that dental anxiety may be one facet of a broader anxious disposition (48,59,61,70). Vasiliki et al. (76)also found that children's psychological functioning, specifically pro-social skills, was related to their dental anxiety and behaviour. Frequent child irritability and depression were strongly predictive of child dental anxiety in Corkey and Freeman's (56) regression model. Overall, these findings suggest that internal child-specific factors may be relevant in mediating the parent-child dental anxiety relationship.

Additional parent-specific factors could have further influenced the relationship. Carson and Freeman (54) found while parental and child anxiety scores were not directly correlated, parental perception of child anxiety was significantly linked to both, suggesting a more complex interaction where parental perception may mediate or amplify how their child’s dental anxiety is expressed or managed. This has implications for studies that used parent proxy reporting of child anxiety without a method of child self-report. Similarly, Besiroglu-Turgut et al. (50) found a significant relationship between the mother’s own clinical oral health status and her child's dental anxiety. This suggests the transmission of anxiety may be rooted not only in modelled emotions but also in the child’s observation of the tangible outcomes of their mother’s own oral health behaviours. In line with this, Corkey

and Freeman (56) found irregularity of the mother's dental attendance contributed significantly to predicting child dental anxiety.

Middle childhood (ages 8-12)

At middle childhood, a child's own life experiences and accompanying cognitions begin to shape their worldview, adding further factors to the intergenerational dental anxiety transfer mechanism. Several studies in this age group still found a significant positive correlation between parental and child dental anxiety, particularly between mothers and their children (51,55,72). However, several studies equally found the correlation to be non-significant (47,58,60,62), corresponding to the high heterogeneity in the meta-analyses.

This could have been down to the growing role of child experience in the dentist, positive or negative. For instance, Klorman et al. (60) specifically studied dentally experienced children and found no significant link with parent dental anxiety, hypothesising that after their first visit, the child's own experience becomes the more dominant factor. Majstorović et al. (64) concluded that a child's previous negative medical experiences were a more significant predictor of their dental anxiety than mother anxiety. Of course, it is also possible that parental anxiety itself contributed to previous dental experience being appraised as negative by the child.

However, the examination of wider pathways of influence raises questions of whether there are mediating mechanisms. In a path analysis, Buldur (52) identified parental dental anxiety as a statistically significant direct predictor of child dental anxiety. Parental oral health behaviours and parenting style were weakly associated with child dental anxiety, and all these associations lacked a statistically supported mediating pathway. An authoritative parenting style was associated with better child dental visit behaviours, suggesting parenting approaches may influence how children cope overtly in the dental setting. Regardless, an absence of empirically supported mediators in child dental anxiety leaves open the question

of precisely how parental factors influence this construct. Coric et al. (55) explored coping strategies, finding that anxious and non-anxious children did not differ in the number or type of strategies used, suggesting the presence of coping skills may not be enough to mitigate the effects of parental dental anxiety on child dental anxiety in this age group. Nonetheless, middle childhood appears to be an important period where the influence of parental dental anxiety is likely solidified by the child's accumulating personal experience and the broader family context.

Adolescence (ages 12-18)

In adolescence, the straightforward transmission of anxiety between parent and child is even more situated the adolescent's wider world, possibly changing the nature of this link. Again, the direct parent-child relationship was as often found to be non-significant as it was significant (47,63,74,75,78).

This variability points to the importance of the wider family system, which may moderate the direct transmission of fear. Factors like family functionality, family structure, and birth order emerged as significant predictors of child dental anxiety (63,75,78), reframing the issue from one of simple parental modelling, as seen in early childhood, to one incorporating the emotional climate of the home. One longitudinal study (77) found significant mother-child associations for specific fear items on the MDAS at age 12 and 18, but not 15, suggesting non-linear parental influences.

Notably, McNeil et al. (65)found that when considered in the same model, father's but not mother's dental anxiety significantly predicted adolescent dental anxiety. Societal gender roles around emotional expression may explain this finding. A father's display of fear may be less expected than the mother's, meaning for an adolescent, this could amplify their own fear. They may interpret the father's fear as a salient warning, that "if even dad is scared, it must be really bad."

Amidst parental influences, the adolescent's own history further showed its role as a powerful factor in child dental anxiety, suggesting a mechanism of direct conditioning potentially outcompeting that of parental dental anxiety transmission. A previous negative dental experience was shown as a strong independent predictor of current anxiety (63). McNeil et al. (2019) similarly found adolescent fear of pain, perhaps developed via dental experience around their parents, significantly predicted their dental anxiety. Furthermore, when adolescents with prior traumatic experiences were methodologically excluded from a sample, the parent-child correlation appeared much stronger, to the extent it appeared to be an outlier compared to other studies (see Figure 4; 74). This was a clear suggestion that direct experience may fundamentally alter the parent-child anxiety equation and is a major contributor to heterogeneity in adolescence.

Discussion

This systematic review aimed to synthesise the evidence on the relationship between parental and child dental anxiety, building upon the previous review by Themessl-Huber et al. (19) to incorporate studies that have taken place over the intervening two decades. Our improved methodological rigour included a focus on standardised or established measures of dental anxiety, a meta-regression based on mean child age, a separate meta-analysis for father-only samples, and study quality appraisals.

The Relationship Between Parental and Child Dental Anxiety

The primary meta-analysis revealed a statistically significant, albeit small (r = .26, 95% CI: .15 to .36, p < .001) positive association between parental and child dental anxiety across the included studies. This overall effect size aligned with that found by Themessl-Huber et al. (2010), lending further support to this association. Although correlational rather than causal, this finding was consistent with intergenerational transmission models of anxiety (21,22). It remains possible, however, that the association was also driven by genetic confounding, a debated issue (82–84) that needs to be addressed with genetically-informative designs (e.g., 85).

However, our meta-regression using mean child age as a moderator of this relationship yielded somewhat different patterns compared to Themessl-Huber et al. (19). It found a weak positive nonsignificant trend whereby the relationship between parent and child dental anxiety strengthened with child age. This tentatively runs against the findings of the previous review that suggested the relationship was stronger for younger children (19). This discrepancy might have reflected differences in the included studies over the intervening years, variations in measurement tools, or the stricter inclusion criteria regarding measures in the current review. In any case, its use of mean age as a continuous moderator variable as

opposed to grouping studies based on the maximum age of the child, as in the previous review, represents an advancement in methodological rigour.

Another key addition to the review was the secondary meta-analysis focusing on father-only samples. This did not find a statistically significant association, contrasting with the main findings and aligning with previous suggestions that mother dental anxiety is more influential (19). However, the finding that the association became significant after removing one outlier suggests the relationship warrants further investigation. Studies highlighted the complexity and importance of the father role, which may involve differing transmission mechanisms of dental anxiety to those of the mothers.

Overall, the narrative synthesis underscored that parental dental anxiety, while significant, operated within a complex network of factors which may have contributed to the high heterogeneity observed.

Limitations

The evidence included in this review was subject to several limitations, as identified by risk of bias analysis (Table 7). Firstly, the widespread use of cross-sectional designs with correlational measures limited the ability to infer causality or determine the directionality of the parent-child dental anxiety relationship. A general lack of longitudinal data further prevented examination of how this association might evolve over different developmental stages. No studies accounted for genetic confounding. Most studies relied on convenience sampling, limiting the generalisability of the findings to the wider population. This is especially important considering the socioeconomic and geographic disparities in dental caries prevalence. Studies were also limited by modest sample sizes, potentially lacking statistical power. Despite being established measures, the use of self-report questionnaires raises concerns about potential biases, such as social desirability, and how these reports compare to studies using physiological markers of anxiety. Common method variance may

occur if the same parent completes a questionnaire about their anxiety and their child's, where the association between the two measures may overinflate due to the parent's own perceptions and response style, rather than reflecting a true underlying relationship. To address this, future research should additionally incorporate objective observational measures of anxiety and gather data from multiple informants beyond the parent.

In general, analyses were often restricted to bivariate comparisons inadequately controlling for confounders or adjusting for multiple testing. A primary overlooked confounder is genetic confounding, as an observed association may not stem from social transmission but from shared genes predisposing both parent and child to anxiety. Other largely overlooked confounders include the family's socioeconomic status, which influences access to care and oral health literacy; any shared history of dental disease or trauma within the family, which could cause fear in both members independently; and the parent's and child's levels of general anxiety. The lack of confound control in studies included in the meta-analysis was also related to the inclusion criteria for the meta-analysis itself, which focused on the examination of bivariate effects.

This systematic review also possessed methodological limitations. First, restricting inclusion to studies published in English may have introduced language or cultural bias. Second, despite attempts to contact authors, the unobtained missing data for some studies prevented their inclusion in the meta-analyses and could have impacted the results. Third, the assessment of publication bias using funnel plots and Egger's test was complicated by significant statistical heterogeneity.

Finally, the meta-analyses required converting diverse statistical measures into a common effect size metric, Fisher's *z*, which may have introduced inaccuracies into the synthesis.

Implications and Future Directions

For clinical practice, this review suggests value in incorporating routine, brief screening for parental dental anxiety into paediatric settings. If the parent-child dental anxiety link is causal, identifying anxious parents allows for targeted interventions to disrupt transmission pathways. However, even if it is not causal, an anxious parent remains a powerful marker for other risks, such as shared genetic confounding, and can directly affect the clinical encounter by creating a tense atmosphere or undermining child treatment adherence. Managing this parental anxiety is therefore important for the success of child dental appointments, regardless of its causal role.

Future research requires an advancement in methodological rigour to establish causality before establishing policy to fund large-scale interventions. Longitudinal, genetically informative studies could control for key confounders such as parenting styles, child temperament and socioeconomic status. Tools such as Polygenic Risk Scores, in light of recent genome-wide association studies of dental anxiety (86), could robustly disentangle genetic from environmental influences.

To directly test causal mechanisms, the research must progress towards intervention research. These studies, ideally in the form of randomised controlled trials (RCTs), should experimentally manipulate specific variables. For example, beyond testing standard family therapy, this could target specific parental behaviours such as accommodation while the child receives direct treatment. This is imperative in light of the finding from research reviews that simply including parents in a child's CBT for anxiety does not reliably improve outcomes (87). While parental factors may contribute to the origin of dental anxiety, the child's anxiety can become a self-maintaining problem as they accumulate experience, requiring its own treatment. Methodologically rigorous research could also clarify the differential roles of mothers versus fathers, refining the targets for more effective, tailored interventions.

Conclusion

This review found a statistically significant, though modest, association between parental and child dental anxiety, highlighting parental anxiety as a potentially modifiable relevant factor in children's dental experiences.

References

1. Knapp R, Marshman Z, Rodd H. Treatment of dental caries under general anaesthetic in children. BDJ Team. 2017;4(7).
2. WHO. Global Oral Health Status Report: Towards Universal Health Coverage for Oral Health By 2030. 1st ed. Geneva: World Health Organization; 2022. 1 p.
3. Office for Health Improvement & Disparities. GOV.UK. 2023 [cited 2025 Apr 22]. National Dental Epidemiology Programme (NDEP) for England: oral health survey of 5 year old children 2022. Available from: https://www.gov.uk/government/statistics/oral-health-survey-of-5-year-old-children-2022/national-dental-epidemiology-programme-ndep-for-england-oral-health-survey-of-5-year-old-children-2022
4. Aly NM, Ihab M, Ammar N, Quritum M, Moussa H, El Tantawi M. Impact of dental caries and Self-perceived oral health on daily lives of children and mothers in rural Egypt: a household survey. BMC Oral Health. 2024 Aug 2;24(1):884.
5. Haroon A, Jabeen A, Babar W, Awan N, Fatima O, Rabbani M. Dental Caries as a Cause of Primary Hypertension Among Children and Adolescents. Cureus. 2025;17(1):e78042.
6. James A, Janakiram C, Meghana RV, Kumar VS, Sagarkar AR, Y. YB. Impact of oral conditions on oral health-related quality of life among Indians- a systematic review and Meta-analysis. Health Qual Life Outcomes. 2023 Aug 31;21(1):102.
7. Ramadhani A, Vianti V, Badruddin IA, Bahar A, Malik NA, Rahardjo A. The Association between Dental Caries and Cardiovascular Disease: A Scoping Review. Eur J Gen Dent. 2025 May;14(02):122–35.
8. Singh N, Dubey N, Rathore M, Pandey P. Impact of early childhood caries on quality of life: Child and parent perspectives. J Oral Biol Craniofacial Res. 2020 Apr 1;10(2):83–6.
9. Aardal V, Hol C, Rønneberg A, Neupane SP, Willumsen T. Who requires dental treatment under general anesthesia due to pain and severe dental anxiety? Findings from panoramic X-ray images and anamnesis. Acta Odontol Scand. 2025 Feb 4;84:78–85.

10. Choi SU. Is postoperative nausea and vomiting still the big ‘little’ problem? Korean J Anesthesiol. 2016 Feb;69(1):1–2.

11. Office for Health Improvement & Disparities. GOV.UK. 2024 [cited 2025 Apr 22]. Hospital tooth extractions in 0 to 19 year olds: short statistical commentary 2023. Available from: https://www.gov.uk/government/statistics/hospital-tooth-extractions-in-0-to-19-year-olds-2023/hospital-tooth-extractions-in-0-to-19-year-olds-short-statistical-commentary-2023

12. Patel S, Fantauzzi AJ, Patel R, Buscemi J, Lee HH. Childhood caries and dental surgery under general anesthesia: An overview of a global disease and its impact on anesthesiology. Int Anesthesiol Clin. 2023 Jan 1;61(1):21–5.

13. Bardakçı E, Yıldız Ş, Yazmacı B, Doğan ME, Mumcu K, Doğan MS. Evaluation of Pediatric Patients’ General Health Status Prior to Dental Treatment Under General Anesthesia: A Retrospective Study. Children. 2025 July;12(7):903.

14. Winkler CH, Bjelopavlovic M, Lehmann KM, Petrowski K, Irmscher L, Berth H. Impact of Dental Anxiety on Dental Care Routine and Oral-Health-Related Quality of Life in a German Adult Population—A Cross-Sectional Study. J Clin Med. 2023 Aug 14;12(16):5291.

15. Almarzouq SSFS, Chua H, Yiu CKY, Lam PPY. Effectiveness of Nonpharmacological Behavioural Interventions in Managing Dental Fear and Anxiety among Children: A Systematic Review and Meta-Analysis. Healthcare. 2024 Feb 23;12(5):537.

16. American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders [Internet]. DSM-5-TR. American Psychiatric Association Publishing; 2022 [cited 2023 Mar 30]. Available from: https://psychiatryonline.org/doi/book/10.1176/appi.books.9780890425787

17. De Jongh A, Schutjes M, Aartman IHA. A test of Berggren’s model of dental fear and anxiety. Eur J Oral Sci. 2011;119(5):361–5.

18. Cantekin K, Yildirim MD, Cantekin I. Assessing change in quality of life and dental anxiety in young children following dental rehabilitation under general anesthesia. Pediatr Dent. 2014;36(1):12E-17E.

19. Themessl-Huber M, Freeman R, Humphris G, MacGillivray S, Terzi N. Empirical evidence of the relationship between parental and child dental fear: a structured review and meta-analysis. Int J Paediatr Dent. 2010 Mar;20(2):83–101.

20. Sun IG, Chai HH, Lo ECM, Chu CH, Duangthip D. Dental Fear and Anxiety of Chinese Preschool Children in a School-Based Outreach Service Using Silver Diamine Fluoride for Caries Control: A Cross-Sectional Study. Int J Environ Res Public Health Electron Resour. 2023;20(5).

21. Aktar E. Intergenerational Transmission of Anxious Information Processing Biases: An Updated Conceptual Model. Clin Child Fam Psychol Rev. 2022;25(1):182–203.

22. Creswell C, Cooper P, Murray L. Intergenerational Transmission of Anxious Information Processing Biases. In: Information Processing Biases and Anxiety [Internet]. John Wiley & Sons, Ltd; 2010 [cited 2023 Apr 22]. p. 279–95. Available from: https://onlinelibrary.wiley.com/doi/abs/10.1002/9780470661468.ch12

23. Subar AR, Rozenman M. Like parent, like child: Is parent interpretation bias associated with their child's interpretation bias and anxiety? A systematic review and meta-analysis. J Affect Disord. 2021 Aug 1;291:307–14.

24. 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. Int J Surg. 2021 Apr 1;88:105906.

25. Frankl SN, Shiere FR, Fogels HR. Should the parent remain with the child in the dental operatory? J Dent Child. 1962;29:150–63.

26. Allen MS, Iliescu D, Greiff S. Single Item Measures in Psychological Science. Eur J Psychol Assess [Internet]. 2022 Jan 27 [cited 2025 Mar 25]; Available from: https://econtent.hogrefe.com/doi/10.1027/1015-5759/a000699

27. Alvesalo I, Murtomaa H, Milgrom P, Honkanen A, Karjalainen M, Tay K -M. The Dental Fear Survey Schedule: a study with Finnish children. Int J Paediatr Dent. 1993 Dec;3(4):193–8.

28. Buchanan H, Niven N. Further evidence for the validity of the Facial Image Scale. Int J Paediatr Dent. 2003 Sept;13(5):368–9.

29. Carson P, Freeman R. Assessing child dental anxiety: the validity of clinical observations. Int J Paediatr Dent. 1997;7(3):171–6.

30. Carson P, Freeman R. Tell-show-do: reducing anticipatory anxiety in emergency paediatric dental patients. Int J Health Promot Educ. 1998 Jan;36(3):87–90.

31. Humphris GM, Morrison T, Lindsay S. The Modified Dental Anxiety Scale: validation and United Kingdom norms. Community Dent Health. 1995;

32. Kleinknecht RA, Klepac RK, Alexander LD. Origins and Characteristics of Fear of Dentistry. J Am Dent Assoc. 1973 Apr 1;86(4):842–8.

33. Klingberg G. Reliability and validity of the Swedish version of the Dental Subscale of the Children's Fear Survey Schedule, CFSS-DS. Acta Odontol Scand. 1994 Aug;52(4):255–6.

34. Scherer MW, Nakamura CY. A fear survey schedule for children (FSS-FC): A factor analytic comparison with manifest anxiety (CMAS). Behav Res Ther. 1968 May;6(2):173–82.

35. Venham LL, Gaulin-Kremer E. A self-report measure of situational anxiety for young children. Pediatr Dent. 1979;1(2):91–6.

36. Cohen J. A Coefficient of Agreement for Nominal Scales. Educ Psychol Meas. 1960 Apr 1;20(1):37–46.

37. El-Housseiny AA, Alsadat FA, Alamoudi NM, El Derwi DA, Farsi NM, Attar MH, et al. Reliability and validity of the Children's Fear Survey Schedule-Dental Subscale for Arabic-speaking children: a cross-sectional study. BMC Oral Health. 2016 Dec;16(1):49.

38. Kmet LM, Lee RC, Cook LS. Standard quality assessment criteria for evaluating primary research papers from a variety of fields. Edmonton, Alta.: Alberta Heritage Foundation for Medical Research; 2004.

39. Cohen J. Statistical Power Analysis for the Behavioral Sciences. 2nd edn. New York: Routledge; 2013. 567 p.

40. Kanters S. Fixed- and Random-Effects Models. In: Evangelou E, Veroniki AA, editors. Meta-Research: Methods and Protocols [Internet]. New York, NY: Springer US; 2022 [cited 2025 May 26]. p. 41–65. Available from: https://doi.org/10.1007/978-1-0716-1566-9_3

41. Cheung MWL. A Guide to Conducting a Meta-Analysis with Non-Independent Effect Sizes. Neuropsychol Rev. 2019;29(4):387–96.

42. Langan D, Higgins JPT, Simmonds M. Comparative performance of heterogeneity variance estimators in meta-analysis: a review of simulation studies. Res Synth Methods. 2017;8(2):181–98.

43. Popay J, Roberts H, Sowden A, Petticrew M, Arai L, Rodgers M, et al. Guidance on the Conduct of Narrative Synthesis in Systematic Reviews. Prod ESRC Methods Programme Version. 2006;1(1):b92.

44. Higgins JPT, Thompson SG, Deeks JJ, Altman DG. Measuring inconsistency in meta-analyses. BMJ. 2003 Sept 4;327(7414):557–60.

45. Egger M, Davey Smith G, Schneider M, Minder C. Bias in meta-analysis detected by a simple, graphical test. BMJ. 1997 Sept 13;315(7109):629–34.

46. Haddaway NR, Page MJ, Pritchard CC, McGuinness LA. PRISMA2020: An R package and Shiny app for producing PRISMA 2020-compliant flow diagrams, with interactivity for optimised digital transparency and Open Synthesis. Campbell Syst Rev. 2022;18(2):e1230.

47. Assuncão CM, Losso EM, Andreatini R, de Menezes JVNB. The relationship between dental anxiety in children, adolescents and their parents at dental environment. J Indian Soc Pedod Prev Dent. 2013 Sept;31(3):175–9.

48. Baier K, Milgrom P, Russell S, Mancl L, Yoshida T. Children's fear and behavior in private pediatric dentistry practices. Pediatr Dent. 2004 Aug;26(4):316–21.

49. Bayón G, Stiernhufvud F, Ribas-Pérez D, Biedma Perea M, Mendoza Mendoza A. Parental Anxiety Disorders and Their Impact on Dental Treatment in Children Aged 4 to 13 Years: A Cross-Sectional Observational Study. J Clin Med. 2025 Mar 10;14(6):1869.

50. Besiroglu-Turgut E, Kayaalti-Yuksek S, Bulut M. Evaluation of the relationship between dental anxiety and oral health status of mothers and their children. BMC Oral Health. 2024 June;24(1):749.

51. Bezabih S, Fantaye W, Tesfaye M. Dental anxiety: prevalence and associated factors, among children who visited Jimma University Specialized Hospital Dental Clinic. Ethiop Med J. 2013 Apr;51(2):115–21.

52. Buldur B. Pathways between parental and individual determinants of dental caries and dental visit behaviours among children: Validation of a new conceptual model. Community Dent Oral Epidemiol. 2020;48(4):280–7.

53. Busato P, Garbín RR, Santos CN, Paranhos LR, Rigo L. Influence of maternal anxiety on child anxiety during dental care: cross-sectional study. Sao Paulo Med J Rev Paul Med. 2017 Apr;135(2):116–22.

54. Carson P, Freeman R. Dental caries, age and anxiety: factors influencing sedation choice for children attending for emergency dental care. Community Dent Oral Epidemiol. 2001 Feb;29(1):30–6.

55. Coric A, Banozic A, Klaric M, Vukojevic K, Puljak L. Dental fear and anxiety in older children: an association with parental dental anxiety and effective pain coping strategies. J Pain Res. 2014;1:515–21.

56. Corkey B, Freeman R. Predictors of dental anxiety in six-year-old children: findings from a pilot study. J Dent Child. 1994 Aug;61(4):267–71.

57. Fernandes E, Tôrres A, Nóbrega F, Santos P. Predictors of Dental Anxiety in Children: Self-Perception and Parental Factors. Cumhur Dent J. 2020 Dec 31;23(4):291–9.

58. Folayan MO, Adekoya-Sofowora CA, D. Otuyemi O, Ufomata D. Parental anxiety as a possible predisposing factor to child dental anxiety in patients seen in a suburban dental hospital in Nigeria: Parental and child dental anxiety in Nigeria. Int J Paediatr Dent. 2002 July 18;12(4):255–9.

59. Klingberg G, Berggren U, Carlsson SG, Noren JG. Child dental fear: cause-related factors and clinical effects. Eur J Oral Sci. 1995 Dec;103(6):405–12.

60. Klorman R, Ratner J, Arata CL, King JBJ, Sveen OB. Predicting the child's uncooperativeness in dental treatment from maternal trait, state, and dental anxiety. J Dent Child. 1978 Feb;45(1):62–7.

61. Kronina L, Rascevska M, Care R. Psychosocial factors correlated with children's dental anxiety. Stomatologija. 2017;19(3):84–90.

62. Leal AM, Serra KG, Queiroz RC, Araújo MA, Maia Filho EM. Fear and/or anxiety of children and parents associated with the dental environment. Eur J Paediatr Dent. 2013 Dec;14(4):269–72.

63. Maden EA, Maden Ö, Karabulut B, Polat GG. Evaluation of Factors Affecting Dental Anxiety in Adolescents. Cumhur Dent J. 2021 Sept 15;24(3):244–55.

64. Majstorovic M, Skrinjaric I, Glavina D, Szirovicza L. Factors predicting a child's dental fear. Coll Antropol. 2001 Dec;25(2):493–500.

65. McNeil DW, Randall CL, Cohen LL, Crout RJ, Weyant RJ, Neiswanger K, et al. Transmission of dental fear from parent to adolescent in an Appalachian sample in the USA. Int J Paediatr Dent. 2019 Nov;29(6):720–7.

66. Milgrom P, Mancl L, King B, Weinstein P. Origins of childhood dental fear. Behav Res Ther. 1995 Mar;33(3):313–9.

67. Ollé L, Araujo C, Casagrande L, Bento L, Santos B, Dalpian D. Anxiety in Children submitted to Dental Appointment. Pesqui Bras Em Odontopediatria E Clínica Integrada. 2016;16(1):167–75.

68. Paryab M, Hosseinbor M. Dental anxiety and behavioral problems: a study of prevalence and related factors among a group of Iranian children aged 6-12. J Indian Soc Pedod Prev Dent. 2013 June;31(2):82–6.

69. Peretz B, Nazarian Y, Bimstein E. Dental anxiety in a students' paediatric dental clinic: children, parents and students. Int J Paediatr Dent. 2004 May;14(3):192–8.

70. Salem K, Kousha M, Anissian A, Shahabi A. Dental Fear and Concomitant Factors in 3-6 Year-old Children. J Dent Res Dent Clin Dent Prospects. 2012;6(2):70–4.

71. Samami M, Mahjoub Khatibani SP, Alian Z, Mohammaditabaar MS, Hosseini Moghaddam Emami F, Hassanzadeh Rad A. Do Parental and Children's Dental Anxiety Affect Childhood Dental Caries? Iran J Pediatr [Internet]. 2024 Aug 21 [cited 2024 Nov 10];34(5). Available from: https://brieflands.com/articles/ijp-147634

72. Shinde SD, Hegde RJ. Evaluation of the influence of parental anxiety on children's behavior and understanding children's dental anxiety after sequential dental visits. Indian J Dent Res. 2017 Feb;28(1):22–6.

73. Shindova MP, Blecheva AB, Raycheva JG. Dental Fear of 6-12-year-old Children - Role of Parents, Gender and Age. Folia Med (Plovdiv). 2019 Sept 30;61(3):444–50.

74. Simunovic L, Spiljak B, Radulovic M, Vlahovljak A, Ostojic M, Krlev J, et al. Relationship between Children's and Parents' Dental Anxiety: A Cross-Sectional Study on the Six European Countries. Dent J. 2022 Nov;10(11).

75. Uziel N, Meyerson J, Kuskasy M, Gilon E, Eli I. The Influence of Family Milieu on Dental Anxiety in Adolescents—A Cross-Sectional Study. J Clin Med. 2023 Mar 10;12(6):2174.

76. Vasiliki B, Arapostathis K, Kotsanos N, Karagiannis V, Van Loveren C, Veerkamp J. Relationship between Child and Parental Dental Anxiety with Child's Psychological Functioning and Behavior during the Administration of Local Anesthesia. J Clin Pediatr Dent. 2016 Jan 1;40(6):431–7.

77. Wong HM, Zhang YY, Perfecto A, McGrath CPJ. Dental fear association between mothers and adolescents-a longitudinal study. PeerJ. 2020;1:e9154.

78. Wu L, Gao X. Children's dental fear and anxiety: exploring family related factors. BMC Oral Health. 2018 Dec;18(1):100.

79. Samal A, Menon I, Jha K, Kumar G, Singh A, Dash KS, et al. Influence of Parental Dental Anxiety on Children's Oral Health Status - a Cross Sectional Survey. J Health Sci Med Res. 2024 Dec 25;20241134.

80. Packer MJ. Child Development: Understanding A Cultural Perspective. SAGE; 2021. 588 p.

81. Rachman S. The conditioning theory of fearacquisition: A critical examination. Behav Res Ther. 1977 Jan 1;15(5):375–87.

82. Eley TC, McAdams TA, Rijsdijk FV, Lichtenstein P, Narusyte J, Reiss D, et al. The Intergenerational Transmission of Anxiety: A Children-of-Twins Study. Am J Psychiatry. 2015 July;172(7):630–7.

83. McAdams TA, Neiderhiser JM, Rijsdijk FV, Narusyte J, Lichtenstein P, Eley TC. Accounting for genetic and environmental confounds in associations between parent and child characteristics: A systematic review of children-of-twins studies. Psychol Bull. 2014;140(4):1138–73.

84. Rice F. The Intergenerational Transmission of Anxiety Disorders and Major Depression. Am J Psychiatry. 2022 Sept 1;179(9):596–8.

85. Chen T, Liu C, Molenaar PCM, Leve LD, Ganiban JM, Natsuaki MN, et al. Examining Timing Effects in the Intergenerational Transmission of Anxiety and Depressive Symptoms: A Genetically Informed Study. Dev Psychol. 2024 Apr;60(4):747–63.

86. Zhou Y, McNeil DW, Haworth S, Dudding T, Chernus JM, Liu C, et al. Genome-wide Scan of Dental Fear and Anxiety Nominates Novel Genes. J Dent Res. 2022 Nov;101(12):1526–36.

87. Byrne S, Cobham V, Richardson M, Imuta K. Do Parents Enhance Cognitive Behavior Therapy for Youth Anxiety? An Overview of Systematic Reviews Over Time. Clin Child Fam Psychol Rev. 2023 Sept;26(3):773–88.

88. Myers L, Sirois MJ. Spearman Correlation Coefficients, Differences between. In: Encyclopedia of Statistical Sciences [Internet]. John Wiley & Sons, Ltd; 2006 [cited 2025 Mar 31]. Available from: https://onlinelibrary.wiley.com/doi/abs/10.1002/0471667196.ess5050.pub2

89. Cramér H. Mathematical Methods of Statistics. Princeton University Press; 1946. 598 p.

90. Stommel M, Katherine JD. Statistics for Advanced Practice Nurses and Health Professionals [Internet]. Springer Publishing Company; 2025 [cited 2025 Mar 31]. Available from: https://connect.springerpub.com/content/book/978-0-8261-9825-9

91. Nieminen P. Application of Standardized Regression Coefficient in Meta-Analysis. BioMedInformatics. 2022 Sept;2(3):434–58.

Service Improvement Project

What are the perceived barriers and facilitators to the treatment of emotional regulation for older people in Berkshire? A mixed methods study

Internal Supervisor:

Dr Matthew Knight

The Oxford Institute of Clinical Psychology Training, Oxford Health NHS Foundation Trust

matthew.knight@hmc.ox.ac.uk

External Supervisor:

Dr Chris Allen

Psychological Interventions in Nursing and Community, Berkshire Healthcare NHS Foundation Trust

chris.allen@berkshire.nhs.uk

Proposed Journal: BMC Geriatrics

Rationale: This journal focuses on the health and healthcare of older adults, including mental health and the effects of healthcare systems and policies.

Abstract

Background: Suicide among older people is a clinical concern, particularly for those with diagnoses such as emotionally unstable personality disorder (EUPD). Research has shown emotional dysregulation, associated with EUPD, presents uniquely in older people. This project aimed to address the need for better emotional regulation treatment for older people in Berkshire, exploring barriers and facilitators to its development and implementation. It inquired into what elements of existing older people's services were transferable to this end, and what kinds of referrals presented to existing services.

Methods: The project was mixed methods. The quantitative component examined patient data for people over 65 with diagnoses related to emotional dysregulation. The qualitative component used semi-structured interviews of eight stakeholders working in Berkshire mental health services, about their experience of emotional regulation and older people.

Results: Patient data indicated clients with clinical presentations indicative of emotional dysregulation saw various services, with differences between those over and under 75. There was a low EUPD prevalence and various diagnostic clusters assigned to clients. Interpretative phenomenological analysis of interviews identified four superordinate themes around reflecting on self, interpersonal humanity, navigating unchartered territory and how progress is made.

Conclusions: Recommendations were made for a new pathway, including clarifying terminology to describe symptoms, team collaboration to share expertise, and age-appropriate interventions.

Keywords: emotional regulation, EUPD, BPD, older people

Introduction

Suicide in Older People

In 2023, there were 951 suicides among those aged 65 and over in England, the highest figure this century (1). A recent national report also found existing older people's mental health services were not meeting clinical demand (2), indicating a need for improved treatment. Personality disorders, estimated to affect 14.5% of older people (3), have been linked to 44% of older people suicides (4). This suggested that older people with personality disorders were particularly vulnerable to suicide.

Understanding Emotional Regulation in Older People

Personality disorders are associated with emotional regulation difficulties (5). Personality disorders are a pervasive pattern of inner experience and behaviour leading to impairment, significantly divergent from cultural norms, and beginning in adolescence or early adulthood (6).

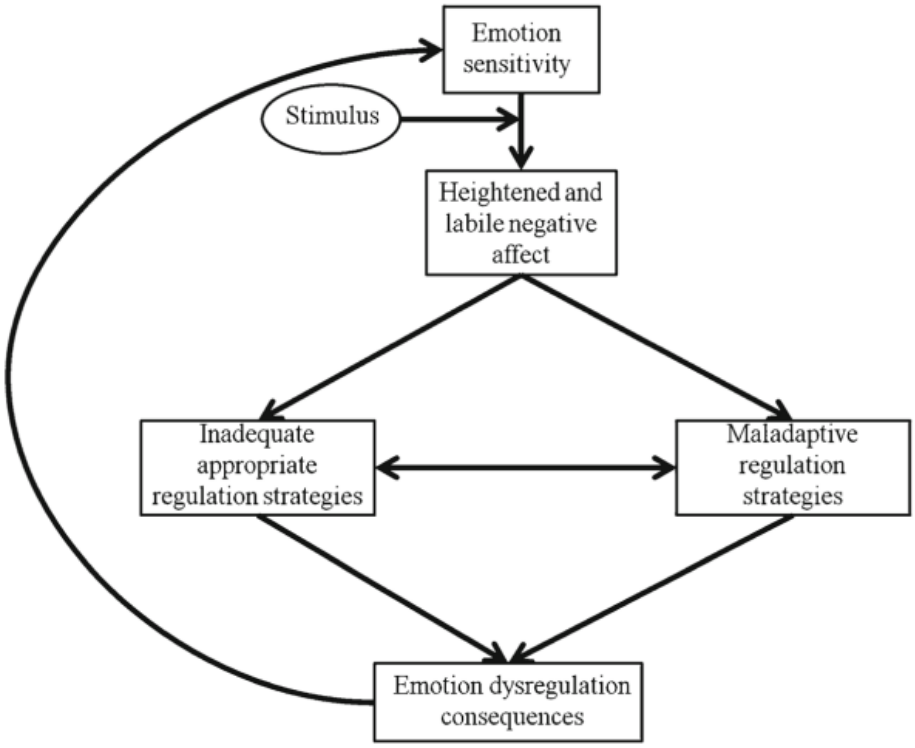
Emotional regulation is the processes by which individuals manage and respond to their emotional experiences (7). It involves strategies, used consciously or unconsciously, to influence the intensity, duration, and expression of emotions, and associated thoughts and behaviours. These skills help maintain wellbeing, especially around challenging life events. Someone struggling with such skills is said to have emotional regulation difficulties or emotional dysregulation. If combined with wider relationship difficulties and impulsivity, including risk behaviours such as self-harm, someone may have complex emotional needs (CEN), emotionally unstable personality disorder (EUPD) or borderline personality disorder (BPD; 6,8).

One way of understanding emotional dysregulation is the multi-component model (Figure 1). This drew on Linehan's (9) biosocial model of BPD, which stated that those with

BPD experience emotional dysregulation due to a combination of biological vulnerabilities and an invalidating early life environment.

Figure 1

Multi-component model of emotional dysregulation (10)



The multi-component model theorises that in response to a negative stimulus, such as a difficult life event, people with BPD experience intense, fast-changing negative emotions. This leads to difficulty learning appropriate emotional regulation strategies, and reliance on maladaptive, impulsive alternatives, such as self-harm or substance misuse. These behaviours bring their own harmful consequences, reinforcing sensitivity to negative stimuli and perpetuating a maladaptive cycle. Those biologically predisposed to emotional sensitivity and who face an invalidating environment therefore develop emotional dysregulation (11). An invalidating environment may dismiss or punish emotional expression, conveying that emotions are wrong or exaggerated. Such environments may prevent the development of effective emotion regulation by teaching individuals to mistrust their own feelings. It is the

repeated, chronic experience of this invalidation, rather than a single event, which, when combined with biological emotional sensitivity, provides an ‘adequate’ dose to produce this dysregulation (10). Diagnoses such as BPD are thus often based on early life events like trauma or neglect. The criteria for BPD diagnosis, not oriented to older people, lead to fewer diagnoses in older people, leading to new research focusing on other age groups (12), which reinforces the criteria as not oriented to older people.

However, later life challenges such as bereavement or physical health conditions could also lead to personality disorder (2). For older people, negative stimuli might include bereavement, moving into a care home, or illness. These may result in impulsive risk behaviours (13,14), such as medication noncompliance and interference with wounds (15,16). Personality disorder diagnostic rates have not reflected older people’s emotional regulation needs (17), meaning commissioners have often lacked the evidence to allocate the required resources (2,18).

Service Understanding and Provision and the Present Project

The present project drew on service development models including the Community Mental Health Framework for Adults and Older Adults (19) and the National Service Framework for Older People (20). These emphasised person-centred, integrated, accessible and recovery-oriented care in older people, particularly with severe, enduring mental illness. Specialist older people mental health services have often been under-resourced compared to other age groups (21).

A recent NHS Trust service provision inquiry recommended the funding of enhanced older people CEN services (2). This involved more equitable, needs-led support access, upskilling of staff, and age-appropriate offers. This was because older people were less likely than younger people to meet existing service criteria, for example BPD/EUPD diagnosis and

frequent parasuicidal behaviours (2). Existing services were also not adapted for cognitive and physical health comorbidities.

For the present project, it was observed that in older people's mental health (OPMH) teams in Berkshire NHS Trust, clients often presented with emotional dysregulation, but not to specialist personality disorder services. It was hypothesised that the treatments they were accessing were limited, due to not directly addressing emotional regulation.

Considering with the current evidence base, national dialogue and observation of client presentations in Berkshire, the aims of the project were to explore:

1. What are the perceived barriers to the development and implementation of emotional regulation treatment for older people?
2. What are the perceived facilitators to the development and implementation of emotional regulation treatment for older people?
3. What elements of existing older people services are transferable to the development and implementation of emotional regulation treatment for older people?
4. What kinds of presentations are seen in referrals to older people's mental health services, and how do they compare to those in working age adult services?

Methods

Procedure

This was a mixed methods project. In the quantitative component, Trust patient data were gathered for clients with clinical presentations indicative of emotional dysregulation. As a non-diagnostic term, this label was operationally defined by the project supervisor. Drawing on clinical experience and knowledge of the Trust's patient record system (Rio), they identified a relevant clinical group using specific proxy criteria, using the system's ICD-10 diagnoses and HoNOS (Health of the Nation Outcome Scales) clusters. Descriptive analysis

was conducted, stratified by age, to understand the extent and makeup of diagnoses across services. The patient inclusion criteria were:

- Attended an appointment in Berkshire mental health services between April 2022 and March 2023. These dates were selected as they were the latest available annual Trust data.
- Aged 65+.
- On the appointment date, either:
    - HoNOS (22) cluster 6, 7, or 8.
    - EUPD/BPD diagnosis (F60.3; 23).
    - Enduring Personality Changes diagnosis (F62; 23).

The HoNOS scale has demonstrated adequate overall reliability, validity, clinical utility, and sensitivity to change (22). Psychometric reviews show it has good construct validity, with moderately high internal consistency, good concurrent validity when compared against other clinician-rated instruments, and good predictive validity for outcomes such as resource use (24). Inter-rater reliability for the total score is "moderate to good", and test-retest reliability is "fair to moderate" (24). However, poorer inter-rater agreement has been noted on specific items, including those for "other mental and behavioural problems," "problems with living conditions," and "problems with occupation and activities" (22).

The HoNOS is used to group individuals into clinically meaningful "clusters" based on their needs (22). This project's inclusion criteria focused on the "very severe and complex" non-psychotic group, specifically:

- Cluster 6 (Non-Psychotic Disorder of Over-Valued Ideas): This includes individuals with moderate to severe, difficult-to-treat disorders like treatment-resistant depression, OCD, or some personality disorders, characterised by strongly held, non-psychotic beliefs.

- Cluster 7 (Enduring Non-Psychotic Disorders High Disability): This includes individuals with similar disorders who have been in treatment for many years and retain considerable disability impairing functioning, even if positive symptoms have improved.
- Cluster 8 (Non-Psychotic Chaotic and Challenging Disorders): This includes individuals with moderate to severe repeat deliberate self-harm, impulsive behaviour, and often chaotic or hostile engagement with services. It is the cluster most frequently associated with a personality disorder diagnosis (22).

Although not part of the initial selection criteria, additional clusters were identified in the sample. These cases were captured because they met the primary inclusion criterion of a formal EUPD diagnosis, but were assigned to care clusters outside of the expected emotional regulation group. Clusters included 4 (Non-Psychotic Severe), defined by severe mood/anxiety disorders and significant self-harm risk; 12 (Ongoing or Recurrent Psychosis), for individuals with a history of psychosis, high disability, and vulnerability; and 19 (Cognitive Impairment or Dementia Complicated Moderate Need), for those with moderate cognitive issues and risk of self-neglect.

The qualitative component of the project used semi-structured interviews to explore staff experiences in Berkshire mental health services related to emotional regulation and older people. Interpretative phenomenological analysis (IPA; 25) guided these interviews, selected due to its focus on subjective experiences and meanings attached by individuals to their lived experiences. This methodology was specifically chosen as the interview (Appendix A) sought to understand the phenomenon of providing care by asking for detailed, reflective accounts of personal experiences, such as asking "tell me about your experience of working with..." and exploring "what this meant to you personally" rather than solely eliciting opinions on what they thought about emotional regulation. IPA’s emphasis on subjective

interpretation was therefore essential, enabling an examination of how participants conceptualised emotional regulation within current service contexts. Its idiographic and interpretative focus allowed for a rich analysis of individual perspectives before identifying shared meanings across participants. In contrast, while alternatives such as reflexive thematic analysis may have captured common patterns, it was felt that these may not have offered the opportunity for focus on the in-depth, interpretative processes central to understanding each participant's unique perspective. The authors developed an interview schedule (Appendix A) in consultation with two lead clinical psychologists experienced in personality disorder and older people. The questions asked about experiences of Berkshire localities, case examples of older people's emotional dysregulation, and what their experiences led them to perceive were barriers and facilitators to older people's emotional regulation treatment. Each interview was individually coded, from which themes, clusters and master themes were identified (25). The master themes from all participants formed the basis of subordinate and superordinate themes.

The clinical audit was approved by Berkshire Healthcare NHS Foundation Trust.

Participants

For the qualitative component of the project, eight participants working in mental health services in Berkshire NHS Trust were interviewed. The sample consisted of seven women and one man of working age. Participants brought a wide range of professional experience, with time working in the NHS or relevant mental health fields varying significantly, ranging from approximately two years in their current post to over 20 years. Their backgrounds included clinical and counselling psychology, psychiatry, and occupational therapy, with experience spanning inpatient, community (adult and older adult), crisis, and specialist personality disorder services. Some participants had progressed from early career roles to senior clinical, management, or service development positions. Four

were from the Trust's OPMH teams, while three were from the Trust's Intensive Management of Personality Disorders and Clinical Therapies Team (IMPACTT). One was involved in service development.

Recruitment used purposive sampling, a non-random method which selected participants based on assessment that they had the characteristics to best meet the project objectives (26). Participants were given a project information sheet and provided informed consent before interview. All individuals who were approached and met the selection criteria agreed to participate. This 100% opt-in rate reduced the risk of self-selection bias and suggested the findings could be considered a strong representation of the perspectives held by the specific professional groups targeted for the study.

Results

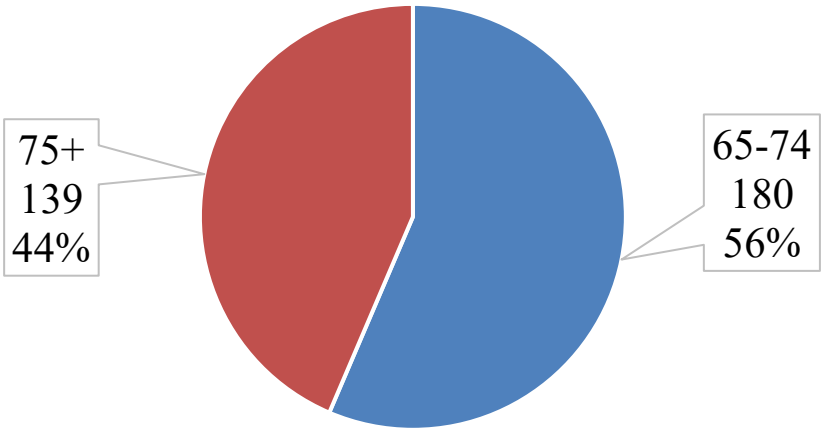
Quantitative Data

Patient record data showed various Berkshire teams saw people with clinical presentations indicative of emotional dysregulation, with many over 75. Around two thirds of appointments were face-to-face, with others over telephone and video. Those aged over 75 were often seen by older adult community mental health teams (CMHTs). Those aged 65-74 were often seen by working age adult CMHTs and crisis resolution and home treatment teams (CRHTTs). The clients' diagnoses were heterogeneous. Most had HoNOS clusters 6-8 rather than EUPD, however, those with EUPD diagnoses fell into a wide range of clusters, with differences between clients aged 65-74 and 75+.

Between April 2022 and March 2023, 319 unique clients met the inclusion criteria. They attended 2639 appointments across 71 different teams, although some teams were waiting lists of others. Figure 2 illustrates that a slight majority were aged 65-74.

Figure 2

Client age makeup of those aged 65+ with clinical presentations indicative of emotional dysregulation seen in Berkshire mental health services between April 2022 and March 2023



Note. "75+" includes two clients who turned 75 during the 2022-23 data collection period.

Most clients were seen by CMHTs (Figure 3). Clients aged 75+ were often seen by older adult CMHTs or home treatment teams (HTTs), whereas clients aged 65-74 were often seen by working age adult CMHTs, CRHTTs and some older adult teams. Some teams saw clients from both age groups.

While the search criteria included EUPD diagnosis, few clients were diagnosed with EUPD, and none with BPD or enduring personality changes. For 65–74-year-olds, 12% had an EUPD diagnosis, whereas for clients aged 75+, only 3.5% had an EUPD diagnosis. The remaining clients fell into HoNOS clusters 6 to 8, without EUPD (Figure 4).

Figure 3

Top 30 Berkshire mental health teams by client appointments for clinical presentations indicative of emotional dysregulation, April 2022-March 2023

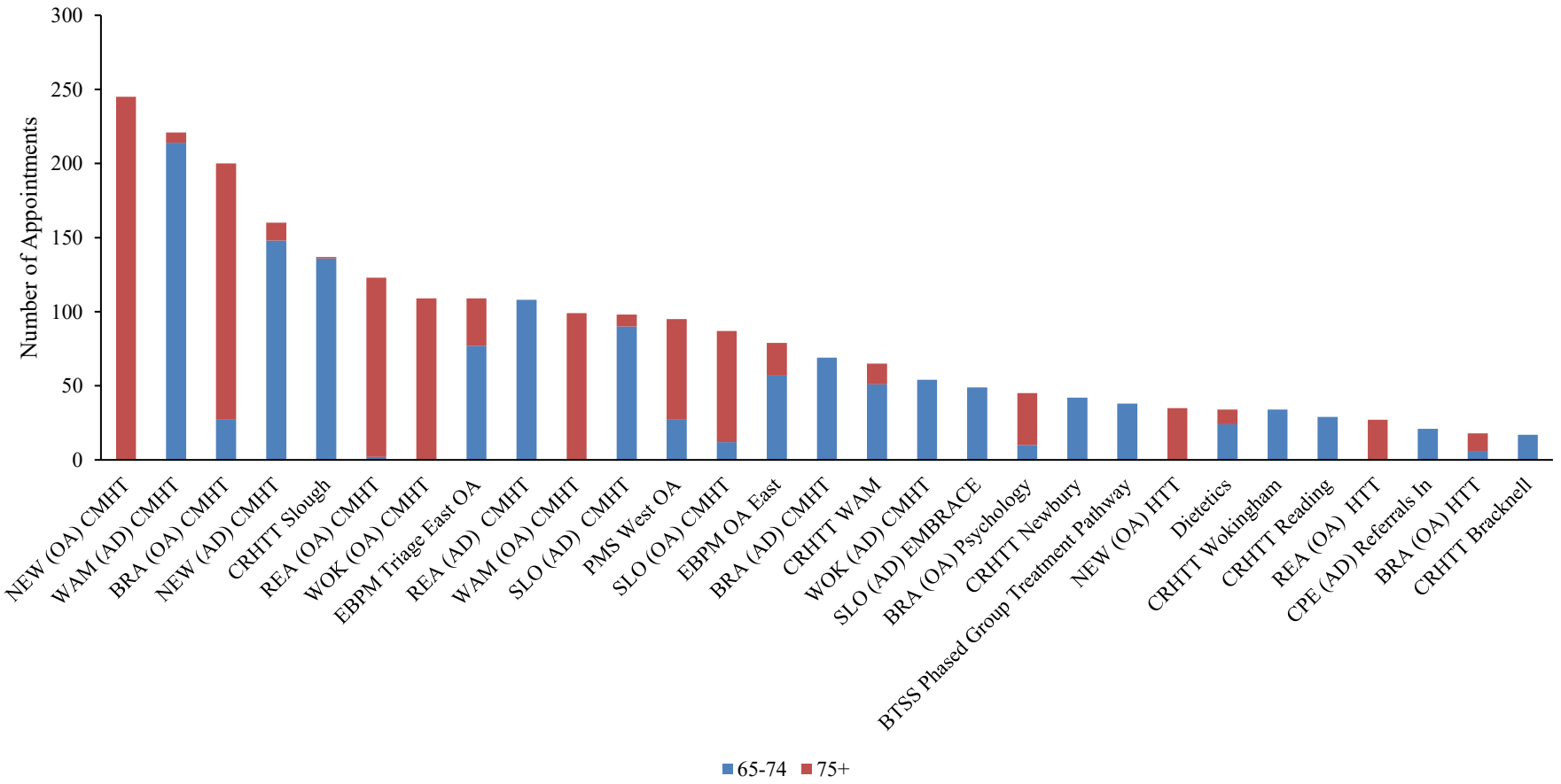
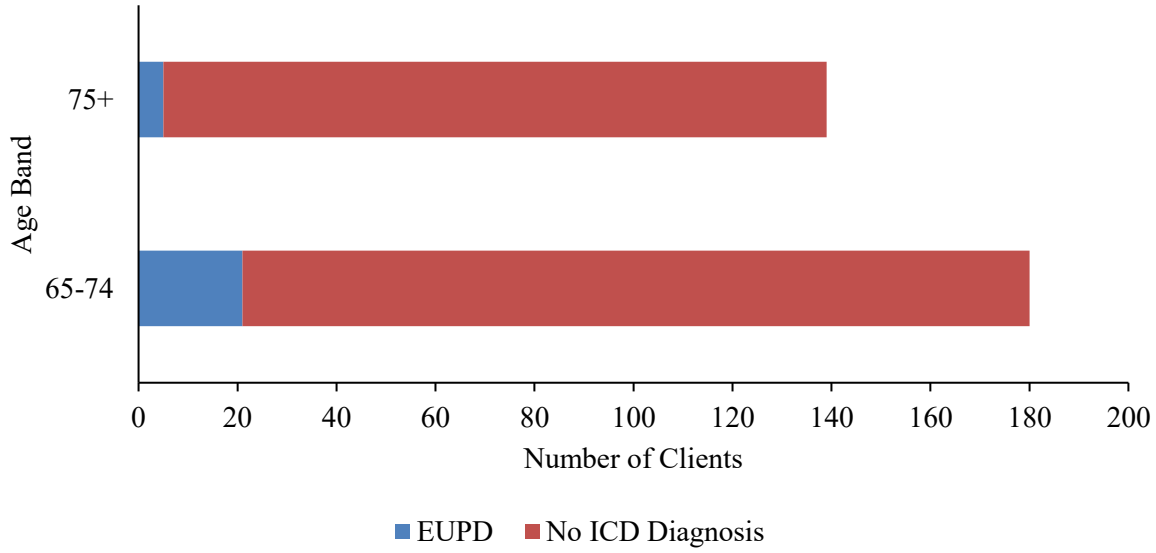


Figure 4

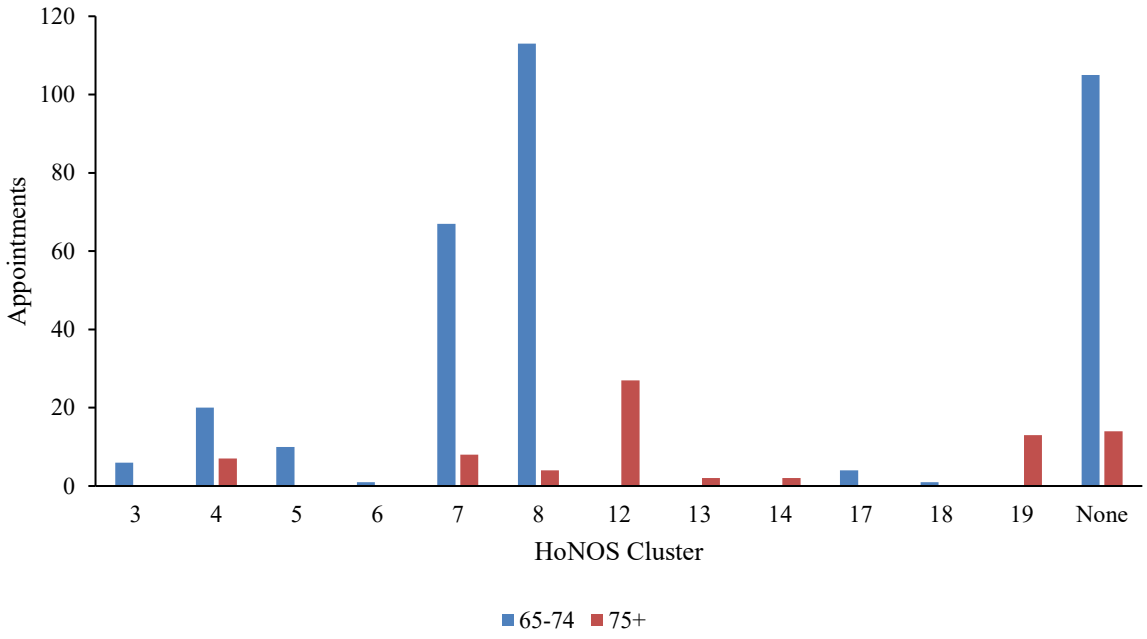
Number of clients with EUPD in the context of clinical presentations indicative of emotional dysregulation in Berkshire mental health services, April 2022-March 2023



Among clients with EUPD, the HoNOS clusters assigned during their appointments showed considerable variation (Figure 5). Some were assigned different HoNOS clusters across multiple appointments. For clients aged 65-74, appointments most frequently fell into HoNOS Cluster 7: Enduring Non-Psychotic Disorders. Clients aged 75+ were more commonly assigned to HoNOS Cluster 12: Ongoing or Recurrent Psychosis. For many appointments, clients were assigned no cluster at all. Overall, EUPD diagnosis did not clearly translate to any one HoNOS cluster. Therefore, clients in clusters other than 6-8 without an EUPD diagnosis could have also experienced emotional regulation difficulties, and been overlooked.

Figure 5

HoNOS clusters assigned to Berkshire mental health clients diagnosed with EUPD in appointments, April 2022-March 2023



Overall, patient data showed that older people with emotional regulation difficulties in Berkshire were seen by various teams, with some age differences. EUPD diagnoses were rare, particularly for clients over 75, and comprised patients with various HoNOS clusters.

Qualitative Data

Overview of Themes

Four superordinate and nineteen subordinate themes were identified from semi-structured interviews (Figure 6). Themes highlighted the importance of self-reflexivity and a humanistic approach while navigating unchartered territory. They showed staff were united in their commitment to bridging the gap between ideals and implementation, with a shared focus on person-centred care. Representative quotes are detailed in Table 1, followed by an explanation of each theme.

Figure 6

Overview of superordinate themes and subordinate themes

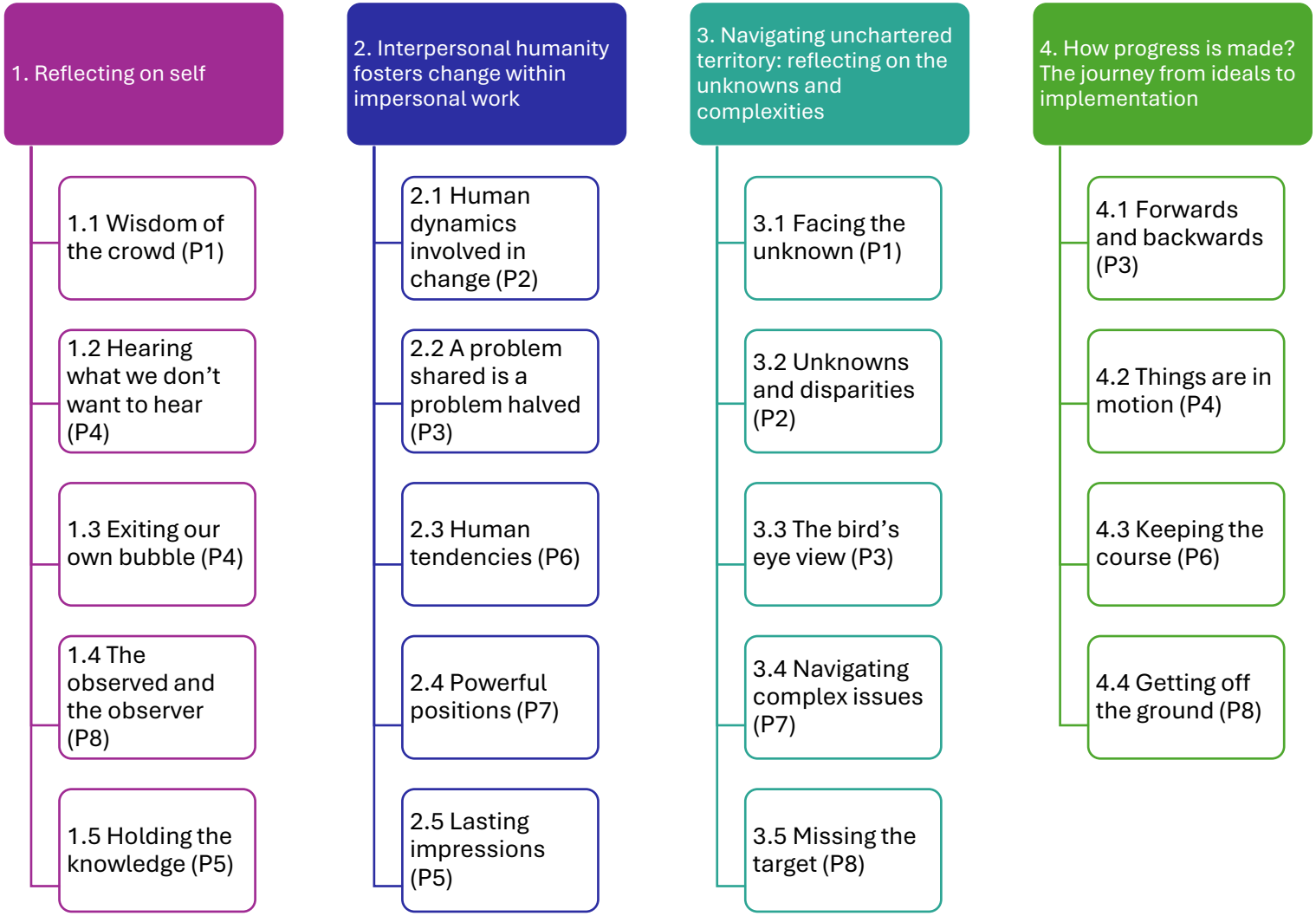


Table 1

Representative quotes of superordinate themes

Super-ordinate theme	Quote No.	Quote (Participant No.)
1 – Reflecting on Self	1	"It was interesting to think about how the team kind of, you know related to her and struggled to kind of connect with her." (P1)
	2	"People will just come… I've tried this, I've tried that. And actually, the team just, you know, kind of validating and actually, 'that sounds really tough'." (P1)
	3	"It becomes like a bit like Voldemort. Like you're too scared to name it. And then someone doesn't get the help." (P4)
	4	"Why are we calling it complex emotional needs, it's personality disorder… why are we making even more difference for older people?" (P8)
	5	"People who don't want to do a group kind of feel like they have to, so they do the group and then realise that that was the thing that actually helped them the most." (P4)
	6	"I don't believe that age needs to be a barrier to things changing… and at the same time, I remember at times feeling quite hopeless when working with her." (P4)
	7	"Just because patient has reached the age of 75 doesn't mean that you just transfer them over to OPMH" (P5)
	8	"They say that people kind of grow out of their personality disorders at as they age, basically. So I don't know… if such is the case" (P5)
	9	"Relationship can hold things together, but often if a spouse or a significant other then has difficulties and can't fulfil the role that they have been, then that's when things come out." (P8)
	10	"Psychotropic medications can achieve that much… having that psychological expertise in managing these kind of patients in the long term, I think helps a lot." (P5)
2. Interpersonal humanity fosters change within impersonal work	1	"It's kind of almost having the permission to feel sad or unhappy or angry with somebody, which I don't think she was kind of, had been able to do before, so it's kind of, I've had to build a good relationship, with her before kind of being able to kind of allow, you know, confront that" (P2)
	2	"Some people don't like change, obviously, so sometimes it'll be hard to. Get people on board or think differently." (P2)
	3	"It may be that they've become such a burden to services that they risk losing a placement somewhere, or they might risk, you know, kind of neighbours turning on them because they're constantly needing things from other people so. It is. It is always really hard. At the back of your mind you're always kind of little bit nervous, really. But equally as well, you know you can't, you know, kind of we've got to kind of let people take risks as well because you know, we can't put people in hospital forever." (P3)
	4	"I'm not sure what a client would say, because I'm not sure that they would formalise it in very much the same way. Really I think they can, I think just know the end of a phone would probably be there. Or, you know, kind of, or their reassurance really. Or, or that if people are discharged knowing that they can come back. Because discharge doesn't mean that they can never come back again." (P3)
	5	"The referrals that come in tend to be people where the CPNs are struggling or we might notice some challenges in the relationships with those people with the services and professionals. So for example, if you're seeing kind of splitting coming up as part of a discussion in MDT." (P6)
	6	"So I think sometimes people have a certain label by certain members of the team and I think that gets in the way of maybe being referred for treatment or… yeah, I just think it it, it affects people's psychological understanding of that person. So as much as you might try to contribute and say, you know, have you thought about this? Have you thought about that?" (P6)
	7	"I think she brought some wisdom. And you know, at times she was not mothering, but she could, she offered a different role, I think, to the other group members, which I think was quite containing." (P7)
	8	"That person did write a lovely feedback and just said that they felt supported and they felt that their therapist had been with them and hadn't given up on them and stayed with them." (P7)
	9	"He didn't want to come back and see me again after that. And that was the brief interaction that I had with him. But but, that was, you know, quite, it just stayed in my mind because of the kind of interaction it was." (P5)
	10	"I think that continuity is very important, especially because patients also then feel reassured that, you know, that they're seeing the same professionals and they've been dealing with the same team for a long time " (P5)

3 - Navigating unchartered territory: reflecting on the unknowns and complexities	1	“There's a few other services that we meet with and I can't for the life of me, think who they are, but it's a lot of MDT work, a lot of joint working, I would say!“ (P1)
	2	“I can't remember a time when actually someone was diagnosed, you know, recently by a consultant with EUPD or sort of, you know, complex emotional needs. So I think there's probably, you know, some issue in terms of kind of diagnostics. And then if you can't, you know, identify the people, then how are you going to have a treatment process really?“ (P1)
	3	“Bracknell, they tend to get a lot more neuro psych referrals than we do. We [Windsor, Ascot, Maidenhead] tend to be heavy on the therapy side of things“ (P2)
	4	“Thinking about it, probably everybody underlying it's, it's all about emotional regulation…. but working with it kind of, directly… it's quite rare.“ (P2)
	5	“East Berkshire is under Frimley, which includes Surrey Heath. And. West Berkshire is under BOB, which is Buckinghamshire Oxford and Berkshire. But equally, we're trying to align them, but also being under different ICB. So there's there's different sort of priorities and pressures really.“ (P3)
	6	“In those cases, it was more about to working with the family really about how to sort of draw some boundaries. And you know how to manage that person. So this one particular person, for example, their daughter, had a really significant birthday party. And which they'd gone to, and then that they went upstairs and, you know, kind of threatened to take their own life because the focus was on the daughter and not them.“ (P3)
	7	“I don't know if there would be a single a separate pathway for older people as you go further up the intensity of IMPACTT. So yeah, for me it would be the primary focus would be on less intense interventions being older people specific. I think that it is about accessibility and it's about being relatable.“ (P7)
	8	“I hope I've answered your questions in a meaningful way, given that I'm, I've only got my one example from actually from MEP and from IMPACTT.“ (P7)
	9	“Transport, getting people to the places that they need to be is a really practical issue that we haven't really ever managed to solve, and online doesn't really in my opinion deliver the same level of therapy as face to face.“ (P8)
	10	“As a clinician, you spend a lot of time trying to manage these presenting issues, with no clear kind of treatment pathway… and that can go on for some time because you know, personality disorders don't resolve with 30 milligrams of mirtazapine.” (P8)
4 – How progress is made? The journey from ideals to implementation	1	“Acknowledging that somebody may have been that like this, that their whole life, but it's still important to treat and be optimistic and give them some intervention and some relief from their symptoms… have that sense of hope really for them. And it's as important for somebody 80, as it might be for somebody who's 18.” (P3)
	2	“It's always a barrier to sort of discharge people and that depends on consultants and things like that because some are more risk averse than others. So, some will keep hold of people for a really, really long time and actually not really doing anything with them or in some ways you're just perpetuating… managers’ coping mechanisms really.” (P3)
	3	“She'd been living in such an isolated and angry world for, for a long time. I don't know why, something would be different then, when it hadn’t been before. And yet it was different. It was, the practical and social side was equally, if not more important, I think than the psychological therapy side.” (P4)
	4	“We've trained over 2000 members of staff or had we've certainly had over 2000 attendances of training and I can't recall hardly anybody being from the older people's mental health teams.” (P4)
	5	“Groups to support people with complex emotional needs that would probably have to cover more than one locality because you wouldn't have the referral numbers probably within... I guess lots of these things are in development and with this one team approach coming down from the kind of broader trust.” (P6)
	6	“I guess one of the principles is that in order to change your behaviour, you need to recognise the behaviour and if that formulation enables them to recognise what they're doing and see those patterns emerging, then hopefully you might have some, yeah, that might support them to make changes.” (P6)
	7	“Within IMPACTT, but also psychological, therapists within CMHTs, there's a lot of willingness and thoughtfulness about this which has taken years to happen. You know, I've been banging on about this for the last 15 years and it's it's reassuring that now people are actually talking about it and thinking about it, and I still think things will take a long time to actually get put in place. But the fact that people are even recognising it and talking about it and wanting to do something more helpful is so heartwarming.” (P8)
	8	“It took us several weeks to work out how to assess them, how to refer them to IMPACTT because there wasn't a clear pathway which is now being improved… But when we did refer him, he had an assessment and a treatment pathway just like any other person, a working age adult, and it was- It was really good.” (P8)

1 - Reflecting on Self

This theme represented the importance of self-reflexivity for staff and their clients. This encompassed questioning established ideas about personality disorder, dialogue with other team members, and rethinking past cases. Participants reflected on challenges of connecting with the few older people who presented with emotional regulation difficulties. They acknowledged that experienced clinicians could struggle building a therapeutic relationship (quote 1), feeling uncertain about the best approach (quote 2). This struggle reflected the practical limits of the wisdom of the crowd (subtheme 1.1). Such cases required teams to come together and validate one another's experiences (quote 2), highlighting the wisdom of collaborative reflection.

Another layer of reflection involved confronting stigma surrounding personality disorder. One participant compared it to Voldemort (quote 3), a character from the Harry Potter series referred to as "He Who Must Not Be Named". This suggested a cultural reluctance to use “personality disorder” and hear what we don’t want to hear (subtheme 1.2). The use of other terms like complex emotional needs or emotional regulation was suggested to reinforce the stigma (quote 4). This highlighted the contrast between the observed and the observer (subtheme 1.4). It was raised whether personality disorder “burns out” with age, held by one participant tentatively and rebutted by another strongly (quote 8). Such reflections pointed to the importance of exiting our own bubble (subtheme 1.3), reflecting the tension between acknowledging a client’s individuality, and adhering to diagnostic labels.

Participants recognised the transformative potential of therapy and the process of reflection undergone by clients, who staff initially believed were treatment resistant (quote 5). Clinicians questioned whether clients turning 75 years old, the threshold for older adult in Berkshire, meant they would be less likely to benefit from intervention, or warrant a different approach (quote 6,7). It was important to hold this alongside feeling challenged by patients

(quote 6) who might say, “that I [clinician] didn't really know what I was talking about” (Participant 5). Hope and despair often coexisted working with older people’s emotional regulation. These reflections highlighted the importance of recognising who was holding the knowledge (subtheme 1.5), and that this may differ between stakeholders, who each bring their unique combination of prior experiences.

Participants acknowledged the necessity of others’ expertise (quote 10). P4 spoke from the perspective of working in a personality disorder service rarely encountering older adults, “they [older adult teams] bring the older adult expertise, and we can bring the personality disorder expertise and together make sense of something.” The importance of not jumping to conclusions was highlighted. P8 acknowledged staff could assume “if there's a whiff of cognitive impairment… ruling out” of referral to personality disorder services. For personality disorder patients, a close personal relationship “can hold things together” (quote 9) for them. For staff, it appeared their relationships with other team members held similar importance, to maintaining their self-reflexivity.

The process of self-reflexivity highlighted the importance of remaining willing to engage with older people’s emotional regulation difficulties. It involved clinicians engaging with their own preconceptions, other team members and their clients’ perspectives.

2 - Interpersonal Humanity Fosters Therapeutic Change Within Impersonal Work

This theme captured the humanity underlying older people’s emotional regulation difficulties, and how personal connections and genuine empathy underpinned change in structured client systems. P2 highlighted human dynamics involved in change (subtheme 2.1), that it was necessary to establish “a good relationship” before clients could be emotionally vulnerable (quote 1). Similarly, staff reported the value of consistency in their hope for clients, and working with them for extended periods (quote 8,10). This appeared to give services an attachment-like quality, where consistency and security were valued (quote

4) and that a problem shared is a problem halved (subtheme 2.2). The importance of consistent support was mirrored in group settings, where clients could offer this powerful position (subtheme 2.4) to each other. It appeared to create familial closeness, where older people brought their life experience and fostered reciprocal healing (quote 7). These dynamics highlighted how effective therapy went beyond manualised intervention protocols.

This importance of consistency encompassed the ways staff supported each other. Participants recalled how brief client interactions could leave a lasting impression (subtheme 2.5). P5 who recalled a client seen for an assessment session, which P5 believed went well. The client later expressed dissatisfaction, leaving P5 surprised by the shift in perspective (quote 9). Lasting impressions formed among staff owing to "splitting" discussions (quote 5) within MDTs, an example of human tendencies (subtheme 2.3). P6 explained that challenges in service relationships with clients were often a reason for clients to be referred to personality disorder services in the first place (quote 5). Staff also faced the tension of discharging clients meaning risk of relapse, but that discharging was also necessary due to financial constraints (quote 3). The humanistic approach with clients brought challenges. Participants acknowledged that team working could be difficult when team perceptions influenced their objective understanding of a client's needs (quote 6). Participants also spoke of difficulty helping staff adopt a balanced understanding of service change (quote 2).

Overall, within the structured world of clinical services, it was the human element, marked by empathy, patience, and a willingness to engage, that was noted to foster progress. At the heart of service development lay a shared humanity that challenged and sustained clinicians and their clients.

3 - Navigating Unchartered Territory: Reflecting on the Unknowns and Complexities

This theme captured how clinicians and their clients navigated uncertainty with emotional regulation. A sense of facing the unknown (subtheme 3.1) was raised. P1 reported

“I've worked here two years and I don't think I've ever had a referral specifically for somebody with emotional kind of regulation needs.” Participants shared they could not recall older clients with EUPD, or all the acronyms of existing services (quote 1). Participants questioned how they ought to treat (quote 2) or speak about a client group they did not generally encounter (quote 8). Unknowns and disparities (subtheme 3.2) of Berkshire localities (quote 3,5) furthered these challenges, where Bracknell OPMH referrals were neuropsychology-related, and Windsor, Ascot and Maidenhead more therapy-related. P3 highlighted that different areas of Berkshire were governed by different NHS trusts, leading to “different priorities and pressures” (quote 5) when taking a bird’s eye view (subtheme 3.3). Working with older people’s emotional regulation difficulties was perceived as "quite rare" despite a sense that emotional regulation difficulties were a fundamental issue for most clients (quote 4).

Uncertainty and complexity emerged in participants’ client work. One client presenting with risk (quote 6) underscored the challenge of managing multifaceted client needs with the system around the client also requiring support in parallel. The impact of emotional regulation difficulties appeared pervasive for another client, “family weren't coping. Husband wasn't coping. She wasn't coping” (P8). P7 highlighted a complexity for older people engaging with services, advocating for distinguished levels of emotional regulation intervention in a future pathway (quote 7). Specifically, P7 suggested that making “less intense interventions older people specific” could be “less stigmatising” (P7). This specificity would ensure participants are among others with shared life experiences, fostering greater relatability through relevant examples and language attuned to their cohort. This could thereby avoid the potential isolation of being the only one of their age in a group dominated by younger adults. References such as social media, for example, might not resonate with older adults, In navigating complex issues (subtheme 3.4), however, the

clinician saw that higher intensity interventions did not require “a separate pathway for older people” (P7). Transport issues were described as pertinent, but this was an issue without a solution that would not create further problems of its own (quote 9). There was a sense of grappling with systemic limitations and acceptance of missing the target (subtheme 3.5) being a prolonged endeavour to address (quote 10). The work required demanded stepping outside of one’s “service manager view” (quote P3) for example, to understand how services could be better aligned in a changing landscape. One participant summarized these needs went beyond “30 milligrams of mirtazapine,” arguing for a comprehensive, holistic approach to older people with emotional regulation difficulties (quote 10).

Navigating unchartered territories demanded patience and adaptability for participants in creating a future pathway for older people’s emotional regulation difficulties.

4 - How Progress is Made? The Journey from Ideals to Implementation

This theme captured the tension between theory and practice, which fed into non-linear progress with clients, staff and services. One participant noted how service change felt like “walking on shifting sands,” (P3) when trying to meet clients’ diverse needs. The challenge of moving from theoretical ideals to real-world implementation was evidenced by unclear treatment pathways for older people in existing personality disorder services. However, this highlighted the reward of persevering with real-world constraints to find a solution (quote 8).

Participants reflected on holding hope for clients who had not benefited from previous interventions (quote 1). They spoke about how applying what worked for others could lead to change (quote 1,6,8). Some participants questioned what progress looked like. For example, with discharged clients who quickly returned the service, participants wondered to what extent progress had been made (quote 2), as their journeys had taken a forwards and backwards (subtheme 4.1) path.

Practical considerations of progress were seen at service level, where participants reported open doors not often walked through. Staff in OPMH teams (quote 4) spoke of emotion regulation training opportunities, a sign that things are in motion (subtheme 4.2). However, such training opportunities were considered “not part of my remit” (quote P6) by other non-psychology professions and consequently were unattended. This discrepancy highlighted a disconnect between the theoretical inclusion of older people in emotional regulation-related services and the reality of implementing these changes with staff. Older people referral numbers to existing personality disorder services were low, meaning that those who did attend groups may have felt isolated, “an older gentleman in a group of 6 20-year-old females… they're going to feel so different” (P7). Yet their presence itself indicated service progress (quote 5) and that services needed to keep the course (subtheme 4.3).

There was a sense of hope in the progress being made. Once barriers had been overcome for clients, participants spoke to a sense of getting off the ground (subtheme 4.4). Things turned out “really good” (quote 3,8) with these clients despite clinicians’ initial pessimism about progress. This reflective process was mirrored by staff willingness to engage in service improvement, with one clinician expressing how “heartwarming” it was to see colleagues finally discussing and acting on issues around older people’s personality disorder (quote 7).

Service-level progress required a delicate balancing act between maintaining hope and confronting the unpredictable reality of delivery. There was a shared commitment to moving from theory to practice, in a way that benefitted clients.

Discussion

The interview themes, combined with patient data, evidenced various barriers and facilitators to older people’s emotional regulation treatment in Berkshire. There were

theoretical and clinical implications which informed the recommendations presented to services.

Barriers

A significant barrier to developing emotional regulation treatment for older people was the rarity of their presentation to existing services. This corroborated the literature about the lower EUPD rates among older people (12), making it difficult for stakeholders to talk about the client group. Nonetheless, the interviews identified several further barriers to consider. Firstly, an ambiguity was highlighted around the use of terms emotional dysregulation and personality disorder. Many clients discussed were only retrospectively identified as having emotional regulation difficulties. This need for clarity was echoed by the patient data, which showed a heterogenous diagnostic picture among older people currently attending services with possible emotional regulation difficulties. Second, stakeholders highlighted that some therapeutic relationships between teams and clients had been challenging, leaving a sense of stuck-ness. A possible contributing factor was the somewhat siloed expertise, with older adult expertise concentrated in OPMH and personality disorder expertise in IMPACTT. Accessing training opportunities in emotional regulation for those in OPMH teams remained a challenge. A barrier for clients themselves could have been feeling stigmatised, particularly in group settings like MBT where other group members were often younger. Finally, Berkshire's different integrated care boards, combined with different client presentations across localities, complicated the standardisation of a future care pathway.

Facilitators and Transferable Elements of Existing Services

Several factors were identified to facilitate the development of older people's emotional regulation treatment. Many successful elements of existing services emerged as transferable to a new pathway. Reflective staff relationships were identified as crucial for

treatment, enabling teams to learn from each other to support clients. Staff collaboration was enhanced by a willingness to engage across teams, building on past successful interventions.

Strong personal relationships in the clients' own lives provided crucial support to their treatment. As older people, these were not always present. This perhaps influenced the importance of consistent treatment and hope maintained by clinicians, as key to achieving positive outcomes. Holistic interventions going beyond solely psychiatric or psychological were also seen as beneficial. Lastly, staff willingness to embrace service changes and improve care reflected a positive attitude toward better meeting the needs of this population.

Theoretical Implications

The findings indicated partial support for the multi-component model of emotional dysregulation (10). The interviews suggested stimuli for older people, such as bereavement or physical illness, could lead to maladaptive emotional management strategies. While some clients were reported to have a history of emotional dysregulation, in others, EUPD symptoms only emerged later in life. The latter suggested that biological vulnerability alone was insufficient to bring on emotional dysregulation through the negative stimuli of childhood and adult life, going against the theory. The emotional regulation strategies used were not typical to working age adults, in line with the literature (13). Combined with the HoNOS clusters seen in EUPD presentations of those over 75, this suggested that the model should be applied differently to older people than working age adults.

Clinical Implications

Recommendations were created to inform a new pathway for older people's emotional regulation (Table 2). These drew from the barriers and facilitators identified by stakeholder interviews, patient data examination, and discussion between the lead author and consultant clinical psychologist in the project.

Responding to these recommendations, the services fed back that they have implemented a low-intensity, 1:1 intervention delivered by older adult psychologists within OPMH, with consultation and supervision from IMPACTT to manage the emotional regulation components of treatment. More broadly, IMPACTT are in the process of developing a training package to support wider rollout of their approach across older adult services. They acknowledged that intensive DBT-style group-based interventions were often unsuitable due to physical, geographical, cognitive, and emotional barriers, meaning the 1:1 intervention in OPMH was viewed as the most feasible and accessible for the time being.

Table 2

Evidenced recommendations for a new pathway for older people's emotional regulation in Berkshire

Recommendation	Explanation	Evidence
Team spaces and collaboration	Emphasise the importance of team spaces for discussing and reflecting on clients with emotional regulation difficulties, and foster collaboration between older people teams and working age adult personality disorder teams to inform the new pathway.	Interview superordinate themes 1 and 2.
Societal perceptions and terminology	Consider wider societal perceptions about emotional regulation and personality disorder that could influence clinical judgment, such as the "burning out" idea and the role of cognitive impairment. Use definitive terms to categorise levels of emotional regulation difficulty to avoid ambiguity.	Interview subthemes 1.3, 1.4.
Inclusion criteria and flexible pathway	Develop inclusion criteria that acknowledge the unique manifestations of emotional dysregulation and associated risks in older adults (such as neglect, misuse of medication, hoarding behaviours, or frequent help-seeking), possibly deviating from traditional diagnostic criteria (which may focus on behaviours more common in younger adults, like active self-harm) to encourage throughput. Acknowledge the lower prevalence of EUPD diagnosis in those over 75, necessitating more flexible criteria for the new pathway. Due to client age, ensure this pathway is accessible.	Patient data showed differences in HoNOS clustering between clients under and over 75 and low prevalence of EUPD diagnosis in over 75s overall. Interview subthemes 3.1, 3.2, 3.4.
Therapeutic rapport and group interventions	Emphasise the importance of building therapeutic rapport and highlight the importance of group	Interview subthemes 2.2, 2.4, 4.4.

Recommendation	Explanation	Evidence
	interventions to foster a safe and understanding environment.	
Levels of intervention and holistic approach	Demarcate different levels of intervention based on the severity of symptoms, with less intense interventions specifically for older adults. Adopt a holistic and collaborative approach.	Interview subthemes 3.4, 3.5
Training	Encourage the uptake of training opportunities around emotional regulation across the professions, to foster staff confidence with the presentation.	Interview subthemes 3.1, 4.2, 4.4
EUPD presentation and service transition	Acknowledge changes in EUPD presentation in clients over 75 and foster links between working age adult teams and older adult CMHTs to manage transitions between services based on age.	Patient data showed differences in the teams seeing clients under and over 75, and differences in HoNOS clustering between clients under and over 75. Interview subthemes 1.5, 2.1, 3.1

Limitations and Future Directions

Several project limitations informed potential future research. Firstly, the interviews were conducted with solely staff due to time and financial constraints. This could have been complemented by client interviews to understand their lived experiences with services. Additional interviews with staff from other localities, who had more encounters with the target population, could have better informed a future Berkshire pathway.

Furthermore, the gathered quantitative data went up to March 2023, from nonspecialist mental health teams. While these encompassed a comprehensive range of services, this could have been supplemented with recent data including specialist personality

disorder teams to understand the ages, diagnoses and clustering of clients admitted to these services.

The heterogeneity of HoNOS clustering raised further questions about whether emotional regulation difficulties had been captured by the research inclusion criteria. Equally, this variability may also reflect the limitations of HoNOS inter-rater reliability and test-retest reliability, where the subjective nature of the scales can lead to inconsistent cluster assignment among the same group of patients. EUPD diagnosis alone captured an especially small number of clients over 75. Given that this age was the threshold for older adulthood in Berkshire, it would have been useful to supplement the data with a qualitative audit of cases. This could have examined clients' clinical notes for evidence of emotional regulation difficulties, which would have captured clients regardless of any diagnoses they had. This could have shed light on any further diagnoses or clusters associated with emotional regulation difficulties, which could inform the criteria for a future quantitative audit.

Conclusion

The present project highlighted perceived barriers and facilitators to the development and implementation of emotional regulation treatment for older people. This is a population identified by the literature as especially vulnerable to suicidal behaviour, with existing services insufficiently adapted to treat them. Through quantitative and qualitative methods, recommendations were created to develop a new pathway for this population in Berkshire.

References

1. ONS. Quarterly suicide death registrations in England: 2001 to 2023 registrations and Quarter 1 (Jan to Mar) to Quarter 2 (Apr to June) 2024 provisional data. 2024 [cited 2024 Oct 5]. Quarterly suicide death registrations in England. Available from: https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/bulletins/quarterlysuicidedeathregistrationsinengland/2001to2023registrationsandquarter1jantomartoquarter2aprtojune2024provisionaldata
2. Dykes K, Lord N, Kaiser P. Older Adult Complex Emotional Needs: Recommendations for Services [Internet]. 2022 Oct [cited 2023 Feb 21]. Available from: https://www.transformationpartnersinhealthandcare.nhs.uk/wp-content/uploads/2022/10/Older-Adult-Complex-Emotional-Needs-Standards-for-Services-FINAL.pdf
3. Penders KAP, Peeters IGP, Metsemakers JFM, van Alphen SPJ. Personality Disorders in Older Adults: a Review of Epidemiology, Assessment, and Treatment. Curr Psychiatry Rep. 2020 Feb 6;22(3):14.
4. Mattar S, Khan F. Personality disorders in older adults: diagnosis and management. Progress in Neurology and Psychiatry. 2017;21(2):22–7.
5. Salsman NL, Linehan MM. An Investigation of the Relationships among Negative Affect, Difficulties in Emotion Regulation, and Features of Borderline Personality Disorder. J Psychopathol Behav Assess. 2012 Jun 1;34(2):260–7.
6. American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders [Internet]. DSM-5-TR. American Psychiatric Association Publishing; 2022 [cited 2023 Mar 30]. Available from: https://psychiatryonline.org/doi/book/10.1176/appi.books.9780890425787
7. McRae K, Gross JJ. Emotion regulation. Emotion. 2020;20:1–9.

8. World Health Organization. International statistical classification of diseases and related health problems [Internet]. 11th ed. 2021 [cited 2023 Sep 24]. Available from: https://icd.who.int/en

9. Linehan M. Cognitive-behavioral Treatment of Borderline Personality Disorder. Guilford Press; 1993. 584 p.

10. Carpenter RW, Trull TJ. Components of Emotion Dysregulation in Borderline Personality Disorder: A Review. Curr Psychiatry Rep. 2013 Jan;15(1):335.

11. Girme YU, Jones RE, Fleck C, Simpson JA, Overall NC. Infants' attachment insecurity predicts attachment-relevant emotion regulation strategies in adulthood. Emotion. 2021;21:260–72.

12. Winsper C. Borderline personality disorder: course and outcomes across the lifespan. Current Opinion in Psychology. 2021 Feb 1;37:94–7.

13. D'Agostino A, Pepi R, Starcevic V. Borderline personality disorder and ageing: myths and realities. Current Opinion in Psychiatry. 2022 Jan;35(1):68.

14. Videler AC, Hutsebaut J, Schulkens JEM, Sobczak S, van Alphen SPJ. A Life Span Perspective on Borderline Personality Disorder. Curr Psychiatry Rep. 2019 Jun 4;21(7):51.

15. Beatson J, Broadbear JH, Sivakumaran H, George K, Kotler E, Moss F, et al. Missed diagnosis: The emerging crisis of borderline personality disorder in older people. Aust N Z J Psychiatry. 2016 Dec 1;50(12):1139–45.

16. Khasho DA, van Alphen SPJ, Heijnen-Kohl SMJ, Ouwens MA, Arntz A, Videler AC. The effectiveness of individual schema therapy in older adults with borderline personality disorder: Protocol of a multiple-baseline study. Contemporary Clinical Trials Communications. 2019 Jun 1;14:100330.

17. Barmpagianni C, Arrow J, Reddi N, Brownell T, Nilforooshan R. Challenges and Gaps in the Diagnosis of Personality Disorders in Older Adults: A Review of Current Practices in a UK Mental Health Trust. BJPsych Open. 2024 Jun;10(S1):S182–S182.

18. Ledden S, Rains LS, Schlief M, Barnett P, Ching BCF, Hallam B, et al. Current state of the evidence on community treatments for people with complex emotional needs: a scoping review. BMC Psychiatry. 2022 Sep 5;22(1):589.

19. NHS England, NHS Improvement, National Collaborating Centre for Mental Health (NCCMH). The Community Mental Health Framework for Adults and Older Adults [Internet]. NCCMH; 2019 [cited 2023 May 1]. Available from: https://www.england.nhs.uk/wp-content/uploads/2019/09/community-mental-health-framework-for-adults-and-older-adults.pdf

20. Department of Health. National Service Framework for Older People [Internet]. Department of Health; 2001 [cited 2023 May 1]. Available from: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/198033/National_Service_Framework_for_Older_People.pdf

21. Royal College of Psychiatrists. Suffering in silence: Age inequality in older people's mental health care. CR221. 2018;

22. James M, Painter J, Buckingham B, Stewart MW. A review and update of the Health of the Nation Outcome Scales (HoNOS). BJPsych Bulletin. 2018 Apr;42(2):63–8.

23. World Health Organization. The ICD-10 Classification of Mental and Behavioural Disorders: Diagnostic Criteria for Research. World Health Organization; 1993. 263 p.

24. Pirkis JE, Burgess PM, Kirk PK, Dodson S, Coombs TJ, Williamson MK. A review of the psychometric properties of the Health of the Nation Outcome Scales (HoNOS) family of measures. Health and Quality of Life Outcomes. 2005 Nov 28;3(1):76.

25. Smith JA, Flowers P, Larkin M. Interpretative Phenomenological Analysis: Theory, Method and Research [Internet]. London; 2021 [cited 2024 Oct 6]. Available from: https://uk.sagepub.com/en-gb/eur/interpretative-phenomenological-analysis/book250130

26. Campbell S, Greenwood M, Prior S, Shearer T, Walkem K, Young S, et al. Purposive sampling: complex or simple? Research case examples. J Res Nurs. 2020 Dec;25(8):652–61.

Theoretically Driven Research Project

Understanding parent-child interactions in parents with psychosis and their young children

Internal Supervisors:

Dr Louise Johns

louise.johns@psych.ox.ac.uk

Dr Fiona Challacombe

fiona.challacombe@psy.ox.ac.uk

External Supervisor:

Professor Jane Barlow

jane.barlow@spi.ox.ac.uk

Proposed Journal: British Journal of Clinical Psychology

Rationale: The present study uses a UK based psychosis sample to investigate the cognitive and emotional mechanisms of parenting, aligning with the journal's mission to publish research on the underpinnings of clinical disorders and their impact.

Abstract

Background: Parental psychosis is a significant risk factor for adverse child outcomes, with the quality of the parent-child relationship considered a mediating factor. There is a lack of research directly observing parental sensitivity in this population, particularly beyond infancy into the crucial developmental period of 2-5 years. Furthermore, specific cognitive and emotional processes, such as parental reflective functioning, that may underpin parenting difficulties in psychosis are not well understood. This study aimed to address these gaps by examining parental sensitivity and associated cognitive factors in parents with psychosis.

Aim: First, the study aimed to compare levels of observed parental sensitivity between a group of parents with psychosis and a non-clinical control group. Second, we explored the association between parental sensitivity and key variables: parental reflective functioning, paranoid ideation, parental stress, and general affective distress.

Method: A cross-sectional study was conducted with 50 parents: 20 with psychosis recruited from NHS Early Intervention and secondary care services and 30 non-clinical controls. All participants were mothers or fathers of a child aged between 2 and 5 years. Demographic and clinical history data were collected. Parental sensitivity was coded from a five-minute, video-recorded parent-child free-play interaction using Emotional Availability Scales. Participants completed self-report measures: the Parental Reflective Functioning Questionnaire, the Revised Green et al. Paranoid Thoughts Scale, the Parental Stress Scale, and the Depression Anxiety and Stress Scales. The primary aim was examined using a non-parametric Mann-Whitney U test supplemented by an exploratory Bayesian analysis, with the secondary aim explored using multiple regression.

Results: No significant difference was found in parental sensitivity between the psychosis and control groups ($U = 312.50$, $p = .80$). A Bayesian analysis provided moderate evidence in favour of the null hypothesis ($BF_{01} = 3.20$). The psychosis group did, however,

report significantly higher levels of paranoid ideation and anxiety. Across the entire sample, multiple regression analysis revealed that only parental reflective functioning, specifically interest and curiosity in the child's mental states, was a significant unique factor associated with higher parental sensitivity ($\beta = .39$, $p = .01$).

Conclusion: Parental psychosis was not associated with deficits in parental sensitivity. Sensitive parenting appears to be more closely linked to parental reflective functioning than to the presence of psychosis . The findings suggest that interventions aimed at enhancing parental reflective functioning could be a valuable target for supporting the parent-child relationship in families affected by psychosis, but more research is needed in larger samples.

Keywords: parent-child, psychosis, parental sensitivity, reflective functioning

Introduction

Psychosis is a condition characterised by a disconnection from reality, involving changes in behaviour, thoughts, mood and perception (Marano et al., 2025). These changes include positive symptoms of hallucinations, delusions, and disorganised thought, speech and behaviour, and negative symptoms of emotional blunting, reduced speech, loss of motivation, and social withdrawal. While schizophrenia is the most widely recognised diagnosis associated with psychosis, the experience of psychosis spans numerous diagnoses, including schizoaffective disorder, persistent delusional disorder, and substance-induced psychotic disorders (American Psychiatric Association, 2022). Psychotic symptoms understandably affect the interpersonal domain, creating significant challenges for important life roles, including parenting.

The Challenges of Parenting with Psychosis

Parenting presents great challenges; however, for parents who have experienced psychosis, these challenges can be amplified during and after psychosis. Residual symptoms and illness management can impact parenting behaviour, the parent-child relationship, and general family functioning (Campbell et al., 2012; Strand et al., 2020). Parents may experience negative symptoms and medication side effects such as fatigue or emotional blunting, that make it difficult to maintain family routines or engage in reciprocal play. Some parents describe struggling to focus on their child due to intrusive thoughts or voices, or needing to emotionally withdraw to protect their child from their symptoms (Harries et al., 2023). These difficulties can lead to household instability and are often compounded by broader family stressors such as social isolation and financial hardship.

This impact has consequences, as their children face increased risk of mental illness themselves (Leijdesdorff et al., 2017; Rasic et al., 2014). The intergenerational transmission of psychiatric conditions is well-documented, occurring via a complex set of mechanisms

(Zhou et al., 2023). Having one parent with schizophrenia leads to 7% lifetime risk of schizophrenia and 55% risk of any psychiatric condition (Davidsen et al., 2015). Compared to children of parents without psychosis, children of parents with psychosis have a higher rate of internalising and externalising behaviour problems (Donatelli et al., 2010), cognitive and language problems (Sandstrom et al., 2020), delayed motor developmental milestones (Filatova et al., 2017) and poorer social adjustment (Niemi et al., 2005).

This study is grounded in attachment theory, which states the emotional child-caregiver bond is critical for child development and wellbeing (Bowlby, 1969). A child who experiences consistent, responsive caregiving will likely develop secure attachment, trusting the caregiver as a reliable support (Ainsworth, 1979). Parental sensitivity, the capacity to notice and respond in a timely and appropriate manner to child emotional and behavioural cues, is the primary behavioural mechanism that forms secure attachment (Ainsworth et al., 1974). This study used parental sensitivity as the key expression of parent-child relationship quality.

The impact of psychosis on parental sensitivity is likely complex, involving psychotic symptoms themselves, medication side effects, and feelings about one's psychosis. Radley et al. (2022) found psychosis negatively affected parents' self-perceptions, for example, creating anxiety their children might see them act on delusional fears, or not see them at all because of hospital admissions. Negative parenting self-perceptions combined with psychotic symptoms may influence interpretation of a child's signals, which could both impact parental sensitivity (Boldrini et al., 2020; Johansson et al., 2020; Lysaker et al., 2021; Muzik et al., 2013; Nath et al., 2019; Weijers et al., 2021).

A critical component of parental sensitivity is mentalising or parental reflective functioning (Luyten et al., 2017), the ability to understand a child's behaviour in terms of underlying mental states. This study conceptualises parental reflective functioning as a key

cognitive capacity. Factors that may compromise it, such as paranoid ideation, high parenting stress or general affective distress, are therefore also important (Bakermans-Kranenburg et al., 2003).

There is limited evidence, of variable quality and methodology, on the relationship between maternal psychosis, the parent–child relationship and child development (Davidsen et al., 2015). No study has directly assessed parental sensitivity in parents with psychosis beyond the perinatal period or examined associated factors such as reflective functioning (Nath et al., 2019). This is an important literature gap as over a child's life, parents will need to manage the child's growing independence with developing language, motor and cognitive skills, and as they learn appropriate behaviour and limits (Hughes et al., 2020). This study investigated whether self-reported difficulties for parents with psychosis (Radley, Barlow, et al., 2022) were borne out in observable behaviour, and to examine the role of reflective functioning.

Existing studies on early care-giving factors found behavioural differences between parents with schizophrenia and healthy controls, such as greater attachment insecurity and reduced parent-child interaction mutuality (Sandstrom et al., 2019). This review examined data from three waves of longitudinal familial high-risk studies over 60 years, prospectively following offspring of parents with severe mental illness, including schizophrenia and bipolar disorder. Parents were typically identified via psychiatric registers or clinical treatment settings, ensuring a formal diagnosis, and were compared to control parents without diagnoses. The primary aim was to identify early antecedents of mental illness in the offspring. However, these data are limited by methodological heterogeneity (Davidsen et al., 2015) and have not directly assessed parental sensitivity beyond infancy, particularly into the crucial developmental period of 2-5 years., instead using retrospective evaluations of the care-giving environment (Gumley et al., 2014). Wan and Green (2009) indicated that mothers

with psychotic disorders may tend toward "unresponsive," "non-infant-focused" interaction compared to mothers with depression. Recent research highlights that these difficulties are due to negative symptoms of the illness, such as blunted affect and avolition. Shenoy et al. (2019) found that mothers with schizophrenia showed significantly higher levels of "laxness" (permissive discipline) compared to healthy controls, and this specifically correlated with negative symptoms. These findings suggest that the primary barrier to sensitive caregiving may be the withdrawal and passivity that hinder reciprocal engagement after a psychotic episode, rather than hallucinations. The present study addressed these gaps by observing parental sensitivity in real-time.

Research Questions

The primary aim was to measure parental sensitivity towards parents' 2-5-year-old children in parents with and without psychosis. It was hypothesised, based on the challenges to psychological resources posed by psychosis, the clinical group would display lower parental sensitivity compared to the non-clinical control group.

The secondary aim was to investigate the influence of psychosocial variables on parental sensitivity across the two groups. It was hypothesised that, holding an attachment framework, greater parental reflective functioning would be associated with higher sensitivity scores, and higher levels of paranoid ideation, parental stress, and affective distress would be associated with lower sensitivity scores. The findings are intended to inform future clinical interventions designed to support sensitive parenting in this population (MacBeth et al., 2024; Radley et al., 2021; Radley, Sivarajah, et al., 2022).

Method

Participants and Procedure

Fifty parents participated in the study, comprising 20 parents with a diagnosis of a psychotic disorder and 30 non-clinical parents.

The clinical group was recruited from Oxford Health NHS Foundation Trust (OHFT) services, including Early Intervention in Psychosis (EIP), Adult Mental Health Teams, and Primary Care Mental Health Teams. To enhance recruitment, participants were also identified via participant identification centres (PICs) at Berkshire Healthcare NHS Foundation Trust, Pennine Care NHS Foundation Trust, Lancashire and South Cumbria NHS Foundation Trust, Mersey Care NHS Foundation Trust, West London NHS Trust, and South London and Maudsley NHS Foundation Trust, plus self-referral from study advertisements distributed through NHS services and third-sector organisations such as McPin Foundation. The non-clinical control group was recruited from community settings such as nurseries, playgroups, and community centres in Oxfordshire and Greater Manchester. Control participants self-identified as having no diagnosed serious mental health conditions, defined as schizophrenia, bipolar disorder, major depression with psychotic symptoms, severe treatment-resistant depression, or complex PTSD, though this criterion did not preclude the presence of undiagnosed or less severe mental health difficulties.

An a priori power calculation was conducted using G*Power (v3.1) to determine the target sample size. For the primary hypothesis, based on previous research on parental sensitivity in mothers with schizophrenia (Kenny et al., 2013), a medium-large effect size (Cohen's d = 0.65) was anticipated for a one-tailed t-test. To detect this effect with 80% power at .05 alpha, a sample size of 60 participants (30 per group) was originally planned. During the recruitment period, to ensure robust statistical examination, the decision was made to employ a two-tailed significance criterion for the final analysis. Although the original power calculation was based on a directional hypothesis, a two-tailed approach allowed for a more conservative assessment of the data and acknowledged the possibility of non-deficit-based outcomes.

For the secondary hypothesis, a two-tailed power calculation indicated that a sample of 34 would be required to detect a medium-large effect size ($f^2 = 0.25$) with 80% power on an exploratory multiple regression with four independent variables. The final recruited sample of 50 was underpowered for the primary frequentist analysis, but sufficiently powered for the secondary analysis.

Participant eligibility was determined according to the criteria in Table 1.

Table 1

Inclusion and Exclusion Criteria

Group	Inclusion Criteria	Exclusion Criteria
All Participants	• Parent (mother or father) aged 23-65. • Primary caregiver or caregiver with significant caregiving responsibilities of a dependant child aged 2-5 years. • Capacity to provide informed consent.	• Currently under section of the Mental Health Act. • Drug and/or alcohol problems interfering with parenting. • Does not speak English at a level to understand questionnaires. • Unable to give informed consent. • Not living with the child on any basis.

Group	Inclusion Criteria	Exclusion Criteria

Clinical Group	• Primary diagnosis of a psychotic disorder (World Health Organization, 2021):
	  ○ Psychotic disorder not otherwise specified (F29)
	  ○ Substance/medication-induced psychotic disorder (F19.5)
	  ○ Schizophrenia (F20)
	  ○ Delusional disorder (F22)
	  ○ Brief psychotic disorder (F23)
	  ○ Schizoaffective disorder (F25)
	  ○ Other nonorganic psychotic disorders (F28)
	  ○ Bipolar disorder with psychotic symptoms (F31.2)
	• Medicated and stable.	

Control Group	• No diagnosed serious mental health conditions (e.g., schizophrenia, bipolar disorder, major depression with psychotic symptoms).	

Recruitment for the clinical group occurred via two pathways. The first involved direct identification of potential participants by clinical teams. The CI discussed parents' suitability and capacity to consent with their care coordinator prior to contact. The second pathway, introduced following a substantial amendment, allowed patients to self-refer via study advertisements displayed in NHS services and distributed via email by third-sector

organisations such as the McPin Foundation. Self-referral was permitted provided participants were under the care of an NHS mental health team and had a care coordinator. Control participants were recruited via a QR code on a poster linking to an expression of interest form (Appendix J). These posters were displayed in nurseries, playgroups, and community centres in Oxfordshire and Greater Manchester.

All interested and eligible participants were emailed a Participant Information Sheet (Appendix K). At least 48 hours later, the CI followed up to discuss the study and answer any questions. If they wished to participate, a testing session was arranged at their convenience, either at their home, the clinical team base (Oxford Health patients), or at the research team base (Oxford control participants).

The study session lasted approximately 45 minutes. It began with the researcher repeating the study information and obtaining written informed consent from the parent. The parent then completed the demographic form, the video-recorded five-minute free-play interaction using a standardised set of toys (Appendix L), and lastly the self-report questionnaires. Afterwards, parents were provided with a debrief sheet (Appendix M) including parenting resources and offered a follow-up call 48 hours later to discuss any concerns.

Ethical Considerations

The protocol received favourable ethical approval from the Research Ethics Committee (Appendix N; Ref: 24/EE/0154) and Health Research Authority (HRA; IRAS 340088). Patient and public involvement was incorporated through consultation with the DClinPsych course's people with lived experience group. This led to improvements in the clarity and accessibility of participant-facing documents.

Participants provided written informed consent prior to data collection and were informed of their right to withdraw at any time. They were paid a £10 Amazon voucher for

their time, reimbursement for travel expenses, and offered a photo from the video clip. Data were pseudonymised and stored securely on OHFT OneDrive in compliance with General Data Protection Regulation and sponsor policies. Risk management protocols included safeguarding procedures for informing clinical teams of any disclosed risk to self or others.

Measures

There is a lack of consensus on which outcome measures ought to assess parent-child interactions (Centre for Early Child Development, 2022). The Emotional Availability Scales (Biringen et al., 2000) were selected as they focused on numerous aspects of the parent-child relationship including sensitivity, and were suitable for children in the 2-5 year age range. All measures used in the present study are noted in Table 2 (detailed in Appendix O).

Table 2

Measures used in the present study

Construct Measured	Measure	Description
Demographic & Clinical Information	Researcher-developed questionnaire	Collected the following demographic data and clinical history for the psychosis group: • Parent/Child Gender • Parent/Child Age • Ethnicity • Date of first psychotic episode • Total number of hospital admissions due to psychosis • Date of most recent hospital admission due to psychosis • Total number of children • Child additional learning needs, such as autism spectrum disorder (ASD) or attention deficit hyperactivity disorder (ADHD), as determined by established diagnosis (parent reported).

Construct Measured	Measure	Description
Parental Sensitivity	Emotional Availability Scales (Biringen et al., 2000)	Coded from a 5-minute video-recorded play interaction, this observational scale assesses the parent's emotional responsivity to the child's needs. Subscales included: 1. Parental sensitivity - assesses the parent's ability to perceive and respond to the child's signals appropriately and warmly. 2. Parental non-intrusiveness - measures the parent's capacity to be available to the child without being overly directive, interfering, or overprotective. 3. Parental structuring - evaluates the parent's ability to supportively guide the child's play and behaviour while setting appropriate limits. The primary rater was not blind to participant group status during the observational coding. To ensure reliability, a second independent rater (FC), blind to participant group status, coded a random subset of 16% (n = 8) of the video-recorded interactions. Inter-rater reliability for the parental sensitivity scores was calculated using a two-way random effects intraclass correlation coefficient (ICC(2,1); Koch, 2006), estimating absolute agreement.

Construct Measured	Measure	Description
Parental Mentalising	Parental Reflective Functioning Questionnaire (PRFQ; Luyten et al., 2017).	An 18-item self-report scale assessing the parental capacity to consider their child's internal mental states. Subscales included: 1. Interest and curiosity in mental states - assesses a parent's expressed interest in their child's internal world. 2. Certainty of mental states - measures a parent's (over)confidence in knowing what their child is thinking or feeling. 3. Pre- or non-mentalising modes - identifies non-mentalistic thinking, such as attributing malevolent intent to a child's behaviour.
Paranoid Ideation	Revised Green et al., Paranoid Thoughts Scale (R-GPTS; Freeman et al., 2021)	An 18-item self-report scale measuring the frequency and conviction of paranoid beliefs. Subscales included: 1. Ideas of reference - measures thoughts that others hold negative perceptions of the individual, such as being judged or gossiped about. 2. Ideas of persecution - assesses thoughts that others are intending to cause the individual harm.
Parenting-Related Stress	Parental Stress Scale (PSS; Berry & Jones, 1995)	An 18-item self-report scale measuring the level of stress experienced specifically within the parenting role.

Construct Measured	Measure	Description
General Affective Distress	Depression, Anxiety and Stress Scales (DASS-21; Lovibond & Lovibond, 1995)	A 21-item self-report scale assessing the following subscales the preceding week. 1. Depression - assesses symptoms of low mood, hopelessness, and the inability to experience pleasure. 2. Anxiety - measures physiological arousal, panic, and subjective experience of fear. 3. Stress - evaluates nervous tension, agitation, and difficulty relaxing. Each subscale generates a score, or all can be summed together to create a total DASS score.

Data Analysis

Statistical analyses were conducted using SPSS (version 30). Prior to hypothesis testing, data were checked for assumptions of parametric tests. Listwise deletion was used for analyses with missing data. Preliminary independent samples Mann-Whitney U tests, chi-square tests and Fisher's exacts tests checked for significant baseline differences between the clinical and control groups.

For the primary hypothesis, an independent samples Mann-Whitney U test compared the mean parental sensitivity scores between the clinical and control groups. To address the study's sample size, this analysis was supplemented by an exploratory Bayesian independent samples Mann-Whitney test to quantify the evidence for or against a group difference.

For the secondary hypothesis, an exploratory linear multiple regression investigated the psychosocial factors associated with of parental sensitivity across the full sample. To

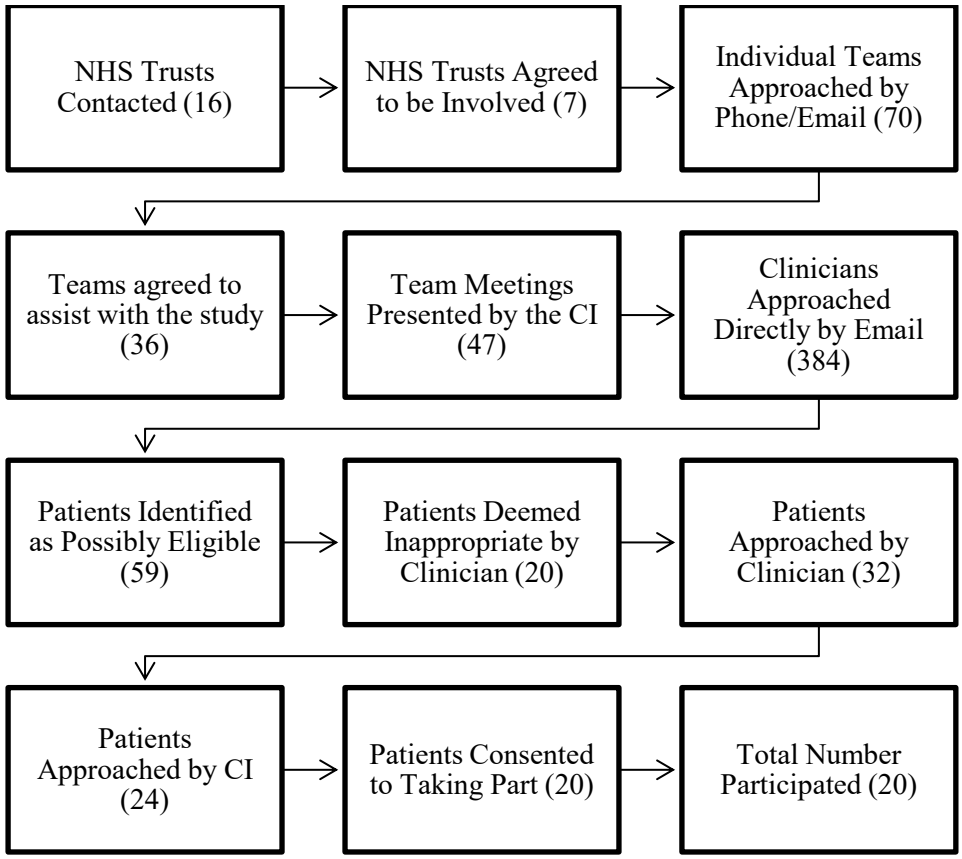
create a more focused and statistically powerful model for the sample size, specific variables central to the study's theoretical framework were selected. The Parental Reflective Functioning Questionnaire Interest and Curiosity (PRFQ-IC) subscale as increasing levels of this capacity are thought to be central adopting a reflective stance during interactions with one's infant (Rutherford et al., 2017). The DASS-Total score captured overall affective distress. The R-GPTS Persecution subscale was included as the most direct measure of the paranoid ideation.

Results

Recruitment involved contacting 16 NHS trusts, of which seven agreed to participate. Within these trusts, 70 clinical teams were approached, and 36 teams agreed to engage in the recruitment process. The other teams did not respond. The CI presented the study at 47 team meetings, then emailed 384 clinicians directly regarding potential recruitment. From this group, clinicians initially identified 59 possible participants; however, based on clinical judgement, then deemed 20 of these inappropriate for the study. Subsequently, 32 potential participants were approached by clinicians themselves, following which the CI approached 24 directly. Ultimately, 20 participants consented and completed participation (Figure 1).

Figure 1

Patient Participant Recruitment Flowchart



Overall, patient participants were excluded from the study for reasons identified by both clinicians and parents themselves (Figure 1). Clinician-led exclusions included safeguarding concerns, disengagement or low engagement with services, complex social or family circumstances (such as no longer living with the child or multiple ongoing issues), being in the early stages of the Early Intervention journey, parental unwellness, and requiring an interpreter.

Parent-led exclusions for both patient and control participants included a preference not to participate or to withdraw, often due to personal reasons such as bereavement, lack of interest, or the video recording, with some parents consenting initially but choosing not to proceed after being given time to think about it (see Appendix P for more details).

Participant Characteristics

Fifty parents participated in the study. The clinical group comprised 20 parents (9 fathers, 11 mothers) with psychosis, and the control group comprised 30 parents (9 fathers, 21 mothers). Six patients were from Oxford EIP in OHFT, one was from AMHT in OHFT, three were from two EIP teams in Pennine Care, and four were from two EIP teams in Lancashire and South Cumbria Foundation Trust (LSCFT), one was from EIP team and one from CMHT in West London NHS Trust, two were from EIP in South London and Maudsley Trust (SLaM), one was from AMHT in SLaM, one was from an EIP team in Berkshire. No safeguarding issues or distress arose during the study, and one participant requested a follow-up call after taking part but did not have any concerns.

There were no significant differences between the psychosis and control groups on any demographic variables, apart from mean child age (Table 3), which was significantly higher in the psychosis group ($M = 3.66$, $SD = 0.95$) compared to the control group ($M = 3.05$, $SD = 0.78$), $t(48) = -2.47$, $p = .02$.

Table 3

Demographic and clinical characteristics of the sample

Characteristic	Psychosis Group (n = 20)	Control Group (n = 30)	Total (n = 50)	Statistic	*p*
Parent					
Age, M (SD)	36.96 (6.41)	36.53 (4.63)	36.70 (5.36)	t(48) = -0.27	.79
Female, n (%)	11 (55.0%)	21 (70.0%)	32 (64%)	$\chi^2 = 1.17$	.28
White British, n (%)	11 (55.0%)	20 (66.7%)	31 (62%)	$\chi^2 = 0.69$	.41
No. of Children, M (SD)	1.95 (1.00)	1.50 (0.51)	1.68 (0.77)	U=367.50	.14
Child					
Age, M (SD)	3.65 (0.95)	3.05 (0.78)	3.29 (0.90)	t(48) = -2.47	.01
Female, n (%)	10 (50.0%)	8 (26.7%)	18 (36%)	$\chi^2 = 2.84$	.09
Additional Learning Needs, n (%)	1 (5%)	1 (3.3%)	1 (2%)		1.00
Patient Clinical Information					
Years Since First Episode, M (SD)	3.93 (5.80)				
Hospitalisations, M (SD)	1.45 (1.50)				
Years Since Last Hospitalisation, M (SD), n=16	1.70 (1.95)				

Note. Group comparisons of demographic variables were conducted using the appropriate statistical test based on data type and assumption checks. For continuous data (parent and child age), independent-samples t-tests were used. For categorical data, Chi Square Tests were used, except for additional learning needs where Fisher's Exact Test was

used due to smaller than expected cell counts. For ordinal data (number of children), a Mann-Whitney U test was used. The ethnicity analysis is based on a dichotomised variable ('White British' vs. 'Other') due to small cell sizes in the full breakdown. The control group comprised 20 White British, 4 White Other, 1 Asian Indian, 3 Asian Other, 1 Asian Pakistani, and 1 Mixed White and Other participant. The psychosis group included 11 White British, 2 Asian Pakistani, 2 Black British, 2 Asian Indian, 2 White Other and 1 Black African participant.

Group Comparisons of Self-Report Measures

As normality was violated for several variables according to Shapiro-Wilk tests, non-parametric Mann-Whitney U tests compared the groups on self-report measures. Descriptive statistics and group comparisons are presented in **Error! Not a valid bookmark self-reference.**. The psychosis group reported significantly higher levels of paranoid persecution and anxiety, and lower levels of interest and curiosity, compared to the control group. There were no other significant group differences.

Table 3

Descriptive Statistics and Group Comparisons for Self-Report Measures

Variable and Subscale	Psychosis Group (n=20) M (SD)	Control Group (n=30) M (SD)	U	*p*
Parental Reflective Functioning (PRFQ)				
Pre-mentalising (PM)	2.08 (1.00)	1.73 (0.74)	254.00	.37
Certainty (CM)	4.07 (1.13)	3.82 (0.96)	277.00	.66
Interest & Curiosity (IC)	5.56 (0.86)	6.14 (0.52)	428.00	**.01***
Paranoid Thoughts (R-GPTS)				
Persecution	10.10 (12.10)	0.53 (1.50)	182.00	**.008***
Reference	6.95 (8.90)	2.60 (5.03)	230.50	.16
Parental Stress				
Total Score	34.25 (7.70)	39.60 (9.53)	394.00	.06
Affective Distress (DASS-21)				
Depression	8.30 (8.54)	4.00 (6.10)	224.50	.13
Anxiety	9.20 (7.35)	3.07 (5.82)	124.00	**< .001***
Stress	10.30 (8.47)	11.60 (9.94)	304.50	.94
Total Score	27.80 (21.61)	18.67 (20.64)	218.00	.11

Note. p-values are two-tailed from Mann-Whitney U tests. Bold indicates statistical significance at $p < .05$.

Primary Analysis: Group Differences in Parental Sensitivity

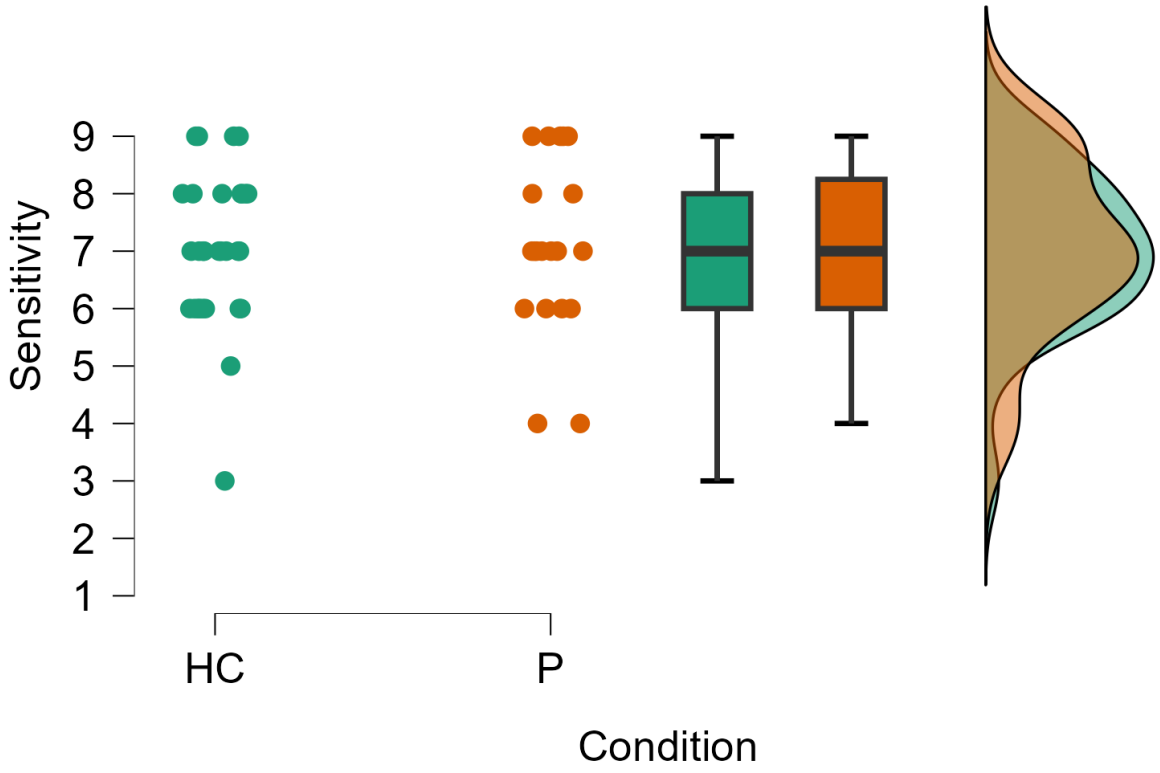
To assess the reliability of observational coding using the EAS, an Intraclass Correlation Coefficient (ICC) using a two-way random effects model showed excellent reliability for single measures, ICC = .96 (95% CI [.86, .99]), $F(9, 9) = 48.20$, $p < .001$.

Prior to analysis, the assumption of normality was violated for both the psychosis group (W = .89, p = .03) and the control group (W = .91, p = .01) on Shapiro-Wilk tests. A non-parametric test was therefore used for the primary hypothesis.

To compare the distributions of parental sensitivity scores between the two conditions, a raincloud plot, showing individual data points, boxplots, and kernel density estimates, was generated (see **Error! Reference source not found.**). Both the control and psychosis groups displayed similar distributions with identical median scores (7). The control group exhibited a slightly broader range of scores, from 3 to 9, while the psychosis group's scores ranged from 4 to 9. The boxplots further illustrate similarity, showing comparable interquartile ranges of roughly 6 to 8, indicating that the bulk of sensitivity scores were concentrated in the upper-middle portion of the scale.

Figure 2

Raincloud Plot of Parental Sensitivity Scores for the Control and Psychosis Groups



Note. HC = healthy control group, P = psychosis group.

The results of the independent-samples Mann-Whitney U test indicated no significant difference in the ranked parental sensitivity scores between the psychosis group (Mean Rank = 26.13) and the control group (Mean Rank = 25.08), U = 312.50, z = 0.25, p = .80.

To quantify the evidence for the null hypothesis, an exploratory one-tailed Bayesian Mann-Whitney U test was performed using JASP (version 0.19.3). With a default Cauchy prior (r = 0.707) for the effect size, the resulting Bayes Factor (BF_{01} = 3.20) provided moderate evidence (Lee & Wagenmakers, 2014) in favour of the null hypothesis of no difference in sensitivity over the alternative hypothesis that the control group would show higher sensitivity.

The other observed parenting behaviours, parental non-intrusiveness and structuring, were examined separately using Mann-Whitney U tests (Appendix Q).. No significant group differences were found for either parental non-intrusiveness (U = 267.50, z = -0.67, p = .50) or structuring (U = 278.50, z = 0.44, p = .66).

Secondary Analysis: Factors associated with Parental Sensitivity

Several study variables, including parental sensitivity and associated factors R-GPTS Persecution and DASS Total scores, exhibited non-normal distributions. Spearman's rank-order correlation (ρ) was therefore used to assess bivariate relationships (**Error! Reference source not found.**).

Table 4

Spearman's Bivariate Correlations Between Regression Variables (N=50)

Variable	1	2	3	4	5
1. Sensitivity	-				
2. PRFQ IC	.30*	-			
3. Parental Stress	.14	.07	-		
4. RGPTS Persecution	.17	-.26	.13	-	
5. DASS Total	.13	.11	.43**	.57**	-

Note. PRFQ IC = Parental Reflective Functioning Questionnaire - Interest and Curiosity; RGPTS Persecution = Revised Green et al. Paranoid Thought Scales - Part B: Persecution Score; DASS Total = Depression, Anxiety and Stress Scale - Total Score. * p < .05, ** p < .01.

Parental sensitivity demonstrated a small, statistically significant positive correlation with the PRFQ-IC subscale (ρ = .30, p = .03). No other variables correlated with parental sensitivity. Additionally, a statistically significant positive correlation was observed between parental stress and DASS total (ρ = .3, p = .002), and between R-GPTS Persecution and DASS total (ρ = .57, p < .001).

An exploratory linear multiple regression was conducted to examine factors associated with parental sensitivity. During assumption checks, visual inspection of the scatterplot of standardised residuals versus standardised predicted values (Appendix R) confirmed linearity and homoscedasticity. The Durbin-Watson statistic was 2.145, indicating no significant autocorrelation. Multicollinearity was not a concern, with all tolerance values > .541 and VIF values < 1.848.

However, parental sensitivity and associated factors R-GPTS Persecution score (skewness = 2.133, kurtosis = 3.419) and DASS Total (skewness = 1.239, kurtosis = 0.267) showed non-normal variable distributions. While the Normal P-P plot of the residuals indicated that residuals were approximately normally distributed, one outlier case with a standardised residual of -3.006 was identified. To ensure the robustness of the findings, the analysis was re-run with this case excluded (see Appendix S). This resulted in a change to the overall model, which became statistically significant (p = .04). However, to maintain a conservative estimate, the analysis with the full sample is reported.

The overall model was not statistically significant, $F(4, 45) = 2.23$, $p = .08$, and accounted for 16.5% of the variance in parental sensitivity ($R^2 = .17$, Adjusted $R^2 = .09$). The PRFQ-IC subscale was significantly and uniquely associated with parental sensitivity (Table 6).

Table 5

Summary of Multiple Regression Analysis Examining Factors Associated with Parental Sensitivity (N=50)

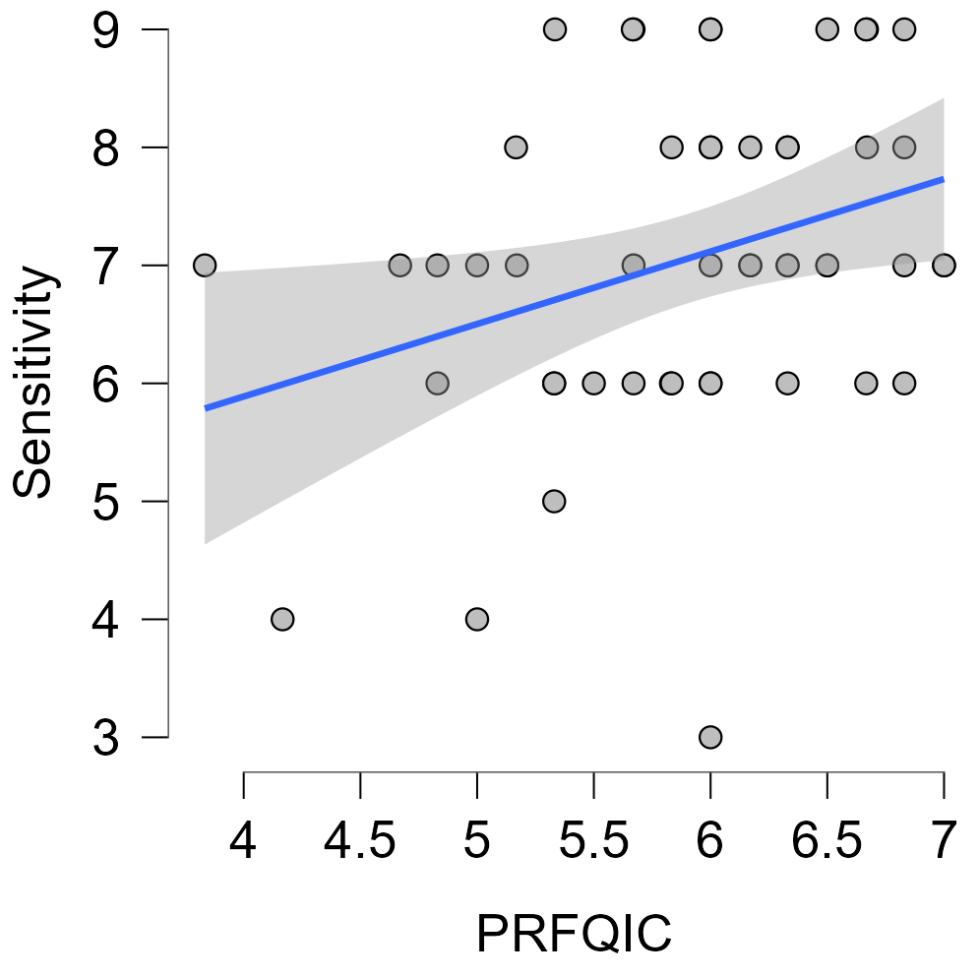
Variable	B	SE	β	*t*	*P*
(Constant)	2.21	1.85		1.20	.24
PRFQ - IC	0.74	0.28	.39	2.62	**.01**
R-GPTS - Persecution	0.05	0.03	.28	1.65	.11
Parental Stress Scale	0.01	0.02	.07	0.43	.67
DASS - Total	-0.01	0.01	-.08	-0.40	.69

Note. β = Standardised Beta. PRFQ-IC = Parental Reflective Functioning Questionnaire - Interest and Curiosity; R-GPTS Persecution = Revised Green et al. Paranoid Thought Scales - Part B: Persecution Score; DASS Total = Depression, Anxiety and Stress Scale - Total Score. Bold p-value indicates statistical significance at $p < .05$.

A scatter plot was generated to represent the statistically significant association between PRFQ-IC and Parental Sensitivity (**Error! Reference source not found.**). PRFQ-IC alone accounted for 10.4% of the variance in Parental Sensitivity ($R^2 = .104$).

Figure 3

Scatter Plot of Parental Sensitivity against Parental Reflective Functioning - Interest and Curiosity (PRFQ-IC) with Linear Regression Line and 95% Confidence Interval.



Note. The shaded grey area indicates the 95% confidence interval for linear regression line.

Discussion

This study compared observed parental sensitivity in parents with and without psychosis and explored psychosocial factors associated with this sensitivity. The study addressed an under-researched developmental period by recruiting parents of children aged 2-5 years.

Primary Hypothesis – Parental Sensitivity Between Groups

The primary hypothesis that parents with psychosis would show lower levels of parental sensitivity was not supported by the data, with no statistically significant difference in parental sensitivity between the groups. In a study with a small clinical sample, a non-significant p-value from a frequentist test (p =.80) could mean there was truly no difference, or the study was underpowered to detect one. However, our finding was strengthened by a Bayesian statistical analysis providing moderate evidence in favour of the null hypothesis: the observed data were over three times more likely to have occurred with no true difference in sensitivity than with a real difference. This result was particularly striking given that parents in the clinical group reported significantly higher levels of anxiety and paranoid ideation compared to the control group, indicating a distinction between their distress and observed parenting behaviour.

This finding is not consistent with previous literature emphasising the challenges psychosis poses to parenting. Delusions and hallucinations, as well as parents' own anxieties about their illness, were thought to interfere with their perceived capacity to meet their children's emotional needs. Yet many parents also describe parenting as a source of motivation, pride, and purpose (Radley, Barlow, et al., 2022). Furthermore, parents with psychosis often use positive parenting strategies, even if they find them difficult to sustain, suggesting a capacity for sensitive parenting (Radley, Sivarajah, et al., 2022).

One explanation for the result concerns the clinical sample. Although the study successfully recruited from adult and community mental health teams, most of the clinical sample (17 out of 20) was recruited from EIP services. Consequently, this group was relatively stable and early in their illness trajectory; mean time since first psychotic episode was 3.93 years, and they had experienced few hospital admissions due to psychosis (mean 1.45). EIP services provide intensive, holistic, recovery-oriented care to those experiencing a

first psychotic episode, leading to improved outcomes (Csillag et al., 2018; O'connell et al., 2022; Tsiachristas et al., 2016). It is plausible, then, that the clinical sample represents a more stable subgroup with greater insight and stronger support networks than the broader population of parents with psychosis, particularly those with more chronic or untreated conditions. The results may speak to the resilience of these parents and the success of the EIP model in mitigating the impact of psychosis on parenting.

Another explanation for the result concerns the study methodology. Parental sensitivity was assessed by a five-minute video-recorded free-play interaction with a standard set of toys. This does not substitute for the full spectrum of parental demands, which can include managing their toddler's tantrums and growing independence. It did, however, introduce the additional stressor of the video recording. Parents with a serious mental illness are often aware of the societal stigma surrounding their parenting. During the video, they may have been highly motivated to perform as best they could. This may have resulted in a more uniformly "good enough" performance during the brief observation, reflected in the tight clustering of their scores relative to the control group. In addition, control parents may have behaved more spontaneously, leading to a wider, more representative distribution of scores. This suggests the clinical sample are perfectly capable of sensitive parenting, but it might be effortful to maintain, and vulnerable to disruption under higher stress, fatigue, or symptom emergence.

Secondary Hypothesis – Factors associated with Parental Sensitivity

The secondary hypotheses in exploring the psychosocial factors associated with parental sensitivity were partially supported. PRFQ-IC, key to parental reflective functioning, was significantly associated with parental sensitivity. This highlighted a specific cognitive capacity that appears to facilitate sensitive parenting (Kungl et al., 2024), irrespective of diagnosis. The PRFQ-IC subscale contains items such as "I am often curious to find out how

my child feels" and "I try to see situations through the eyes of my child". The regression model demonstrated that this was a more salient factor associated with sensitive parenting than the psychosis-specific symptom of paranoid ideation, general parenting stress, or overall affective distress.

It is important to note the influence of a single outlier. While the overall regression model was not significant (p = .08), rerunning the analysis without the outlier yielded a statistically significant model (p = .04) accounting for 19.5% variance in parental sensitivity. Even in this model, PRFQ-IC remained the only significant associated factor (p = .004). Paranoid ideation showed a trending, not statistically significant, negative association with sensitivity (p = .08). This nuances our understanding: while a parent's internal symptomatic experience, particularly paranoia, may show influence on interactions, it does not appear to translate directly into behaviour as powerfully as their cognitive framework. A parent who maintains curiosity about their child's mental state is more likely to interpret their child's cues accurately and respond appropriately, despite significant anxiety and paranoid thoughts. While not directly measured here, mentalising theory suggests this curiosity helps parents navigate and interpret their child's cues more effectively, allowing them to respond appropriately despite significant anxiety and paranoid thoughts. This may function as a crucial protective buffer for the parent-child relationship.

Further supporting this interpretation is the significant negative correlation observed between PRFQ-IC and paranoid ideation ($\rho = -.26$). This suggests that as a parent's persecutory thoughts increase, their capacity to be curious about their child's mind may decrease (Hauschild et al., 2023; Long & Hull, 2023). This suggests one mechanism for how psychosis can disrupt sensitive parenting: by impacting the very cognitive function upon which sensitivity is built. The critical ingredient for sensitive caregiving may not be the absence of psychopathology, but the presence of this specific cognitive skill.

Clinical and Theoretical Implications

Several important clinical implications arise from this study. The findings support a move away from a deficit-based clinical stance of parents with psychosis. Clinicians can benefit from conducting individualised assessments of the parent-child relationship for all parents, enquiring about areas parents consider their strengths and weaknesses, for example play, setting limits, or practical tasks.

The most specific clinical finding is parental interest and curiosity as a specific, measurable, and modifiable target for intervention. This is important because there is no rigorous evidence from RCTs to support the effectiveness of any specific parenting intervention for parents with psychosis (Radley, Sivarajah, et al., 2022). This study suggests the most effective interventions may be go beyond generic parenting strategies to include a focus on the parent's mentalising capacity. An intervention that enhances this, especially during stress or relational difficulties, could positively impact their sensitivity and in turn, their children (Iwasaki et al., 2023; Kwok et al., 2023).

Strengths and Limitations

This study contributed to the literature by focusing on parent-child dyads beyond infancy, to 2–5 years. It also included fathers in the sample, a frequently overlooked demographic in parenting research, particularly in severe mental illness (Fisher, 2016). The Emotional Availability Scales provided a more objective measure of the parent-child relationship to accompany self-report questionnaires. Finally, the exploratory Bayesian analysis provided a statistically nuanced method for interpreting the study’s primary conclusion.

However, the study also has several limitations. The most significant was the small clinical sample (n=20), which rendered the primary analysis underpowered. Second, the predominantly EIP-based recruitment likely resulted in a high-functioning sample that may

not represent the population of parents with psychosis. Third, the primary rater of the video observations was not blind to the participants' group, introducing a risk of observer bias. However, this was mitigated by the excellent inter-rater reliability achieved with the second, fully blinded rater. Finally, the cross-sectional design was correlational, precluding any causal inference. While PRFQ-IC was associated with sensitivity, it cannot be concluded that it causes sensitivity. The relationship could be bidirectional, or both could be influenced by a third variable.

Future research should recruit larger, more heterogenous samples of parents. Longitudinal research could improve understanding about the causal relationships, including developmental trajectories of parental sensitivity in different contexts, as symptoms and life circumstances evolve. This would further support an RCT evaluating the efficacy of a parenting intervention designed for parental reflective functioning for parents with psychosis.

Conclusion

This study provides a novel perspective on parenting with psychosis for 2-5-year-old children, showing comparable sensitivity to parents without psychosis and highlighting reflective functioning as a key associated factor. This represents a possible path for future research and practice, with mentalising key to supporting family resilience.

References

Ainsworth, M. D. S. (1969). Maternal sensitivity scales. *Power*, *6*, 1379–1388.

Ainsworth, M. D. S. (1979). Infant – Mother Attachment. *American Psychologist*, *34*(10), 937–937. https://doi.org/10.1037/0003-066X.34.10.932

Ainsworth, M. D. S., Bell, S. M., & Stayton, D. F. (1974). *Infant-mother attachment and social development: Socialization as a product of reciprocal responsiveness to signals.*

American Psychiatric Association. (2022). *Diagnostic and Statistical Manual of Mental Disorders* (DSM-5-TR). American Psychiatric Association Publishing. https://doi.org/10.1176/appi.books.9780890425787

Bakermans-Kranenburg, M. J., Van Ijzendoorn, M. H., & Juffer, F. (2003). Less is more: Meta-analyses of sensitivity and attachment interventions in early childhood. *Psychological Bulletin*, *129*(2), 195. https://doi.org/10/csbdg5

Berry, J. O., & Jones, W. H. (1995). The parental stress scale: Initial psychometric evidence. *Journal of Social and Personal Relationships*, *12*(3), 463–472. https://doi.org/10.1177/0265407595123009

Biringen, Z., Robinson, J. L., & Emde, R. N. (2000). Appendix B: The Emotional Availability Scales (3rd ed.; an abridged Infancy/Early Childhood Version). *Attachment & Human Development*, *2*(2), 256–270. https://doi.org/10.1080/14616730050085626

Boldrini, T., Pontillo, M., Tanzilli, A., Giovanardi, G., Di Cicilia, G., Salcuni, S., Vicari, S., & Lingiardi, V. (2020). An attachment perspective on the risk for psychosis: Clinical correlates and the predictive value of attachment patterns and mentalization. *Schizophrenia Research*, *222*, 209–217. https://doi.org/10.1016/j.schres.2020.05.052

Bowlby, J. (1969). Attachment and loss: Volume I: attachment. In *Attachment and Loss: Volume I: Attachment* (pp. 1–401). London: The Hogarth Press and the Institute of Psycho-Analysis.

Campbell, L., Hanlon, M.-C., Poon, A. W. C., Paolini, S., Stone, M., Galletly, C., Stain, H. J., & Cohen, M. (2012). The experiences of Australian parents with psychosis: The second

Australian national survey of psychosis. *Australian & New Zealand Journal of Psychiatry*, *46*(9), 890–900. https://doi.org/10.1177/0004867412455108

Centre for Early Child Development. (2022). *Measuring What Matters: The current use of outcome measures by Specialist Parent-Infant Relationship and Infant Mental Health Services*.

Comfort, M., & Gordon, P. R. (2006). The Keys to Interactive Parenting Scale (KIPS): A Practical Observational Assessment of Parenting Behavior. *NHSA Dialog*, *9*(1), 22–48. https://doi.org/10.1207/s19309325nhsa0901_4

Csillag, C., Nordentoft, M., Mizuno, M., McDaid, D., Arango, C., Smith, J., Lora, A., Verma, S., Di Fiandra, T., & Jones, P. B. (2018). Early intervention in psychosis: From clinical intervention to health system implementation. *Early Intervention in Psychiatry*, *12*(4), 757–764. https://doi.org/10.1111/eip.12514

Davidsen, K. A., Harder, S., MacBeth, A., Lundy, J.-M., & Gumley, A. (2015). Mother–infant interaction in schizophrenia: Transmitting risk or resilience? A systematic review of the literature. *Social Psychiatry and Psychiatric Epidemiology*, *50*(12), 1785–1798. https://doi.org/10.1007/s00127-015-1127-x

Donatelli, J.-A. L., Seidman, L. J., Goldstein, J. M., Tsuang, M. T., & Buka, S. L. (2010). Children of Parents With Affective and Nonaffective Psychoses: A Longitudinal Study of Behavior Problems. *American Journal of Psychiatry*, *167*(11), 1331–1338. https://doi.org/10.1176/appi.ajp.2010.09020241

Down, K., Levickis, P., Hudson, S., Nicholls, R., & Wake, M. (2015). Measuring maternal responsiveness in a community-based sample of slow-to-talk toddlers: A cross-sectional study. *Child: Care, Health and Development*, *41*(2), 329–333. https://doi.org/10.1111/cch.12174

Fisher, S. D. (2016). Paternal Mental Health: Why Is It Relevant? *American Journal of Lifestyle Medicine*, *11*(3), 200–211. https://doi.org/10.1177/1559827616629895

Freeman, D., Loe, B. S., Kingdon, D., Startup, H., Molodynski, A., Rosebrock, L., Brown, P., Sheaves, B., Waite, F., & Bird, J. C. (2021). The revised Green et al., Paranoid Thoughts

Scale (R-GPTS): Psychometric properties, severity ranges, and clinical cut-offs. *Psychological Medicine*, *51*(2), 244–253.

Gumley, A., Taylor, H., Schwannauer, M., & MacBeth, A. (2014). A systematic review of attachment and psychosis: Measurement, construct validity and outcomes. *Acta Psychiatrica Scandinavica*, *129*(4), 257–274. https://doi.org/10.1111/acps.12172

Harries, C. I., Smith, D. M., Gregg, L., Allott, R., & Wittkowski, A. (2023). Parents who experience psychosis: A qualitative exploration. *Psychology and Psychotherapy*, *96*(3), 590–607. https://doi.org/10.1111/papt.12458Hauschild, S., Kasper, L. A., Berning, A., & Taubner, S. (2023). The relationship between epistemic stance, mentalizing, paranoid distress and conspiracy mentality: An empirical investigation. *Research in Psychotherapy: Psychopathology, Process and Outcome*, *26*(3). https://doi.org/10.4081/ripppo.2023.706

Iwasaki, S., Moriguchi, Y., & Sekiyama, K. (2023). Parental responsiveness and children's trait epistemic curiosity. *Frontiers in Psychology*, *13*. https://doi.org/10.3389/fpsyg.2022.1075489

Johansson, A. G., Källman, M., Högman, L., Kristiansson, M., Fischer, H., & Bölte, S. (2020). Psychotically driven aggression is associated with greater mentalizing challenges in psychotic spectrum disorders. *BMC Psychiatry*, *20*(1), 470. https://doi.org/10.1186/s12888-020-02868-7

Kenny, M., Conroy, S., Pariante, C. M., Seneviratne, G., & Pawlby, S. (2013). Mother–infant interaction in mother and baby unit patients: Before and after treatment. *Journal of Psychiatric Research*, *47*(9), 1192–1198. https://doi.org/10.1016/j.jpsychires.2013.05.012

Koch, G. G. (2006). Intraclass Correlation Coefficient. In *Encyclopedia of Statistical Sciences*. John Wiley & Sons, Ltd. https://doi.org/10.1002/0471667196.ess1275.pub2

Kungl, M. T., Gabler, S., White, L. O., Spangler, G., & Vrticka, P. (2024). Precursors and Effects of Self-reported Parental Reflective Functioning: Links to Parental Attachment Representations and Behavioral Sensitivity. *Child Psychiatry & Human Development*. https://doi.org/10.1007/s10578-023-01654-2

Künster, A. K., Fegert, J. M., & Ziegenhain, U. (2010). Assessing parent—child interaction in the preschool years: A pilot study on the psychometric properties of the toddler CARE-Index.

Clinical Child Psychology and Psychiatry, *15*(3), 379–389. https://doi.org/10.1177/1359104510367585

Kwok, S. Y. C. L., Li, Y., & Kwok, K. (2023). Positive parenting, attachment, epistemic curiosity, and competence motivation of preschool children in Hong Kong: A serial mediation model. *Current Psychology*, *42*(30), 26079–26089. https://doi.org/10.1007/s12144-022-03680-0

Lee, M. D., & Wagenmakers, E.-J. (2014). *Bayesian cognitive modeling: A practical course*. Cambridge university press.

Leijdesdorff, S., van Doesum, K., Popma, A., Klaassen, R., & van Amelsvoort, T. (2017). Prevalence of psychopathology in children of parents with mental illness and/or addiction: An up to date narrative review. *Current Opinion in Psychiatry*, *30*(4), 312–317. https://doi.org/10.1097/YCO.0000000000000341

Long, J., & Hull, R. (2023). Conceptualizing a less paranoid schizophrenia. *Philosophy, Ethics, and Humanities in Medicine*, *18*(1). https://doi.org/10.1186/s13010-023-00142-8

Lovibond, S. H., & Lovibond, P. F. (1995). *Depression Anxiety Stress Scales* [Data set]. https://doi.org/10.1037/t01004-000

Luyten, P., Mayes, L. C., Nijssens, L., & Fonagy, P. (2017). The parental reflective functioning questionnaire: Development and preliminary validation. *PLOS ONE*, *12*(5), e0176218. https://doi.org/10.1371/journal.pone.0176218

Lysaker, P. H., Cheli, S., Dimaggio, G., Buck, B., Bonfils, K. A., Huling, K., Wiesepape, C., & Lysaker, J. T. (2021). Metacognition, social cognition, and mentalizing in psychosis: Are these distinct constructs when it comes to subjective experience or are we just splitting hairs? *BMC Psychiatry*, *21*(1), 329. https://doi.org/10.1186/s12888-021-03338-4

MacBeth, A., Christie, H., Golds, L., Morales, F., Raouna, A., Sawrikar, V., & Gillespie-Smith, K. (2024). Thinking about the next generation: The case for a mentalization-informed approach to perinatal and intergenerational mental health. *Psychology and Psychotherapy: Theory, Research and Practice*, *97*(S1), 1–15. https://doi.org/10.1111/papt.12483

Marano, G., Lisci, F. M., Sfratta, G., Marzo, E. M., Abate, F., Boggio, G., Traversi, G., Mazza, O., Pola, R., Gaetani, E., & Mazza, M. (2025). Targeting the Roots of Psychosis: The Role of

Aberrant Salience. *Pediatric Reports*, *17*(3), Article 3. https://doi.org/10.3390/pediatric17030063

Muzik, M., Bocknek, E. L., Broderick, A., Richardson, P., Rosenblum, K. L., Thelen, K., & Seng, J. S. (2013). Mother–infant bonding impairment across the first 6 months postpartum: The primacy of psychopathology in women with childhood abuse and neglect histories. *Archives of Women's Mental Health*, *16*, 29–38. https://doi.org/10.1007/s00737-012-0312-0

Nath, S., Pearson, R. M., Moran, P., Pawlby, S., Molyneaux, E., Challacombe, F. L., & Howard, L. M. (2019). The association between prenatal maternal anxiety disorders and postpartum perceived and observed mother-infant relationship quality. *Journal of Anxiety Disorders*, *68*, 102148. https://doi.org/10.1016/j.janxdis.2019.102148

Niemi, L. T., Suvisaari, J. M., Haukka, J. K., & Lönnqvist, J. K. (2005). Childhood predictors of future psychiatric morbidity in offspring of mothers with psychotic disorder: Results from the Helsinki High-Risk Study. *British Journal of Psychiatry*, *186*(2), 108–114. https://doi.org/10.1192/bjp.186.2.108

O'connell, N., O'connor, K., McGrath, D., Vagge, L., Mockler, D., Jennings, R., & Darker, C. (2022). Early Intervention in Psychosis services: A systematic review and narrative synthesis of the barriers and facilitators to implementation. *European Psychiatry*, *65*(1), e2. https://doi.org/10.1192/j.eurpsy.2021.2260

Radley, J., Barlow, J., & Johns, L. C. (2022). Parenting and psychosis: An experience sampling methodology study investigating the inter-relationship between stress from parenting and positive psychotic symptoms. *British Journal of Clinical Psychology*, *61*(4), 1236–1258. https://doi.org/10.1111/bjc.12389

Radley, J., Grant, C., Barlow, J., & Johns, L. (2021). Parenting interventions for people with schizophrenia or related serious mental illness. *Cochrane Database of Systematic Reviews*, *2021*(10). https://doi.org/10.1002/14651858.CD013536.pub2

Radley, J., Sivarajah, N., Moltrecht, B., Klampe, M.-L., Hudson, F., Delahay, R., Barlow, J., & Johns, L. C. (2022). A Scoping Review of Interventions Designed to Support Parents With Mental

Illness That Would Be Appropriate for Parents With Psychosis. *Frontiers in Psychiatry*, *12*, 787166. https://doi.org/10.3389/fpsyt.2021.787166

Rasic, D., Hajek, T., Alda, M., & Uher, R. (2014). Risk of Mental Illness in Offspring of Parents With Schizophrenia, Bipolar Disorder, and Major Depressive Disorder: A Meta-Analysis of Family High-Risk Studies. *Schizophrenia Bulletin*, *40*(1), 28–38. https://doi.org/10.1093/schbul/sbt114

Rutherford, H. J. V., Maupin, A. N., Landi, N., Potenza, M. N., & Mayes, L. C. (2017). Parental reflective functioning and the neural correlates of processing infant affective cues. *Social Neuroscience*, *12*(5), 519–529. https://doi.org/10.1080/17470919.2016.1193559

Sandstrom, A., MacKenzie, L., Pizzo, A., Fine, A., Rempel, S., Howard, C., Stephens, M., Patterson, V. C., Drobinin, V., Van Gestel, H., Howes Vallis, E., Zwicker, A., Propper, L., Abidi, S., Bagnell, A., Lovas, D., Cumby, J., Alda, M., Uher, R., & Pavlova, B. (2020). Observed psychopathology in offspring of parents with major depressive disorder, bipolar disorder and schizophrenia. *Psychological Medicine*, *50*(6), 1050–1056. https://doi.org/10.1017/S0033291719001089

Sandstrom, A., Sahiti, Q., Pavlova, B., & Uher, R. (2019). Offspring of parents with schizophrenia, bipolar disorder, and depression: A review of familial high-risk and molecular genetics studies. *Psychiatric Genetics*, *29*(5), 160. https://doi.org/10.1097/YPG.0000000000000240

Shenoy, S., Desai, G., Venkatasubramanian, G., & Chandra, P. S. (2019). Parenting in mothers with schizophrenia and its relation to facial emotion recognition deficits- a case control study. *Asian Journal of Psychiatry*, *40*, 55–59. https://doi.org/10.1016/j.ajp.2019.01.022

Strand, J., Boström, P., & Grip, K. (2020). Parents' Descriptions of How Their Psychosis Affects Parenting. *Journal of Child and Family Studies*, *29*(3), 620–631. https://doi.org/10.1007/s10826-019-01605-3

Tsiachristas, A., Thomas, T., Leal, J., & Lennox, B. R. (2016). Economic impact of early intervention in psychosis services: Results from a longitudinal retrospective controlled study in England. *BMJ Open*, *6*(10), e012611. https://doi.org/10.1136/bmjopen-2016-012611

Wan, M. W., & Green, J. (2009). The impact of maternal psychopathology on child–mother attachment. *Archives of Women's Mental Health*, *12*(3), 123–134. https://doi.org/10.1007/s00737-009-0066-5

Weijers, J. G., Kate, C. T., Viechtbauer, W., Rampaart, L. J. A., Eurelings, E. H. M., & Selten, J. P. (2021). Mentalization-based treatment for psychotic disorder: A rater-blinded, multi-center, randomized controlled trial. *Psychological Medicine*, *51*(16), 2846–2855. https://doi.org/10.1017/S0033291720001506

World Health Organization. (2021). *International statistical classification of diseases and related health problems* (11th edn). https://icd.who.int/en

Zhou, M., Larsson, H., D'Onofrio, B. M., Landén, M., Lichtenstein, P., & Pettersson, E. (2023). Intergenerational Transmission of Psychiatric Conditions and Psychiatric, Behavioral, and Psychosocial Outcomes in Offspring. *JAMA Network Open*, *6*(12), e2348439. https://doi.org/10.1001/jamanetworkopen.2023.48439

Executive Summary

When a parent experiences psychosis, it can create challenges for their children's development. The quality of the relationship between the parent and child is a key factor in this. However, research has not looked directly at how parents with psychosis interact with their young children (aged 2-5). We also do not fully understand the thought processes that might affect parenting, such as parental reflective functioning - the ability to see things from a child's point of view and understand their feelings.

This research project was designed to address some of these gaps. Our first goal was to compare the parenting sensitivity of a group of parents with psychosis to a group of parents with no mental health diagnosis. Our second goal was to see what factors, like a parent's ability to reflect, paranoid thoughts, stress, or mood, were linked to their parental sensitivity. We hope the results will help create better ways to support families.

Methodology

The study looked at 50 parents and their young children (aged 2-5). Twenty parents had a diagnosis of psychosis and were receiving support from NHS Early Intervention and secondary care services. The other 30 parents had no diagnosed mental health problems and were recruited from the community.

In a single session, we asked parents some background questions. We then video-recorded them playing with their child for five minutes with a set of toys we provided. We used these videos to rate how sensitive their parenting was. Parents also filled out questionnaires about their ability to reflect on their child's feelings, any paranoid thoughts they had, their stress levels, and their general mood. We used statistical tests to compare the two groups and to understand which factors, if any, were most strongly associated with sensitive parenting.

Key Findings

Our research produced two main findings. First, we found no significant difference in parenting sensitivity between the parents with psychosis and the control group. This was surprising as we expected the challenges of psychosis could lead to lower parental sensitivity. This result was especially interesting because the parents with psychosis reported higher levels of anxiety and paranoid thoughts, but this did not seem to affect their parenting during our observation.

Second, when we looked at all the parents together, we found that the ability to be curious and interested in a child's feelings and thoughts, part of their reflective functioning, was the single most important factor linked to sensitive parenting. A parent's curiosity about their child's inner world was a much stronger factor associated with their parenting sensitivity than their diagnosis, stress levels, or mood.

Conclusions and Implications

This study shows that having a diagnosis of psychosis does not automatically mean a person will be a less sensitive parent. The parents with psychosis in our study, who were getting support from specialist NHS services, were just as sensitive in their interactions as parents in the control group.

The most important message from our research is that a parent's ability to be curious about their child's feelings is vital for sensitive parenting. This seems to be more important than their diagnosis or how stressed they feel. This has important implications for healthcare. Instead of just focusing on treating symptoms, support services for parents with psychosis could also help them develop their ability to mentalise, or to see things from their child's perspective. Helping parents to mentalise could be a very effective way to support the parent-child relationship. Future studies could look at this in more detail with larger groups of people and test new interventions based on this idea.

Connecting Narrative

My three research projects may have diverse clinical foci, but are also underpinned by a common thread: understanding how best to support people emotionally, and reducing barriers to accessing health interventions. This includes working closely with people to identify meaningful adjustments, rather than relying solely on diagnostic categories. The broader aim of the projects was to improving mental health across the lifespan and addressing key public health challenges.

Theoretically Driven Research Project (TDRP)

My interest in the TDRP topic, parental sensitivity in parents with psychosis, originated from my pre-training personal experience within my own family relating to psychosis. I have witnessed first-hand the profound impact that psychotic disorders and first psychotic episodes can have on people, and by extension the wider roles and relationships those people take on, especially as parents. Despite the challenges psychosis can present, I also observed, in my personal experience and within the study itself, the remarkable resilience and dedication among such individuals. I was surprised to learn of a significant gap in the literature concerning direct observation of parenting behaviour in this population beyond infancy and was highly motivated to help address it.

Designing the protocol for this observational study, particularly the video-recorded parent-child interaction, was a valuable learning experience that allowed me to build on my previous experience studying developmental psychology at the University of Cambridge for my undergraduate degree and at the Anna Freud Centre for my master's. I had to consider the practicalities and ethical considerations of directly observing sensitive family dynamics and found it important to offer families the chance to participate in this study from their own homes.

The most significant challenge of my three research projects, by some distance, was the recruitment of participants from NHS services. The process of contacting eligible teams, having them agree to participate, gaining approval from research department and clinicians, and then obtaining parental consent was lengthy and resource intensive. This was often complicated by prioritisation of clinical issues within teams, safeguarding concerns, disengagement with services, or complex family circumstances. I am immensely grateful to the clinicians and local collaborators who supported this process and to the parents who generously participated, allowing me to observe these crucial interactions. Overall, the project has reinforced my belief that understanding lived experience and observable behaviour, rather than solely relying on diagnostic labels, is crucial for good clinical practice.

Systematic Review of the Literature (SRL)

While undertaking my systematic review on parental and child dental anxiety, I was cognisant of its role in perpetuating the huge impact of dental caries on public health and individual well-being. Dental anxiety can be a significant barrier to accessing essential oral healthcare, leading to preventable health complications. The intergenerational transmission of anxiety was a particular interest of mine, as this provided a theoretical framework for understanding how parental experiences might influence child outcomes, a parallel with my TDRP.

Conducting a meta-analysis was a new experience for me, demanding attention to detail in database searching, screening, and data extraction. A notable challenge, perhaps compared to systematic reviews on other topics in psychology, was the heterogeneity of methodologies and outcome measures across studies. I learned converting diverse statistical measures into a common effect size metric was crucial, as well as dealing with missing data from studies and managing the high heterogeneity. As a result, this project significantly enhanced my skills in systematic review methodology, meta-analysis, and critically

appraising evidence. It reinforced for me the idea that even seemingly small associations can have significant public health implications.

Service Improvement Project (SIP)

My SIP, focusing on the perceived barriers and facilitators to emotional regulation treatment for older people in Berkshire, was inspired by my experience of placement in an Older Adult Mental Health Team in the same locality. While clinical provision for the older adult population is lacking nationally, discussion with my external supervisor highlighted to me a significant service gap on the ground - complex emotional needs. Berkshire's services had not been adequately equipped or structured to address these difficulties, and I was motivated to help begin to address this.

This mixed-methods study provided me with invaluable experience in amalgamating quantitative and qualitative data to inform service development. The quantitative component involved extracting and analysing patient data, which suggested that current diagnostic criteria might not fully capture the emotional dysregulation experienced by this age group. Qualitative findings from stakeholder interviews also noted older adults frequently presented with emotional dysregulation difficulties, but without a formal diagnosis. This highlighted to me a disconnect between diagnostic labels and lived clinical experience.

The interpretative phenomenological analysis of the interviews was a particularly rewarding aspect for me, as I only done thematic analysis previously. I am especially grateful to my internal supervisor for guiding me in this process, and to my external supervisor for helping me to find consultants to inform the interview schedule, as well as participants for the final interviews themselves. It was particularly fulfilling to see that my findings could directly inform recommendations for improving patient care, especially for this vulnerable population.

Acknowledgements

This thesis would not have been possible without the support and guidance of an innumerable number of people. At many points these three research projects seemed like a pipe dream, and I am incredibly lucky to have seen them to this point.

First, thank you to my internal supervisors, Dr Louise Johns, Dr Fiona Challacombe, Dr Matthew Hotton, Dr Danielle Shore, and Dr Matthew Knight for your expert guidance, encouragement, and vastly superior intellectual ability to mine, for helping me form each stage of these projects. To Professor Jane Barlow and Dr Chris Allen, my external supervisors, thank you for contributing your boundless clinical and research expertise and maximising the chances of the real-world applicability of my work.

I am immensely grateful to the participants in my studies: all the parents who generously shared their time and intimate family interactions for the TDRP, up and down the country, and the staff in Berkshire who offered hours of their invaluable perspectives on emotional regulation and older adults for the SIP.

I'd also like to thank Professor (fact check pending) Liam Myles, my collaborator on the SRL, for his meticulous dual-screening efforts. He is one of a number of close friends I am lucky to have made during this DClinPsych journey, whom I cannot thank enough for a wonderful three years and for containing my sanity in this time (and playing Call of Duty with me) – Julia, Anahita, Patch, Anaïs (who also helped me recruit!), Guan, Gazlo, and many more. Thank you to my mum and my sister for the fun times and keeping me fuelled with the best of non-UPF cuisine. Finally, thank you to my followers whose kind comments over my whole journey, since the UCL days, consistently remind me why I entered this profession.

Appendices

Appendix A - Database Search Terms

Table A1

CINAHL

Step	Query
1	(MH "Dental Anxiety")
2	(((TI dental OR AB dental OR SU dental) OR (TI dentist* OR AB dentist* OR SU dentist*)) N6 ((TI fear OR AB fear OR SU fear) OR (TI anxiety OR AB anxiety OR SU anxiety) OR (TI anxious OR AB anxious OR SU anxious) OR (TI phobia OR AB phobia OR SU phobia) OR (TI afraid OR AB afraid OR SU afraid)))
3	S1 OR S2
4	MH (("Child+") OR (“Child, Preschool”) OR ("Adolescence+"))
5	TI (child* OR juvenile OR adolescen* OR teen* OR young OR youth OR p#ediatric*) OR AB (child* OR juvenile OR adolescen* OR teen* OR young OR youth OR p#ediatric*) OR SU (child* OR juvenile OR adolescen* OR teen* OR young OR youth OR p#ediatric*)
6	S4 OR S5
7	MH ((“Parents+”) OR ("Fathers+") OR ("Mothers+"))
8	AB (parent* or mother* or father* or maternal or paternal or mum or mums or dad or dads) OR TI (parent* or mother* or father* or maternal or paternal or mum or mums or dad or dads) OR SU (parent* or mother* or father* or maternal or paternal or mum or mums or dad or dads)
9	S7 OR S8
10	S3 AND S6 AND S9

Table A2

APA PsycInfo

Step	Query
1	exp Anxiety/ or exp Anxiety Disorders/ or exp Fear/ or exp Phobias/
2	exp Dental Treatment/
3	1 and 2
4	((dental or dentist*) adj7 (fear or anxiety or anxious or phobia or afraid)).ab,id,ti.
5	3 or 4
6	(child* or juvenile or adolescen* or teen* or young or youth or p?ediatric*).ab,id,mh,ti.
7	exp Parents/ or exp Fathers/ or exp Mothers/
8	(parent* or mother* or father* or maternal or paternal or mum or mums or dad or dads).ab,id,ti.
9	7 or 8
10	5 and 6 and 9

Table A3

Embase

Step	Query
1	exp Dental Anxiety/
2	((dental or dentist*) adj7 (fear or anxiety or anxious or phobia or afraid)).ab,kf,ti.
3	1 or 2
4	exp adolescent/ or exp child/ or exp preschool child/
5	(child* or juvenile or adolescen* or teen* or young or youth or p?ediatric*).ab,kf,ti.
6	4 or 5
7	exp parent/ or exp father/ or exp mother/
8	(parent* or mother* or father* or maternal or paternal or mum or mums or dad or dads).ab,kf,ti.
9	7 or 8
10	3 and 6 and 9

Table A4

Emcare

Step	Query
1	exp Dental Anxiety/
2	((dental or dentist*) adj7 (fear or anxiety or anxious or phobia or afraid)).ab,kf,ti.
3	1 or 2
4	exp adolescent/ or exp child/ or exp preschool child/
5	(child* or juvenile or adolescen* or teen* or young or youth or p?ediatric*).ab,kf,ti.
6	4 or 5
7	exp parent/ or exp father/ or exp mother/
8	(parent* or mother* or father* or maternal or paternal or mum or mums or dad or dads).ab,kf,ti.
9	7 or 8
10	3 and 6 and 9

Table A5

PubMed

Step	Query
1	"Dental Anxiety"[MeSH Terms]
2	("dental"[Title/Abstract] OR "dental"[Other Term] OR ("dentist*"[Title/Abstract] OR "dentist*"[Other Term])) AND ("fear"[Title/Abstract] OR "fear"[Other Term] OR ("anxiety"[Title/Abstract] OR "anxiety"[Other Term]) OR ("anxious"[Title/Abstract] OR "anxious"[Other Term]) OR ("phobia"[Title/Abstract] OR "phobia"[Other Term]) OR ("afraid"[Title/Abstract] OR "afraid"[Other Term]))
3	#1 OR #2
4	"adolescent"[MeSH Terms] OR "child"[MeSH Terms]
5	"child*"[Title/Abstract] OR "child*"[Other Term] OR "adolescen*"[Title/Abstract] OR "adolescen*"[Other Term] OR "teen*"[Title/Abstract] OR "teen*"[Other Term] OR "juvenile"[Title/Abstract] OR "juvenile"[Other Term] OR "young"[Title/Abstract] OR "young"[Other Term] OR "youth"[Title/Abstract] OR "youth"[Other Term] OR "pediatric*"[Title/Abstract] OR "pediatric*"[Other Term] OR "paediatric*"[Title/Abstract] OR "paediatric*"[Other Term]
6	#4 or #5
7	"parents"[MeSH Terms] OR "fathers"[MeSH Terms] OR "mothers"[MeSH Terms]
8	"parent*"[Title/Abstract] OR "parent*"[Other Term] OR "mother*"[Title/Abstract] OR "mother*"[Other Term] OR "father*"[Title/Abstract] OR "father*"[Other Term] OR "maternal"[Title/Abstract] OR "maternal"[Other Term] OR "paternal"[Title/Abstract] OR "paternal"[Other Term] OR "mum"[Title/Abstract] OR "mum"[Other Term] OR "mums"[Title/Abstract] OR "mums"[Other Term] OR "dad"[Title/Abstract] OR "dad"[Other Term] OR "dads"[Title/Abstract] OR "dads"[Other Term]
9	#7 or #8
10	#3 and #6 and #9

Table A6

Scopus

Step	Query
1	TITLE-ABS-KEY(parent* OR mother* OR father* OR maternal OR paternal OR mum OR mums OR dad OR dads)
2	TITLE-ABS-KEY(dental OR dentist*) W/7 (fear OR anxiety OR anxious OR phobia OR afraid)
3	TITLE-ABS-KEY(child* OR juvenile OR adolescen* OR teen* OR young OR youth OR p*ediatric*)
4	#1 AND #2 AND #3

Table A7

Web of Science

Step	Query
1	TS=(((dental OR dentist*) NEAR/7 (fear OR anxiety OR anxious OR phobia OR afraid)))
2	TS=((child* OR juvenile OR adolescen* OR teen* OR young OR youth OR *p*$ediatric*))
3	TS=((parent* OR mother* OR father* OR maternal OR paternal OR mum OR mums OR dad OR dads))
4	#1 AND #2 AND #3

Appendix B - Standard Quality Assessment Criteria for Evaluating Primary Research Papers from a Variety of Fields

1. Question or objective sufficiently described?

- **Yes:** Is easily identified in the introductory section (or first paragraph of methods section). Specifies (where applicable, depending on study design) all of the following: purpose, participants/target population, and the specific intervention(s)/association(s)/descriptive parameter(s) under investigation. A study purpose that only becomes apparent after studying other parts of the paper is not considered sufficiently described.
- **Partial:** Vaguely/incompletely reported (e.g. “describe the effect of” or “examine the role of” or “assess opinion on many issues” or “explore the general attitudes”...); or some information has to be gathered from parts of the paper other than the introduction/background/objective section.
- **No:** Question or objective is not reported, or is incomprehensible.
- **N/A:** Should not be checked for this question.

2. Design evident and appropriate to answer study question? (If the study question is not given, infer from the conclusions).

- **Yes:** Design is easily identified and is appropriate to address the study question/objective.
- **Partial:** Design and/or study question not clearly identified, but gross inappropriateness is not evident; or design is easily identified but only partially addresses the study question.
- **No:** Design used does not answer study question (e.g., a comparison group is required to answer the study question, but none was used); or design cannot be identified.

- **N/A:** Should not be checked for this question.

3. Method of participant selection (and comparison group selection, if applicable) or source of information/input variables (e.g., for decision analysis) is described and appropriate.

- **Yes:** Described and appropriate. Selection strategy designed (i.e., consider sampling frame and strategy) to obtain an unbiased sample of the relevant target population or the entire target population of interest (e.g., consecutive patients for clinical trials, population-based random sample for case-control studies or surveys). Where applicable, inclusion/exclusion criteria are described and defined (e.g., "cancer" -- ICD code or equivalent should be provided). Studies of volunteers: methods and setting of recruitment reported. Surveys: sampling frame/strategy clearly described and appropriate.
- **Partial:** Selection methods (and inclusion/exclusion criteria, where applicable) are not completely described, but no obvious inappropriateness. Or selection strategy is not ideal (i.e., likely introduced bias) but did not likely seriously distort the results (e.g., telephone survey sampled from listed phone numbers only; hospital based case-control study identifi ed all cases admitted during the study period, but recruited controls admitted during the day/evening only). Any study describing participants only as "volunteers" or "healthy volunteers". *Surveys:* target population mentioned but sampling strategy unclear.
- **No:** No information provided. Or obviously inappropriate selection procedures (e.g., inappropriate comparison group if intervention in women is compared to intervention in men). Or presence of selection bias which likely seriously distorted the results (e.g., obvious selection on "exposure" in a case-control study).
- **N/A:** Descriptive case series/reports.

4. Participant (and comparison group, if applicable) characteristics or input variables/information (e.g., for decision analyses) sufficiently described?

- **Yes:** Sufficient relevant baseline/demographic information clearly characterizing the participants is provided (or reference to previously published baseline data is provided). Where applicable, reproducible criteria used to describe/categorize the participants are clearly defi ned (e.g., ever-smokers, depression scores, systolic blood pressure > 140). If "healthy volunteers" are used, age and sex must be reported (at minimum). Decision analyses: baseline estimates for input variables are clearly specified.
- **Partial:** Poorly defi ned criteria (e.g. "hypertension", "healthy volunteers", "smoking"). Or incomplete relevant baseline/demographic information (e.g., information on likely confounders not reported). Decision analyses: incomplete reporting of baseline estimates for input variables.
- **No:** No baseline/demographic information provided. *Decision analyses:* baseline estimates of input variables not given.
- **N/A:** Should not be checked for this question.

5. If random allocation to treatment group was possible, is it described?

- **Yes:** True randomization done - requires a description of the method used (e.g., use of random numbers).
- **Partial:** Randomization mentioned, but method is not (i.e. it may have been possible that randomization was not true).
- **No:** Random allocation not mentioned although it would have been feasible and appropriate (and was possibly done).
- **N/A:** Observational analytic studies. Uncontrolled experimental studies. Surveys. Descriptive case series/reports. Decision analyses.

6. If interventional and blinding of investigators to intervention was possible, is it reported?

- **Yes:** Blinding reported.
- **Partial:** Blinding reported but it is not clear who was blinded.
- **No:** Blinding would have been possible (and was possibly done) but is not reported.
- **N/A:** Observational analytic studies. Uncontrolled experimental studies. Surveys. Descriptive case series/reports. Decision analyses.

7. If interventional and blinding of participants to intervention was possible, is it reported?

- **Yes:** Blinding reported.
- **Partial:** Blinding reported but it is not clear who was blinded.
- **No:** Blinding would have been possible (and was possibly done) but is not reported.
- **N/A:** Observational studies. Uncontrolled experimental studies. Surveys. Descriptive case series/reports.

8. Outcome and (if applicable) exposure measure(s) well defined and robust to measurement/misclassification bias? Means of assessment reported?

- **Yes:** Defined (or reference to complete definitions is provided) and measured according to reproducible, "objective" criteria (e.g., death, test completion – yes/no, clinical scores). Little or minimal potential for measurement/misclassification errors. Surveys: clear description (or reference to clear description) of questionnaire/interview content and response options. *Decision analyses:* sources of uncertainty are defi ned for all input variables.

- **Partial:** Definition of measures leaves room for participantivity, or not sure (i.e., not reported in detail, but probably acceptable). Or precise definition(s) are missing, but no evidence or problems in the paper that would lead one to assume major problems. Or instrument/mode of assessment(s) not reported. Or misclassification errors may have occurred, but they did not likely seriously distort the results (e.g., slight difficulty with recall of long-ago events; exposure is measured only at baseline in a long cohort study). *Surveys:* description of questionnaire/interview content incomplete; response options unclear. *Decision analyses:* sources of uncertainty are defi ned only for some input variables.
- **No:** Measures not defined, or are inconsistent throughout the paper. Or measures employ only ill-defi ned, participantive assessments, e.g. "anxiety" or "pain." Or obvious misclassification errors/measurement bias likely seriously distorted the results (e.g., a prospective cohort relies on self-reported outcomes among the "unexposed" but requires clinical assessment of the "exposed"). *Surveys:* no description of questionnaire/interview content or response options. *Decision analyses:* sources of uncertainty are not defined for input variables.
- **N/A:** Descriptive case series/reports.

9. Sample size appropriate?

- **Yes:** Seems reasonable with respect to the outcome under study and the study design. When statistically significant results are achieved for major outcomes, appropriate sample size can usually be assumed, unless large standard errors (SE > ½ effect size) and/or problems with multiple testing are evident. *Decision analyses:* size of modelled cohort/number of iterations specified and justified.
- **Partial:** Insufficient data to assess sample size (e.g., sample seems "small" and there is no mention of power/sample size/effect size of interest and/or variance

estimates aren't provided). Or some statistically significant results with standard errors > ½ effect size (i.e., imprecise results). Or some statistically significant results in the absence of variance estimates. *Decision analyses:* incomplete description or justification of size of modelled cohort/number of iterations.

- **No:** Obviously inadequate (e.g., statistically non-significant results and standard errors > ½ effect size; or standard deviations > _ of effect size; or statistically non-significant results with no variance estimates and obviously inadequate sample size). Decision analyses: size of modelled cohort/number of iterations not specified.
- **N/A:** Most surveys (except surveys comparing responses between groups or change over time). Descriptive case series/reports.

10. Analysis described and appropriate?

- **Yes:** Analytic methods are described (e.g. "chi square"/ "t-tests"/"Kaplan-Meier with log rank tests", etc.) and appropriate.
- **Partial:** Analytic methods are not reported and have to be guessed at, but are probably appropriate. Or minor flaws or some tests appropriate, some not (e.g., parametric tests used, but unsure whether appropriate; control group exists but is not used for statistical analysis). Or multiple testing problems not addressed.
- **No:** Analysis methods not described and cannot be determined. Or obviously inappropriate analysis methods (e.g., chi-square tests for continuous data, SE given where normality is highly unlikely, etc.). Or a study with a descriptive goal/objective is over-analysed.
- **N/A:** Descriptive case series/reports.

11. Some estimate of variance (e.g., confidence intervals, standard errors) is reported for the main results/outcomes (i.e., those directly addressing the study question/objective upon which the conclusions are based)?

- **Yes:** Appropriate variances estimate(s) is/are provided (e.g., range, distribution, confidence intervals, etc.). Decision analyses: sensitivity analysis includes all variables in the model.
- **Partial:** Undefined "+/-" expressions. Or no specific data given, but insufficient power acknowledged as a problem. Or variance estimates not provided for all main results/outcomes. Or inappropriate variance estimates (e.g., a study examining change over time provides a variance around the parameter of interest at "time 1" or "time 2", but does not provide an estimate of the variance around the difference). Decision analyses: sensitivity analysis is limited, including only some variables in the model.
- **No:** No information regarding uncertainty of the estimates. Decision analyses: No sensitivity analysis.
- **N/A:** Descriptive case series/reports. Descriptive surveys collecting information using open-ended questions.

12. Controlled for confounding?

- **Yes:** Randomized study, with comparability of baseline characteristics reported (or non-comparability controlled for in the analysis). Or appropriate control at the design or analysis stage (e.g., matching, subgroup analysis, multivariate models, etc). Decision analyses: dependencies between variables fully accounted for (e.g., joint variables are considered).
- **Partial:** Incomplete control of confounding. Or control of confounding reportedly done but not completely described. Or randomized study without report of

comparability of baseline characteristics. Or confounding not considered, but not likely to have seriously distorted the results. *Decision analyses:* incomplete consideration of dependencies between variables.

- **No:** Confounding not considered, and may have seriously distorted the results. *Decision analyses:* dependencies between variables not considered.
- **N/A:** Cross-sectional surveys of a single group (i.e., surveys examining change over time or surveys comparing different groups should address the potential for confounding). Descriptive studies. Studies explicitly stating the analysis is strictly descriptive/exploratory in nature.

13. Results reported in sufficient detail?

- **Yes:** Results include major outcomes and all mentioned secondary outcomes.
- **Partial:** Quantitative results reported only for some outcomes. Or difficult to assess as study question/objective not fully described (and is not made clear in the methods section), but results seem appropriate.
- **No:** Quantitative results are reported for a subsample only, or "n" changes continually across the denominator (e.g., reported proportions do not account for the entire study sample, but are reported only for those with complete data -- i.e., the category of "unknown" is not used where needed). Or results for some major or mentioned secondary outcomes are only qualitatively reported when quantitative reporting would have been possible (e.g., results include vague comments such as "more likely" without quantitative report of actual numbers).
- **N/A:** Should not be checked for this question.

14. Do the results support the conclusions?

- **Yes:** All the conclusions are supported by the data (even if analysis was inappropriate). Conclusions are based on all results relevant to the study question, negative as well as positive ones (e.g., they aren't based on the sole significant finding while ignoring the negative results). Part of the conclusions may expand beyond the results, if made in addition to rather than instead of those strictly supported by data, and if including indicators of their interpretative nature (e.g., "suggesting," "possibly").
- **Partial:** Some of the major conclusions are supported by the data, some are not. Or speculative interpretations are not indicated as such. Or low (or unreported) response rates call into question the validity of generalizing the results to the target population of interest (i.e., the population defi ned by the sampling frame/strategy).
- **No:** None or a very small minority of the major conclusions are supported by the data. Or negative findings clearly due to low power are reported as definitive evidence against the alternate hypothesis. Or conclusions are missing. Or extremely low response rates invalidate generalizing the results to the target population of interest (i.e., the population defi ned by the sampling frame/strategy).
- **N/A:** Should not be checked for this question.

Appendix C - Inter-Rater Reliability of the Risk of Bias Assessment

Table C1

Inter-Rater Reliability of the Risk of Bias Assessment

Criterion	Kappa Coefficient	*p*	% Agreement
1. Question or objective sufficiently described?	N/A		100%
2. Design evident and appropriate to answer study question?	N/A		100%
3. Method of participant selection (and comparison group selection, if applicable) or source of information/input variables (e.g., for decision analysis) is described and appropriate?	1	.002	100%
4. Participant (and comparison group, if applicable) characteristics or input variables/information (e.g., for decision analyses) sufficiently described?	N/A		100%
5. If random allocation to treatment group was possible, is it described?	N/A		100%

6.	If interventional and blinding of investigators to intervention was possible, is it reported?	N/A		100%
7.	If interventional and blinding of participants to intervention was possible, is it reported?	N/A		100%
8.	Outcome and (if applicable) exposure measure(s) well defined and robust to measurement/misclassification bias? Means of assessment reported?	N/A		100%
9.	Sample size appropriate?	1	.002	100%
10.	Analysis described and appropriate?	1	.002	100%
11.	Some estimate of variance (e.g., confidence intervals, standard errors) is reported for the main results/outcomes (i.e., those directly addressing the study question/objective upon which the conclusions are based)?	.83	< .001	90%
12.	Controlled for confounding?	1	< .001	100%

13. Results reported in sufficient detail?	1	.002	100%
14. Do the results support the conclusions?	N/A		100%

Note. For criteria where Kappa's coefficient is listed as N/A, Kappa could not be calculated because there was no variation in ratings - all cases were assigned to the one category by both raters.

Appendix D - Method of Conversion of Effect Measures to Fisher's z

Table D1

Method of conversion of effect measures to Fisher's z

Effect size metric	Direct conversion of measure to Fisher's z?	Method used if not direct conversion and justification
Pearson's *r* correlation coefficient	Yes	
Spearman's rho correlation coefficient	No	Treat as Pearson's *r*, use Fisher *r*-to-z (84).
Chi square/prevalence ratio	No	Calculate Cramér's V (85), treat V as Pearson's *r*, use Fisher *r*-to-z (86).
Odds ratio	Yes	
Unstandardised or standardised beta coefficient	No	Treat as Pearson's *r*, use Fisher *r*-to-z (87)

Appendix E - Sensitivity Analyses

Table E1

Overall Sensitivity Analysis

Excluded Group	Effect Size	Std. Error	Sig. (2-tailed)	CI Lower	CI Upper	I2	τ2	Q	*p*(Q)
Assunção et al. 2013 (1)	.27	.06	.00	.15	.38	92.88	.07	343.07	.00
Assunção et al. 2013 (2)	.27	.06	.00	.16	.38	92.81	.06	342.68	.00
Baier et al. 2004	.27	.06	.00	.16	.39	92.21	.06	327.40	.00
Bayón et al. 2025	.27	.06	.00	.15	.38	92.89	.07	343.47	.00
Besiroglu-Turgut et al. 2024 (1)	.26	.06	.00	.15	.38	92.81	.07	343.89	.00
Besiroglu-Turgut et al. 2024 (2)	.25	.06	.00	.14	.36	92.57	.06	335.69	.00
Busato et al. 2017	.26	.06	.00	.15	.37	92.93	.07	343.61	.00
Carson & Freeman 2001	.27	.06	.00	.16	.39	91.84	.06	311.04	.00
Coric et al. 2014	.26	.06	.00	.14	.37	92.85	.07	342.80	.00
Folayan et al. 2002	.27	.06	.00	.16	.39	92.59	.06	337.95	.00
Kroniņa et al. 2017	.26	.06	.00	.15	.38	92.72	.07	343.89	.00
Leal et al. 2013	.27	.06	.00	.16	.38	92.86	.06	342.74	.00
Maden et al. 2021	.26	.06	.00	.14	.37	92.71	.07	341.80	.00
McNeil et al. 2019	.27	.06	.00	.16	.38	92.39	.06	334.53	.00
Olle et al. 2016	.26	.06	.00	.14	.37	92.88	.06	342.90	.00
Paryab & Hosseinbor 2013	.28	.05	.00	.18	.39	91.78	.06	315.94	.00
Peretz et al. 2004	.26	.06	.00	.14	.37	92.81	.06	341.37	.00
Salem et al. 2012	.27	.06	.00	.15	.38	92.75	.07	343.02	.00
Samami et al. 2024	.27	.06	.00	.16	.38	92.53	.06	337.53	.00
Shinde et al. 2017	.25	.06	.00	.14	.37	92.61	.06	336.51	.00
Šimunović et al. 2022	.25	.06	.00	.14	.36	91.89	.06	304.58	.00
Uziel et al. 2023	.22	.04	.00	.14	.30	85.05	.03	153.63	.00
Wu and Gao 2018	.27	.06	.00	.16	.38	92.39	.06	334.53	.00

Table E2

Sensitivity Analysis of Father-Only Samples

Excluded Group	Effect Size	Std. Error	Sig. (2-tailed)	CI Lower	CI Upper	I2	τ2	Q	*p*(Q)
Coric et al. 2014	.11	.20	.60	-.29	.51	98.07	.20	99.96	.00
Folayan et al. 2002	.27	.08	.00	.12	.43	87.74	.03	33.49	.00
McNeil et al. 2019	.10	.20	.64	-.30	.50	97.57	.20	100.23	.00
Samami et al. 2024	.09	.20	.65	-.31	.49	97.70	.20	100.04	.00
Uziel et al. 2023	.03	.17	.87	-.31	.36	96.70	.14	57.74	.00
Wu and Gao 2018	.11	.21	.58	-.29	.52	97.64	.20	96.96	.00

Appendix F - BMC Oral Health: Author Guidelines

Research article

Criteria

Research articles should report on original primary research, or present a new experimental or computational method, test or procedure. Manuscripts reporting results of a clinical trial must conform to CONSORT 2010 guidelines. Authors of randomized controlled trials should submit a completed CONSORT checklist alongside their manuscript, available at www.consort-statement.org. Research articles may also report on systematic reviews of published research provided they adhere to the appropriate reporting guidelines which are detailed in our editorial policies. Please note that non-commissioned pooled analyses of selected published research and bibliometric analyses will not be considered. Studies reporting descriptive results from a single institution or region will only be considered if analogous data have not been previously published in a peer reviewed journal and the conclusions provide distinct insights that are of relevance to a regional or international audience.

Data sharing

BMC Oral Health strongly encourages that all datasets on which the conclusions of the paper rely should be available to readers. We encourage authors to ensure that their datasets are either deposited in publicly available repositories (where available and appropriate) or presented in the main manuscript or additional supporting files whenever possible. Please see Springer Nature's data repository guidance. Where a widely established research community expectation for data archiving in public repositories exists, submission to a community-endorsed, public repository is mandatory. A list of data where deposition is required, with the appropriate repositories, can be found on the Editorial Policies Page.

Authors who need help depositing and curating data may wish to consider contacting our Research Data Support Helpdesk.

Image integrity and standards

Cropped gels and blots can be included in the main text if it improves the clarity and conciseness of the presentation. In such cases, the cropping of the blot must be clearly evident and must be mentioned in the figure legend. Corresponding uncropped full-length gels and blot must be included in the supplementary files. These uncropped images should indicate where they were cropped, be labelled as in the main text and placed in a single supplementary figure. The manuscript's figure legends should state that 'Full-length blots/gels are presented in Supplementary Figure X'. Further information can be found under 'Digital image integrity' which are detailed on in our Standards of Reporting guidelines.

Professionally produced Visual Abstracts

BMC Oral Health will consider visual abstracts. As an author submitting to the journal, you may wish to make use of services provided at Springer Nature for high quality and affordable visual abstracts where you are entitled to a 20% discount. Click here to find out more about the service, and your discount will be automatically be applied when using this link.

Preparing your manuscript

The information below details the section headings that you should include in your manuscript and what information should be within each section.

Please note that your manuscript must include a 'Declarations' section including all of the subheadings (please see below for more information).

Title page

The title page should:

- present a title that includes, if appropriate, the study design e.g.:

- "A versus B in the treatment of C: a randomized controlled trial", "X is a risk factor for Y: a case control study", "What is the impact of factor X on subject Y: A systematic review"
- or for non-clinical or non-research studies a description of what the article reports

- list the full names and institutional addresses for all authors
  - if a collaboration group should be listed as an author, please list the Group name as an author. If you would like the names of the individual members of the Group to be searchable through their individual PubMed records, please include this information in the “Acknowledgements” section in accordance with the instructions below
  - Large Language Models (LLMs), such as ChatGPT, do not currently satisfy our authorship criteria. Notably an attribution of authorship carries with it accountability for the work, which cannot be effectively applied to LLMs. Use of an LLM should be properly documented in the Methods section (and if a Methods section is not available, in a suitable alternative part) of the manuscript.
- indicate the corresponding author

Abstract

The Abstract should not exceed 350 words. Please minimize the use of abbreviations and do not cite references in the abstract. Reports of randomized controlled trials should follow the CONSORT extension for abstracts. The abstract must include the following separate sections:

- **Background:** the context and purpose of the study
- **Methods:** how the study was performed and statistical tests used

- **Results:** the main findings
- **Conclusions:** brief summary and potential implications
- **Trial registration:** If your article reports the results of a health care intervention on human participants, it must be registered in an appropriate registry and the registration number and date of registration should be stated in this section. If it was not registered prospectively (before enrollment of the first participant), you should include the words 'retrospectively registered'. See our editorial policies for more information on trial registration

Keywords

Three to ten keywords representing the main content of the article.

Background

The Background section should explain the background to the study, its aims, a summary of the existing literature and why this study was necessary or its contribution to the field.

Methods

The methods section should include:

- the aim, design and setting of the study
- the characteristics of participants or description of materials
- a clear description of all processes, interventions and comparisons. Generic drug names should generally be used. When proprietary brands are used in research, include the brand names in parentheses
- the type of statistical analysis used, including a power calculation if appropriate

Results

This should include the findings of the study including, if appropriate, results of statistical analysis which must be included either in the text or as tables and figures.

Discussion

This section should discuss the implications of the findings in context of existing research and highlight limitations of the study.

Conclusions

This should state clearly the main conclusions and provide an explanation of the importance and relevance of the study reported.

List of abbreviations

If abbreviations are used in the text they should be defined in the text at first use, and a list of abbreviations should be provided.

Declarations

All manuscripts must contain the following sections under the heading 'Declarations':

- Ethics approval and consent to participate
- Consent for publication
- Availability of data and materials
- Competing interests
- Funding
- Authors' contributions
- Acknowledgements
- Authors' information (optional)

Please see below for details on the information to be included in these sections.

If any of the sections are not relevant to your manuscript, please include the heading and write 'Not applicable' for that section.

Ethics approval and consent to participate

Manuscripts reporting studies involving human participants, human data or human tissue must:

- include a statement on ethics approval and consent (even where the need for approval was waived)
- include the name of the ethics committee that approved the study and the committee's reference number if appropriate

Studies involving animals must include a statement on ethics approval and for experimental studies involving client-owned animals, authors must also include a statement on informed consent from the client or owner.

See our editorial policies for more information.

If your manuscript does not report on or involve the use of any animal or human data or tissue, please state "Not applicable" in this section.

Consent for publication

If your manuscript contains any individual person's data in any form (including any individual details, images or videos), consent for publication must be obtained from that person, or in the case of children, their parent or legal guardian. All presentations of case reports must have consent for publication.

You can use your institutional consent form or our consent form if you prefer. You should not send the form to us on submission, but we may request to see a copy at any stage (including after publication).

See our editorial policies for more information on consent for publication.

If your manuscript does not contain data from any individual person, please state "Not applicable" in this section.

Availability of data and materials

All manuscripts must include an 'Availability of data and materials' statement. Data availability statements should include information on where data supporting the results reported in the article can be found including, where applicable, hyperlinks to publicly

archived datasets analysed or generated during the study. By data we mean the minimal dataset that would be necessary to interpret, replicate and build upon the findings reported in the article. We recognise it is not always possible to share research data publicly, for instance when individual privacy could be compromised, and in such instances data availability should still be stated in the manuscript along with any conditions for access.

Authors are also encouraged to preserve search strings on searchRxiv https://searchrxiv.org/, an archive to support researchers to report, store and share their searches consistently and to enable them to review and re-use existing searches. searchRxiv enables researchers to obtain a digital object identifier (DOI) for their search, allowing it to be cited.

Data availability statements can take one of the following forms (or a combination of more than one if required for multiple datasets):

- The datasets generated and/or analysed during the current study are available in the [NAME] repository, [PERSISTENT WEB LINK TO DATASETS]
- The datasets used and/or analysed during the current study are available from the corresponding author on reasonable request.
- All data generated or analysed during this study are included in this published article [and its supplementary information files].
- The datasets generated and/or analysed during the current study are not publicly available due [REASON WHY DATA ARE NOT PUBLIC] but are available from the corresponding author on reasonable request.
- Data sharing is not applicable to this article as no datasets were generated or analysed during the current study.
- The data that support the findings of this study are available from [third party name] but restrictions apply to the availability of these data, which were used under license for the current study, and so are not publicly available. Data are however

available from the authors upon reasonable request and with permission of [third party name].

- Not applicable. If your manuscript does not contain any data, please state 'Not applicable' in this section.

More examples of template data availability statements, which include examples of openly available and restricted access datasets, are available here.

BioMed Central strongly encourages the citation of any publicly available data on which the conclusions of the paper rely in the manuscript. Data citations should include a persistent identifier (such as a DOI) and should ideally be included in the reference list. Citations of datasets, when they appear in the reference list, should include the minimum information recommended by DataCite and follow journal style. Dataset identifiers including DOIs should be expressed as full URLs. For example:

Hao Z, AghaKouchak A, Nakhjiri N, Farahmand A. Global integrated drought monitoring and prediction system (GIDMaPS) data sets. figshare.
2014. http://dx.doi.org/10.6084/m9.figshare.853801

With the corresponding text in the Availability of data and materials statement:

The datasets generated during and/or analysed during the current study are available in the [NAME] repository, [PERSISTENT WEB LINK TO DATASETS].[Reference number]

If you wish to co-submit a data note describing your data to be published in *BMC Research Notes*, you can do so by visiting our submission portal. Data notes support open data and help authors to comply with funder policies on data sharing. Co-published data notes will be linked to the research article the data support (example).

Competing interests

All financial and non-financial competing interests must be declared in this section.

See our editorial policies for a full explanation of competing interests. If you are unsure whether you or any of your co-authors have a competing interest please contact the editorial office. Please use the authors initials to refer to each authors' competing interests in this section. If you do not have any competing interests, please state "The authors declare that they have no competing interests" in this section.

Funding

All sources of funding for the research reported should be declared. If the funder has a specific role in the conceptualization, design, data collection, analysis, decision to publish, or preparation of the manuscript, this should be declared.

Authors' contributions

The individual contributions of authors to the manuscript should be specified in this section. Guidance and criteria for authorship can be found in our editorial policies.

Please use initials to refer to each author's contribution in this section, for example: "FC analyzed and interpreted the patient data regarding the hematological disease and the transplant. RH performed the histological examination of the kidney, and was a major contributor in writing the manuscript. All authors read and approved the final manuscript."

Acknowledgements

Please acknowledge anyone who contributed towards the article who does not meet the criteria for authorship including anyone who provided professional writing services or materials.

Authors should obtain permission to acknowledge from all those mentioned in the Acknowledgements section.

See our editorial policies for a full explanation of acknowledgements and authorship criteria.

If you do not have anyone to acknowledge, please write "Not applicable" in this section.

Group authorship (for manuscripts involving a collaboration group): if you would like the names of the individual members of a collaboration Group to be searchable through their individual PubMed records, please ensure that the title of the collaboration Group is included on the title page and in the submission system and also include collaborating author names as the last paragraph of the "Acknowledgements" section. Please add authors in the format First Name, Middle initial(s) (optional), Last Name. You can add institution or country information for each author if you wish, but this should be consistent across all authors. Please note that individual names may not be present in the PubMed record at the time a published article is initially included in PubMed as it takes PubMed additional time to code this information.

Authors' information

This section is optional.

You may choose to use this section to include any relevant information about the author(s) that may aid the reader's interpretation of the article, and understand the standpoint of the author(s). This may include details about the authors' qualifications, current positions they hold at institutions or societies, or any other relevant background information. Please refer to authors using their initials. Note this section should not be used to describe any competing interests.

Footnotes

Footnotes can be used to give additional information, which may include the citation of a reference included in the reference list. They should not consist solely of a reference citation, and they should never include the bibliographic details of a reference. They should also not contain any figures or tables.

Footnotes to the text are numbered consecutively; those to tables should be indicated by superscript lower-case letters (or asterisks for significance values and other statistical data). Footnotes to the title or the authors of the article are not given reference symbols.

Always use footnotes instead of endnotes.

References

Examples of the Vancouver reference style are shown below.

See our editorial policies for author guidance on good citation practice

Web links and URLs: All web links and URLs, including links to the authors' own websites, should be given a reference number and included in the reference list rather than within the text of the manuscript. They should be provided in full, including both the title of the site and the URL, as well as the date the site was accessed, in the following format: The Mouse Tumor Biology Database. http://tumor.informatics.jax.org/mtbwi/index.do. Accessed 20 May 2013. If an author or group of authors can clearly be associated with a web link, such as for weblogs, then they should be included in the reference.

Example reference style:

Article within a journal

Smith JJ. The world of science. Am J Sci. 1999;36:234-5.

Article within a journal (no page numbers)

Rohrmann S, Overvad K, Bueno-de-Mesquita HB, Jakobsen MU, Egeberg R, Tjønneland A, et al. Meat consumption and mortality - results from the European Prospective Investigation into Cancer and Nutrition. BMC Medicine. 2013;11:63.

Article within a journal by DOI

Slifka MK, Whitton JL. Clinical implications of dysregulated cytokine production. Dig J Mol Med. 2000; doi:10.1007/s801090000086.

Article within a journal supplement

Frumin AM, Nussbaum J, Esposito M. Functional asplenia: demonstration of splenic activity by bone marrow scan. Blood 1979;59 Suppl 1:26-32.

Book chapter, or an article within a book

Wyllie AH, Kerr JFR, Currie AR. Cell death: the significance of apoptosis. In: Bourne GH, Danielli JF, Jeon KW, editors. International review of cytology. London: Academic; 1980. p. 251-306.

OnlineFirst chapter in a series (without a volume designation but with a DOI)

Saito Y, Hyuga H. Rate equation approaches to amplification of enantiomeric excess and chiral symmetry breaking. Top Curr Chem. 2007. doi:10.1007/128_2006_108.

Complete book, authored

Blenkinsopp A, Paxton P. Symptoms in the pharmacy: a guide to the management of common illness. 3rd ed. Oxford: Blackwell Science; 1998.

Online document

Doe J. Title of subordinate document. In: The dictionary of substances and their effects. Royal Society of Chemistry. 1999. http://www.rsc.org/dose/title of subordinate document. Accessed 15 Jan 1999.

Online database

Healthwise Knowledgebase. US Pharmacopeia, Rockville. 1998. http://www.healthwise.org. Accessed 21 Sept 1998.

Supplementary material/private homepage

Doe J. Title of supplementary material. 2000. http://www.privatehomepage.com. Accessed 22 Feb 2000.

University site

Doe, J: Title of preprint. http://www.uni-heidelberg.de/mydata.html (1999). Accessed 25 Dec 1999.

FTP site

Doe, J: Trivial HTTP, RFC2169. ftp://ftp.isi.edu/in-notes/rfc2169.txt (1999). Accessed 12 Nov 1999.

Organization site

ISSN International Centre: The ISSN register. http://www.issn.org (2006). Accessed 20 Feb 2007.

Dataset with persistent identifier

Zheng L-Y, Guo X-S, He B, Sun L-J, Peng Y, Dong S-S, et al. Genome data from sweet and grain sorghum (Sorghum bicolor). GigaScience Database. 2011. http://dx.doi.org/10.5524/100012.

Figures, tables and additional files

See General formatting guidelines for information on how to format figures, tables and additional files.

Appendix G - Interview Schedule

1. Can you tell me about your role? (prompt: Can you tell me a bit more about that? Can you tell me about how you came to get the job?)
2. Can you tell me about the locality you work in?
    a. Can you tell me about your experiences of working in services that cover East and/or West Berkshire? (prompt: How has this affected your perspective?)
    b. What do you think has helped services work better together?
3. What are the common mental health difficulties among the older people you serve (excluding those related to memory clinic pathway, such as dementia or delirium)?
    a. How often do you assess and/or treat people with emotional regulation difficulties, personality disorder, complex emotional needs?
4. Can you tell me about your experience of working with older people's emotional regulation difficulties? (prompt: Can you describe any changes in your experience over time?)
    a. Do any case examples of clients stand out to you? (prompts: what work did you do with this client, what helped, what didn't help, how did you work with risk? What did this mean to you personally?)
    b. Can you tell me about your experience (if any) working with the following models:
        i. Structured Clinical Management
        ii. Dialectical Behavioural Therapy
        iii. Mentalisation Based Therapy

We are now going to talk about some of the barriers and facilitators you may have experienced working with this population:

5. Can you tell me about any barriers you have encountered in assessing and treating older people with emotional regulation difficulties?
6. Can you tell me about any facilitators you have encountered in treating older people with emotional regulation difficulties?

Prompts for question 5 and 6: your experience of identification of older people with emotional regulation problems, eligibility and inclusion/exclusion criteria, transport, access, referrals into the service and onwards from the service, finances, staffing recruitment, staff skills, social GRACES, how staff members talk about emotional regulation, maintenance of the service, exit points for clients.

7. What have the client group and staff said that they value in existing service structures? (prompt: How has this experience influenced your perspective?)
8. From your experience, if a new pathway was created to meet the needs of older people with emotional regulation difficulties, or existing services were adapted for this purpose, what would be the most important things to include?
9. Are there any other comments you wish to make?

Appendix H - Lay Summary

Suicide in older people is a significant concern, particularly for those who have difficulty managing their emotions. People with these difficulties can be diagnosed with emotionally unstable personality disorder (EUPD). Existing research shows that emotional regulation issues and EUPD can present differently in older people and highlights that they need better support.

In response to this need in Berkshire, this project aimed to understand what helped or hindered the development of treatment for older people struggling with emotional regulation. It explored which parts of existing services could be changed and what parts could form part of a new service pathway. It also explored the types of challenges were seen in referrals to these services.

To do this, the project used both analysis of patient data and interviews with staff. Patient records were reviewed for older and working-age adults with emotional regulation difficulties, revealing a wide variety of services being used and a wide variety of mental health difficulties. There were differences in the care provided to people over and under 75 years old. There were a low number of older people diagnosed with EUPD, especially in those over 75.

Eight interviews were conducted with staff working in Berkshire mental health services. They were interviewed about their experiences working with older people and emotional regulation. The interview responses showed four main themes, including reflecting on self, interpersonal humanity, navigating unchartered territory, and how progress is made.

Based on these findings, recommendations were made to guide the development of a new treatment pathway, focusing on clearer language, flexible eligibility criteria, and interventions tailored to the needs of older people.

Appendix I - BMC Geriatrics: Author Guidelines

Criteria

Research articles should report on original primary research, or present a new experimental or computational method, test or procedure. Manuscripts reporting results of a clinical trial must conform to CONSORT 2010 guidelines. Authors of randomized controlled trials should submit a completed CONSORT checklist alongside their manuscript, available at www.consort-statement.org. Research articles may also report on systematic reviews of published research provided they adhere to the appropriate reporting guidelines which are detailed in our editorial policies. Please note that non-commissioned pooled analyses of selected published research and bibliometric analyses will not be considered. Studies reporting descriptive results from a single institution or region will only be considered if analogous data have not been previously published in a peer reviewed journal and the conclusions provide distinct insights that are of relevance to a regional or international audience.

Data Sharing

BMC Geriatrics strongly encourages that all datasets on which the conclusions of the paper rely should be available to readers. We encourage authors to ensure that their datasets are either deposited in publicly available repositories (where available and appropriate) or presented in the main manuscript or additional supporting files whenever possible. Please see Springer Nature's data repository guidance. Where a widely established research community expectation for data archiving in public repositories exists, submission to a community-endorsed, public repository is mandatory. A list of data where deposition is required, with the appropriate repositories, can be found on the Editorial Policies Page.

Authors who need help depositing and curating data may wish to consider contacting our Research Data Support Helpdesk.

Professionally produced Visual Abstracts

BMC Geriatrics will consider visual abstracts. As an author submitting to the journal, you may wish to make use of services provided at Springer Nature for high quality and affordable visual abstracts where you are entitled to a 20% discount. Click here to find out more about the service, and your discount will be automatically be applied when using this link.

Preparing your manuscript

The information below details the section headings that you should include in your manuscript and what information should be within each section.

Please note that your manuscript must include a 'Declarations' section including all of the subheadings (please see below for more information).

Title page

The title page should:

- present a title that includes, if appropriate, the study design e.g.:
    - "A versus B in the treatment of C: a randomized controlled trial", "X is a risk factor for Y: a case control study", "What is the impact of factor X on subject Y: A systematic review"
    - or for non-clinical or non-research studies a description of what the article reports
- list the full names and institutional addresses for all authors
    - if a collaboration group should be listed as an author, please list the Group name as an author. If you would like the names of the individual members of the Group to be searchable through their individual PubMed records, please include this information in the “Acknowledgements” section in accordance with the instructions below

    - Large Language Models (LLMs), such as ChatGPT, do not currently satisfy our authorship criteria. Notably an attribution of authorship carries with it accountability for the work, which cannot be effectively applied to LLMs. Use of an LLM should be properly documented in the Methods section (and if a Methods section is not available, in a suitable alternative part) of the manuscript.
- indicate the corresponding author

Abstract

The Abstract should not exceed 350 words. Please minimize the use of abbreviations and do not cite references in the abstract. Reports of randomized controlled trials should follow the CONSORT extension for abstracts. The abstract must include the following separate sections:

- **Background:** the context and purpose of the study
- **Methods:** how the study was performed and statistical tests used
- **Results:** the main findings
- **Conclusions:** brief summary and potential implications
- **Trial registration:** If your article reports the results of a health care intervention on human participants, it must be registered in an appropriate registry and the registration number and date of registration should be stated in this section. If it was not registered prospectively (before enrollment of the first participant), you should include the words 'retrospectively registered'. See our editorial policies for more information on trial registration

Keywords

Three to ten keywords representing the main content of the article.

Background

The Background section should explain the background to the study, its aims, a summary of the existing literature and why this study was necessary or its contribution to the field.

Methods

The methods section should include:

- the aim, design and setting of the study
- the characteristics of participants or description of materials
- a clear description of all processes, interventions and comparisons. Generic drug names should generally be used. When proprietary brands are used in research, include the brand names in parentheses
- the type of statistical analysis used, including a power calculation if appropriate

Results

This should include the findings of the study including, if appropriate, results of statistical analysis which must be included either in the text or as tables and figures.

Discussion

This section should discuss the implications of the findings in context of existing research and highlight limitations of the study.

Conclusions

This should state clearly the main conclusions and provide an explanation of the importance and relevance of the study reported.

List of abbreviations

If abbreviations are used in the text they should be defined in the text at first use, and a list of abbreviations should be provided.

Declarations

All manuscripts must contain the following sections under the heading 'Declarations':

- Ethics approval and consent to participate

- Consent for publication
- Availability of data and materials
- Competing interests
- Funding
- Authors' contributions
- Acknowledgements
- Authors' information (optional)

Please see below for details on the information to be included in these sections.

If any of the sections are not relevant to your manuscript, please include the heading and write 'Not applicable' for that section.

Ethics approval and consent to participate

Manuscripts reporting studies involving human participants, human data or human tissue must:

- include a statement on ethics approval and consent (even where the need for approval was waived)
- include the name of the ethics committee that approved the study and the committee's reference number if appropriate

Studies involving animals must include a statement on ethics approval and for experimental studies involving client-owned animals, authors must also include a statement on informed consent from the client or owner.

See our editorial policies for more information.

If your manuscript does not report on or involve the use of any animal or human data or tissue, please state "Not applicable" in this section.

Consent for publication

If your manuscript contains any individual person's data in any form (including any individual details, images or videos), consent for publication must be obtained from that person, or in the case of children, their parent or legal guardian. All presentations of case reports must have consent for publication.

You can use your institutional consent form or our consent form if you prefer. You should not send the form to us on submission, but we may request to see a copy at any stage (including after publication).

See our editorial policies for more information on consent for publication.

If your manuscript does not contain data from any individual person, please state "Not applicable" in this section.

Availability of data and materials

All manuscripts must include an 'Availability of data and materials' statement. Data availability statements should include information on where data supporting the results reported in the article can be found including, where applicable, hyperlinks to publicly archived datasets analysed or generated during the study. By data we mean the minimal dataset that would be necessary to interpret, replicate and build upon the findings reported in the article. We recognise it is not always possible to share research data publicly, for instance when individual privacy could be compromised, and in such instances data availability should still be stated in the manuscript along with any conditions for access.

Authors are also encouraged to preserve search strings on searchRxiv https://searchrxiv.org/, an archive to support researchers to report, store and share their searches consistently and to enable them to review and re-use existing searches. searchRxiv enables researchers to obtain a digital object identifier (DOI) for their search, allowing it to be cited.

Data availability statements can take one of the following forms (or a combination of more than one if required for multiple datasets):

- The datasets generated and/or analysed during the current study are available in the [NAME] repository, [PERSISTENT WEB LINK TO DATASETS]
- The datasets used and/or analysed during the current study are available from the corresponding author on reasonable request.
- All data generated or analysed during this study are included in this published article [and its supplementary information files].
- The datasets generated and/or analysed during the current study are not publicly available due [REASON WHY DATA ARE NOT PUBLIC] but are available from the corresponding author on reasonable request.
- Data sharing is not applicable to this article as no datasets were generated or analysed during the current study.
- The data that support the findings of this study are available from [third party name] but restrictions apply to the availability of these data, which were used under license for the current study, and so are not publicly available. Data are however available from the authors upon reasonable request and with permission of [third party name].
- Not applicable. If your manuscript does not contain any data, please state 'Not applicable' in this section.

More examples of template data availability statements, which include examples of openly available and restricted access datasets, are available here.

BioMed Central strongly encourages the citation of any publicly available data on which the conclusions of the paper rely in the manuscript. Data citations should include a persistent identifier (such as a DOI) and should ideally be included in the reference list. Citations of datasets, when they appear in the reference list, should include the minimum information recommended by DataCite and follow journal style. Dataset identifiers including DOIs should be expressed as full URLs. For example:

Hao Z, AghaKouchak A, Nakhjiri N, Farahmand A. Global integrated drought monitoring and prediction system (GIDMaPS) data sets. figshare.
2014. http://dx.doi.org/10.6084/m9.figshare.853801

With the corresponding text in the Availability of data and materials statement:

The datasets generated during and/or analysed during the current study are available in the [NAME] repository, [PERSISTENT WEB LINK TO DATASETS].[Reference number]

If you wish to co-submit a data note describing your data to be published in *BMC Research Notes*, you can do so by visiting our submission portal. Data notes support open data and help authors to comply with funder policies on data sharing. Co-published data notes will be linked to the research article the data support (example).

Competing interests

All financial and non-financial competing interests must be declared in this section.

See our editorial policies for a full explanation of competing interests. If you are unsure whether you or any of your co-authors have a competing interest please contact the editorial office.

Please use the authors initials to refer to each authors' competing interests in this section.

If you do not have any competing interests, please state "The authors declare that they have no competing interests" in this section.

Funding

All sources of funding for the research reported should be declared. If the funder has a specific role in the conceptualization, design, data collection, analysis, decision to publish, or preparation of the manuscript, this should be declared.

Authors' contributions

The individual contributions of authors to the manuscript should be specified in this section. Guidance and criteria for authorship can be found in our editorial policies.

Please use initials to refer to each author's contribution in this section, for example: "FC analyzed and interpreted the patient data regarding the hematological disease and the transplant. RH performed the histological examination of the kidney, and was a major contributor in writing the manuscript. All authors read and approved the final manuscript."

Acknowledgements

Please acknowledge anyone who contributed towards the article who does not meet the criteria for authorship including anyone who provided professional writing services or materials.

Authors should obtain permission to acknowledge from all those mentioned in the Acknowledgements section.

See our editorial policies for a full explanation of acknowledgements and authorship criteria.

If you do not have anyone to acknowledge, please write "Not applicable" in this section.

Group authorship (for manuscripts involving a collaboration group): if you would like the names of the individual members of a collaboration Group to be searchable through their individual PubMed records, please ensure that the title of the collaboration Group is included on the title page and in the submission system and also include collaborating author names as the last paragraph of the “Acknowledgements” section. Please add authors in the format First Name, Middle initial(s) (optional), Last Name. You can add institution or country information for each author if you wish, but this should be consistent across all authors.

Please note that individual names may not be present in the PubMed record at the time a published article is initially included in PubMed as it takes PubMed additional time to code this information.

Authors' information

This section is optional.

You may choose to use this section to include any relevant information about the author(s) that may aid the reader's interpretation of the article, and understand the standpoint of the author(s). This may include details about the authors' qualifications, current positions they hold at institutions or societies, or any other relevant background information. Please refer to authors using their initials. Note this section should not be used to describe any competing interests.

Footnotes

Footnotes can be used to give additional information, which may include the citation of a reference included in the reference list. They should not consist solely of a reference citation, and they should never include the bibliographic details of a reference. They should also not contain any figures or tables.

Footnotes to the text are numbered consecutively; those to tables should be indicated by superscript lower-case letters (or asterisks for significance values and other statistical data). Footnotes to the title or the authors of the article are not given reference symbols.

Always use footnotes instead of endnotes.

References

Examples of the Vancouver reference style are shown below.

See our editorial policies for author guidance on good citation practice

Web links and URLs: All web links and URLs, including links to the authors' own websites, should be given a reference number and included in the reference list rather than within the text of the manuscript. They should be provided in full, including both the title of the site and the URL, as well as the date the site was accessed, in the following format: The Mouse Tumor Biology Database. http://tumor.informatics.jax.org/mtbwi/index.do. Accessed 20 May

2013. If an author or group of authors can clearly be associated with a web link, such as for weblogs, then they should be included in the reference.

Example reference style:

Article within a journal

Smith JJ. The world of science. Am J Sci. 1999;36:234-5.

Article within a journal (no page numbers)

Rohrmann S, Overvad K, Bueno-de-Mesquita HB, Jakobsen MU, Egeberg R, Tjønneland A, et al. Meat consumption and mortality - results from the European Prospective Investigation into Cancer and Nutrition. BMC Medicine. 2013;11:63.

Article within a journal by DOI

Slifka MK, Whitton JL. Clinical implications of dysregulated cytokine production. Dig J Mol Med. 2000; doi:10.1007/s801090000086.

Article within a journal supplement

Frumin AM, Nussbaum J, Esposito M. Functional asplenia: demonstration of splenic activity by bone marrow scan. Blood 1979;59 Suppl 1:26-32.

Book chapter, or an article within a book

Wyllie AH, Kerr JFR, Currie AR. Cell death: the significance of apoptosis. In: Bourne GH, Danielli JF, Jeon KW, editors. International review of cytology. London: Academic; 1980. p. 251-306.

OnlineFirst chapter in a series (without a volume designation but with a DOI)

Saito Y, Hyuga H. Rate equation approaches to amplification of enantiomeric excess and chiral symmetry breaking. Top Curr Chem. 2007. doi:10.1007/128_2006_108.

Complete book, authored

Blenkinsopp A, Paxton P. Symptoms in the pharmacy: a guide to the management of common illness. 3rd ed. Oxford: Blackwell Science; 1998.

Online document

Doe J. Title of subordinate document. In: The dictionary of substances and their effects. Royal Society of Chemistry. 1999. http://www.rsc.org/dose/title of subordinate document. Accessed 15 Jan 1999.

Online database

Healthwise Knowledgebase. US Pharmacopeia, Rockville. 1998. http://www.healthwise.org. Accessed 21 Sept 1998.

Supplementary material/private homepage

Doe J. Title of supplementary material. 2000. http://www.privatehomepage.com. Accessed 22 Feb 2000.

University site

Doe, J: Title of preprint. http://www.uni-heidelberg.de/mydata.html (1999). Accessed 25 Dec 1999.

FTP site

Doe, J: Trivial HTTP, RFC2169. ftp://ftp.isi.edu/in-notes/rfc2169.txt (1999). Accessed 12 Nov 1999.

Organization site

ISSN International Centre: The ISSN register. http://www.issn.org (2006). Accessed 20 Feb 2007.

Dataset with persistent identifier

Zheng L-Y, Guo X-S, He B, Sun L-J, Peng Y, Dong S-S, et al. Genome data from sweet and grain sorghum (Sorghum bicolor). GigaScience Database. 2011. http://dx.doi.org/10.5524/100012.

Figures, tables and additional files

See General formatting guidelines for information on how to format figures, tables and additional files.

Appendix J - Recruitment Material for Control Participants

Figure J1

Recruitment Poster for Control Participants

Appendix K - Participant Information Sheets

Figure K1

Control Participant Information Sheet

Participant Information Sheet (C) v1.4 4th March 2025

NHS
Oxford Health
NHS Foundation Trust

Principal Investigator: Francis Madden

Address The Oxford Institute of Clinical Psychology Training, Oxford Health NHS Foundation Trust, Isis Education Centre, Warneford Hospital, Oxford, OX3 7JX

Email francis.madden@oxfordhealth.nhs.uk

Participant Information Sheet (PIS)

Study title: Understanding parent-child interactions between parents and their young children

IRAS number: 340088

What is this study about?

You are invited to take part in our research study about parent-child interactions, and what makes this easier or more difficult. For all parents, parenting can be incredibly rewarding. At the same time, there are often moments or circumstances where parenting is especially challenging especially when parenting a pre-schooler! Lots of parents worry about how they are doing with their children. Parents who have experienced severe mental health problems show a lot of warmth and desire to have fun and connect with their children, but can also sometimes report difficulties in parenting due to symptoms of the illness. Parenting is built on everyday interactions. We are studying parent-child interactions in parents who have experienced severe mental health problems and parents who have not, to understand how different parents interact with their children, and what makes this easier or more difficult. We are focusing on the challenges of parenting 2–5-year-olds in this study, which is why you have been invited to take part. This may help us develop ways to support parents in the future.

Do I have to take part?

No. You decide whether you wish to take part in this study. Before taking part, you will be asked to complete a consent form, to show that you understand what the study involves, and are happy to participate. You can ask questions about the research before deciding whether to take part. If you do agree to take part, you can stop at any time by telling us. You do not have to tell us why.

What would you need to do if you took part?

Taking part involves a study appointment of about 45 minutes in your home. If you live in Oxfordshire, you may participate at the research team's base (Isis Education Centre, Warneford Hospital) if preferred. Before you sign the consent form, I will double check you understand the information given and are happy to take part. In this appointment, we would firstly ask for some information about you, for example age and ethnicity, and some information about your child(ren), for example their gender, age, and any additional learning needs. We would then record a video of you and your child playing for five minutes with a set of toys that we provide. Finally, we would ask you to complete four brief questionnaires that ask about mood, stress, worries about other people, and parenting. Throughout the study I will keep checking that the purposes of the study at each stage are clear, and that you are happy to continue.

Are there any benefits in taking part?

- You will be compensated for your time with a £10 Amazon voucher and reimbursed for any travel expenses.
- We can give you a still (photograph) taken from the video recording.
- We will ask about your preferences for parental support, and signpost you to local resources.

Are there any potential risks in taking part?

You may possibly feel self-conscious taking part in the study, but there are no other risks. The toys will be age appropriate and sanitised before the appointment. You are free to stop being part of the study at any time if you so wish. The researcher will be available to contact you within 48 hours of your participation, to give you the opportunity to discuss any concerns you may have. Should you have any questions after this point, you are welcome to contact the research team using the details below.

What will happen if I don't want to carry on with the study?

You can stop being part of the study at any time, without giving a reason. This will not impact your medical or legal rights in any way.

How will we use information about you?

We will need to use personal, identifiable information from you for this research project, including your first and last name, phone number, email address, home address, and video recording. The storage arrangements for your data are as follows:

Your data	Where will the data be stored?	Who can access the data?	How long will the data be kept for?
Your name, phone number, email address, home address	Oxford Health NHS Trust OneDrive, separately from your video recording and questionnaire data	The research team	Until 30 days after the appointment of the last participant, unless you request a summary of study findings. In this case, data will be kept until the study findings are able to be sent.
Your video recording	Oxford Health NHS Trust OneDrive, separately from your name and contact details	The research team	September 2025 (the end of the study)
Your questionnaire data	Oxford Health NHS Trust OneDrive, separately from your	The research team	September 2025 (the end of the study)

	name and contact details		
The research team's analysis of your video recording and questionnaire data. NB This is anonymous, written information. It cannot be traced back to your name, contact details or video.	Oxford University OneDrive	The research team, other teams working on similar research.	Up to September 2028 (three years after the study), in case the team need to review it.

The study results will be written up as part of my Doctorate in Clinical Psychology. They will also be presented to other professionals working with parents, to inform their work in this area. We will write our reports in a way that no-one can work out that you took part in the study. We will keep all information about you safe and secure.

What are your choices about how your information is used?

You can stop being part of the study at any time during the session, without giving a reason. If you do so, all the data you have provided will be deleted.

We need to manage your records in specific ways for the research to be reliable. This means that we won't be able to let you see or change the data we hold about you.

Where can you find out more about how your information is used?

You can find out more about how we use your information:

- At www.hra.nhs.uk/information-about-patients/
- Our leaflet available from https://www.oxfordhealth.nhs.uk/privacy/
- By contacting one of the research team using the contact details below.
- By sending an email to oxford health data protection officer mark.underwood@oxfordhealth.nhs.uk

What if something goes wrong?

Outside of the research team, no one will be informed of your participation in the study. The only exception to this is, in line with our duty of care, confidentiality may be broken if you disclose risk of harming yourself, harming others or risk of harm from others. Where possible, we would discuss this with you first.

If you have any concerns about the way you have been approached or treated during the study, please talk to one of the research team using the contact details below.

If you wish to speak to an independent body about any concerns or complaints about any aspect of the way you have been approached or treated during this study, you can do this through the Patient Advice and Liaison Service (PALS):

PALS Office

Warneford Hospital

Warneford Lane

Oxford

OX3 7JX.

Tel: 0800 3287971

E-mail: PALS@oxfordhealth.nhs.uk

Further Information and Contact Details for the duration of the study

If you would like to discuss the research with someone beforehand (or if you have questions afterwards), please contact:

Francis Madden (Chief Investigator), francis.madden@psy.ox.ac.uk

Dr Louise Johns (Primary Supervisor), louise.johns@psych.ox.ac.uk

Dr Fiona Challacombe, fiona.challacombe@hmc.ox.ac.uk

Professor Jane Barlow, jane.barlow@spi.ox.ac.uk

GDPR Data Management Statement

All data collected will be collected in line with the Data Protection Act 2018 and GDPR (General Data Protection Regulations). Data collection will also comply with the Common Law Duty of confidentiality. Oxford Health NHS Foundation Trust is the data controller and is responsible for looking after your information and using it properly. Health and care research should serve the public interest, which means that we have to demonstrate that our research serves the interests of society as a whole. We do this by following the UK Policy Framework for Health and Social Care Research. Data protection regulation requires that we state the legal basis for processing information about you. In the case of research, this is 'a task in the public interest.' You can find out more about how we use your information at https://www.oxfordhealth.nhs.uk/privacy/.

If you wish to raise a complaint on how we have handled your personal data, you can contact our Data Protection Officer who will investigate the matter. If you are not satisfied with our response or believe we are processing your personal data in a way that is not lawful you can complain to the Information Commissioner's Office (ICO) (www.ico.org or 0303 123 1113).

Figure K2

Patient Participant Information Sheet

Participant Information Sheet v 1.4 4th March 2025

NHS
Oxford Health
NHS Foundation Trust

Principal Investigator: Francis Madden

Address The Oxford Institute of Clinical Psychology Training, Oxford Health NHS Foundation Trust, Isis Education Centre, Warneford Hospital, Oxford, OX3 7JX

Email francis.madden@oxfordhealth.nhs.uk

Participant Information Sheet (PIS)

Study title: Understanding parent-child interactions between parents and their young children

IRAS number: 340088

What is this study about?

You are invited to take part in our research study about parent-child interactions, and what makes this easier or more difficult. For all parents, parenting can be incredibly rewarding. At the same time, there are often moments or circumstances where parenting is especially challenging especially when parenting a pre-schooler! Lots of parents worry about how they are doing with their children. Parents who have experienced severe mental health problems show a lot of warmth and desire to have fun and connect with their children, but can also sometimes report difficulties in parenting due to symptoms of the illness. Parenting is built on everyday interactions. We are studying parent-child interactions in parents who have experienced severe mental health problems and parents who have not, to understand how different parents interact with their children, and what makes this easier or more difficult. We are focusing on the challenges of parenting 2–5-year-olds in this study, which is why you have been invited to take part. This may help us develop ways to support parents in the future.

Do I have to take part?

No. You decide whether you wish to take part in this study. Before taking part, you will be asked to complete a consent form, to show that you understand what the study involves, and are happy to participate. You can ask questions about the research before deciding whether to take part. If you do agree to take part, you can stop at any time by telling us. You do not have to tell us why.

What would you need to do if you took part?

Taking part involves a study appointment of about 45 minutes in your home. If you are under an Oxford Health team, you can participate at a local Oxford Health NHS site if preferred. Before you sign the consent form, I will double check you understand the information given and are happy to take part. In this appointment, we would firstly ask for some information about you, for example age, ethnicity, and illness onset, and some information about your child(ren), for example their gender, age, and any additional learning needs. We would then record a video of you and your child playing for five minutes with a set of toys that we provide. Finally, we would ask you to complete four brief questionnaires that ask about mood, stress, worries about other people, and parenting. Throughout the study I will keep checking that the purposes of the study at each stage are clear and that you are happy to continue

Are there any benefits in taking part?

- You will be compensated for your time with a £10 Amazon voucher and reimbursed for any travel expenses.
- We can give you a still (photograph) taken from the video recording.
- We will ask about your preferences for parental support and signpost you to local resources.

Are there any potential risks in taking part?

You may possibly feel self-conscious taking part in the study, but there are no other risks. The toys will be age appropriate and sanitised before the appointment. You are free to stop being part of the study at any time if you so wish. The researcher will be available to contact you within 48 hours of your participation, to give you the opportunity to discuss any concerns you may have. Should you have any questions after this point, you are welcome to contact the research team using the details below.

What will happen if I don't want to carry on with the study?

You can stop being part of the study at any time, without giving a reason. This will not impact your medical or legal rights in any way.

How will we use information about you?

We will need to use personal, identifiable information from you for this research project, including your first and last name, phone number, email address, home address, and video recording. The storage arrangements for your data are as follows

Your data	**Where will the data be stored?**	**Who can access the data?**	**How long will the data be kept for?**
Your name, phone number, email address, home address	Oxford Health NHS Trust OneDrive, separately from your video recording and questionnaire data	The research team	Until 30 days after the appointment of the last participant, unless you request a summary of study findings. In this case, data will be kept until the study findings are able to be sent.
Your video recording	Oxford Health NHS Trust OneDrive, separately from your name and contact details	The research team	September 2025 (the end of the study)
Your questionnaire data	Oxford Health NHS Trust OneDrive, separately from your name and contact details	The research team	September 2025 (the end of the study)

The research team's analysis of your video recording and questionnaire data. *NB This is anonymous, written information. It cannot be traced back to your name, contact details or video.*	Oxford University OneDrive	The research team, other teams working on similar research.	Up to September 2028 (three years after the study), in case the team need to review it.

The study results will be written up as part of my Doctorate in Clinical Psychology. They will also be presented to other professionals working with parents, to inform their work in this area. We will write our reports in a way that no-one can work out that you took part in the study. We will keep all information about you safe and secure.

What are your choices about how your information is used?

You can stop being part of the study at any time during the session, without giving a reason. If you do so, all the data you have provided will be deleted.

We need to manage your records in specific ways for the research to be reliable. This means that we won't be able to let you see or change the data we hold about you.

Where can you find out more about how your information is used?

You can find out more about how we use your information:

- At www.hra.nhs.uk/information-about-patients/
- Our leaflet available from https://www.oxfordhealth.nhs.uk/privacy/
- By contacting one of the research team using the contact details below.
- By sending an email to oxford health data protection officer mark.underwood@oxfordhealth.nhs.uk

Will my clinical care team be informed that I am taking part?

Yes, the researcher will write a short note in your electronic patient notes informing the team that you have taken part in the study. This will only include the name of the study, the date you took part and the contact details of the research team. The team will not be provided any other details about your participation. The only exception to this is, in line with our duty of care, confidentiality may be broken if you disclose risk of harming yourself, harming others or risk of harm from others. Where possible, we would discuss this with you before informing your team.

What if something goes wrong?

If you have any concerns about the way you have been approached or treated during the study, please talk to one of the research team using the contact details below.

If you wish to speak to an independent body about any concerns or complaints about any aspect of the way you have been approached or treated during this study, you can do this through the Patient Advice and Liaison Service (PALS):

PALS Office

Warneford Hospital

Warneford Lane

Oxford

OX3 7JX.

Tel: 0800 3287971

E-mail: PALS@oxfordhealth.nhs.uk

Further Information and Contact Details for the duration of the study

If you would like to discuss the research with someone beforehand (or if you have questions afterwards), please contact:

Francis Madden (Chief Investigator), francis.madden@psy.ox.ac.uk

Dr Louise Johns (Primary Supervisor), louise.johns@psych.ox.ac.uk

Dr Fiona Challacombe, fiona.challacombe@hmc.ox.ac.uk

Professor Jane Barlow, jane.barlow@spi.ox.ac.uk

GDPR Data Management Statement

All data collected will be collected in line with the Data Protection Act 2018 and GDPR (General Data Protection Regulations). Data collection will also comply with the Common Law Duty of confidentiality. Oxford Health NHS Foundation Trust is the data controller and is responsible for looking after your information and using it properly. Health and care research should serve the public interest, which means that we have to demonstrate that our research serves the interests of society as a whole. We do this by following the UK Policy Framework for Health and Social Care Research. Data protection regulation requires that we state the legal basis for processing information about you. In the case of research, this is 'a task in the public interest.' You can find out more about how we use your information at https://www.oxfordhealth.nhs.uk/privacy/.

If you wish to raise a complaint on how we have handled your personal data, you can contact our Data Protection Officer who will investigate the matter. If you are not satisfied with our response or believe we are processing your personal data in a way that is not lawful you can complain to the Information Commissioner's Office (ICO) (www.ico.org or 0303 123 1113).

Appendix L - Standard Set of Toys Used in the Study

Figure L1

Standard Setup of Toys Used in the Study

The toys used were:

- Tomy Hide and Squeak Eggs (left)
- LEGO DUPLO My First Number Train (middle)
- Magnetic Tiles 40-Piece Building Set (right)

These were selected to cater to the range of ages and toy preferences among the child participants. For instance, the toy eggs were more catered toward younger children, while the magnetic tiles were more catered to older children. The toys were arranged as shown in the Figure L1, and parents and children were invited to play as they normally would. They were

not required to use all of the toys. During the session, the researcher occasionally adjusted the camera to ensure both faces were visible.

Appendix M - Participant Debrief Sheets

Figure M1

Control Participant Debrief Sheet

Principal Investigator: Francis Madden

Address The Oxford Institute of Clinical Psychology Training, Oxford Health NHS Foundation Trust, Isis Education Centre, Warneford Hospital, Oxford, OX3 7JX

Email francis.madden@oxfordhealth.nhs.uk

Debrief Sheet (HC)

Study Title: Understanding parent-child interactions between parents and their young children

Congratulations, you have completed the study! Thank you for participating.

What was the purpose of this study?

As highlighted in the information sheet, the purpose of this study was to gain a sense of parent-child interactions in parents who have experienced severe mental health problems and parents who have not, to understand how different parents interact with their children, and what makes this easier or more difficult. We hope this will enable us to better support parents in the future. Some resources and sources of support for all parents are shown below.

Further Information

If you are interested, we are more than happy to provide further information about the study and/or update you on the findings of the study. Please note that we cannot provide you with your individual results.

Research Team

- Francis Madden (Chief Investigator), francis.madden@psy.ox.ac.uk
- Dr Louise Johns (Primary Supervisor), louise.johns@psych.ox.ac.uk
- Dr Fiona Challacombe, fiona.challacombe@hmc.ox.ac.uk
- Professor Jane Barlow, jane.barlow@spi.ox.ac.uk

Version/Date: 1.2 4th February 2025
IRAS Project number: 340088
REC Reference number: 24/EE/0154

Parenting resources

Name	URL	Description	Location (if applicable)
Triple P UK	www.triplep-parenting.uk.net/uk/triple-p/?cdsid=v4ohrgqf18fs7u9cp94pq24gkt	Positive parenting program and online courses.	Internet Resource
Family Links	www.familylinks.org.uk/resources-for-parents	Parenting resources and emotional health training.	Internet Resource
Peeple	www.peeple.org.uk/parents-area	Parental area with tips and support for child learning.	Internet Resource

Further Support

Name	Contact	Description
Hub of Hope	hubofhope.co.uk	UK-wide mental health service database. Lets you search for local, national, peer, community, charity, private and NHS mental health support. You can filter results to find specific kinds of support.
Samaritans	samaritans.org 116 123 (freephone)	A charity aimed at providing emotional support to anyone in emotional distress, struggling to cope or at risk of suicide.

Figure M2

Patient Participant Debrief Sheet

Principal Investigator: Francis Madden

Address The Oxford Institute of Clinical Psychology Training, Oxford Health NHS Foundation Trust, Isis Education Centre, Warneford Hospital, Oxford, OX3 7JX

Email francis.madden@oxfordhealth.nhs.uk

Debrief Sheet

Study Title: Understanding parent-child interactions between parents and their young children

Congratulations, you have completed the study! Thank you for participating.

What was the purpose of this study?

As highlighted in the information sheet, the purpose of this study was to gain a sense of parent-child interactions in parents who have experienced severe mental health problems and parents who have not, to understand how different parents interact with their children, and what makes this easier or more difficult. We hope this will enable us to better support parents in the future. Some resources and sources of support are shown below.

Further Information

If you are interested, we are more than happy to provide further information about the study and/or update you on the findings of the study. Please note that we cannot provide you with your individual results. If taking part in this study has raised any mental health concerns for you, we advise that you contact your care coordinator if you are being supported by an Early Intervention Service. Contact details of further support are listed below.

Research Team

- Francis Madden (Chief Investigator), francis.madden@psy.ox.ac.uk
- Dr Louise Johns (Primary Supervisor), louise.johns@psych.ox.ac.uk
- Dr Fiona Challacombe, fiona.challacombe@hmc.ox.ac.uk
- Professor Jane Barlow, jane.barlow@spi.ox.ac.uk

Version/Date: 1.2 4th February 2025
IRAS Project number: 340088
REC Reference number: 24/EE/0154

Parenting resources

Name	URL	Description	Location (if applicable)
Triple P UK	www.triplep-parenting.uk.net/uk/triple-p/?cdsid=v4ohrgqf18fs7u9cp94pq24gkt	Positive parenting program and online courses.	Internet Resource
Family Links	www.familylinks.org.uk/resources-for-parents	Parenting resources and emotional health training.	Internet Resource
Mind	www.mind.org.uk/information-support/types-of-mental-health-problems/psychosis/about-psychosis/	Information on types of psychosis, including causes and support.	Internet Resource
CAMH	www.camh.ca/en/health-info/guides-and-publications/when-a-parent-has-experienced-psychosis/	Guide for children about parental psychosis.	Internet Resource
Our Time	ourtime.org.uk/	Support for children of parents with mental illness.	Internet Resource
Peeple	www.peeple.org.uk/parents-area	Parental area with tips and support for child learning.	Internet Resource

Further Support

Name	Contact	Description
Hearing Voices Network	hearing-voices.org	Information and support for people who hear voices or have other unshared perceptions, including local support groups.
Hub of Hope	hubofhope.co.uk	UK-wide mental health service database. Lets you search for local, national, peer, community, charity, private and NHS mental health support. You can filter results to find specific kinds of support.
National Paranoia Network	nationalparanoianetwork.org	Information and support for people who experience paranoid thoughts.
Rethink Mental Illness	rethink.org 0808 801 0525	Provides support and information for anyone affected by mental health problems, including local support groups.
Samaritans	samaritans.org 116 123 (freephone)	A charity aimed at providing emotional support to anyone in emotional distress, struggling to cope or at risk of suicide.

Appendix N - Ethical Approval Documents

Figure N1

Research Ethics Committee (REC) Approval Letter

NHS
Health Research Authority

East of England - Cambridge East Research Ethics Committee
2 Redman Place
London
EC20 1JQ

Telephone: 02071048181

Please note: This is the favourable opinion of the REC only and does not allow you to start your study at NHS sites in England until you receive HRA Approval

22 August 2024

Mr Francis Madden
Trainee Clinical Psychologist
Oxford Health NHS Foundation Trust
The Oxford Institute of Clinical Psychology Training
Isis Education Centre
Warneford Hospital
Oxford
OX3 7JX

Dear Mr Madden

Study title:	**Understanding parent-child interactions in parents with psychosis and their young children**
REC reference:	**24/EE/0154**
Protocol number:	**PID 17994**
IRAS project ID:	**340088**

Thank you for your letter of 19 August 2024, responding to the Research Ethics Committee's (REC) request for further information on the above research and submitting revised documentation.

The further information has been considered on behalf of the Committee by the Chair.

Confirmation of ethical opinion

On behalf of the Committee, I am pleased to confirm a favourable ethical opinion for the above research on the basis described in the application form, protocol and supporting documentation as revised, subject to the conditions specified below.

Good practice principles and responsibilities

The UK Policy Framework for Health and Social Care Research sets out principles of good practice in the management and conduct of health and social care research. It also outlines the responsibilities of individuals and organisations, including those related to the four elements of research transparency:

1. registering research studies
2. reporting results
3. informing participants
4. sharing study data and tissue

Conditions of the favourable opinion

The REC favourable opinion is subject to the following conditions being met prior to the start of the study.

Confirmation of Capacity and Capability (in England, Northern Ireland and Wales) or NHS management permission (in Scotland) should be sought from all NHS organisations involved in the study in accordance with NHS research governance arrangements. Each NHS organisation must confirm through the signing of agreements and/or other documents that it has given permission for the research to proceed (except where explicitly specified otherwise).

Guidance on applying for HRA and HCRW Approval (England and Wales)/ NHS permission for research is available in the Integrated Research Application System.

For non-NHS sites, site management permission should be obtained in accordance with the procedures of the relevant host organisation.

Sponsors are not required to notify the Committee of management permissions from host organisations

Registration of Clinical Trials

All research should be registered in a publicly accessible database and we expect all researchers, research sponsors and others to meet this fundamental best practice standard.

It is a condition of the REC favourable opinion that **all clinical trials are registered** on a public registry before the first participant is recruited and no later than six weeks after. For this purpose, 'clinical trials' are defined as:

- clinical trial of an investigational medicinal product
- clinical investigation or other study of a medical device

- combined trial of an investigational medicinal product and an investigational medical device
- other clinical trial to study a novel intervention or randomised clinical trial to compare interventions in clinical practice.

A 'public registry' means any registry on the WHO list of primary registries or the ICMJE list of registries provided the registry facilitates public access to information about the UK trial.

Failure to register a clinical trial is a breach of these approval conditions, unless a deferral has been agreed by the HRA (for more information on registration and requesting a deferral see: Research registration and research project identifiers).

Where a deferral is agreed we expect the sponsor to publish a minimal record on a publicly accessible registry. When the deferral period ends, the sponsor should publish the full record on the same registry, to fulfil the condition of the REC favourable opinion.

If you have not already included registration details in your IRAS application form you should notify the REC of the registration details as soon as possible.

Where the study is registered on ClinicalTrials.gov, please inform deferrals@hra.nhs.uk and the Research Ethics Committee (REC) which issued the final ethical opinion so that our records can be updated.

Publication of Your Research Summary

We will publish your research summary for the above study on the research summaries section of our website, together with your contact details, no earlier than three months from the date of this favourable opinion letter. Where a deferral is agreed, a minimum research summary will still be published in the research summaries database. At the end of the deferral period, we will publish the full research summary.

Should you wish to provide a substitute contact point, make a request to defer, or require further information, please visit: Research summaries - Health Research Authority (hra.nhs.uk)

It is the responsibility of the sponsor to ensure that all the conditions are complied with before the start of the study or its initiation at a particular site (as applicable).

After ethical review: Reporting requirements

The attached document "After ethical review – guidance for researchers" gives detailed guidance on reporting requirements for studies with a favourable opinion, including:

- Notifying substantial amendments
- Adding new sites and investigators
- Notification of serious breaches of the protocol

- Progress and safety reports
- Notifying the end of the study, including early termination of the study
- Final report
- Reporting results

The latest guidance on these topics can be found at Managing your approval - Health Research Authority (hra.nhs.uk)

Ethical review of research sites

NHS/HSC sites

The favourable opinion applies to all NHS/HSC sites taking part in the study, subject to confirmation of Capacity and Capability (in England, Northern Ireland and Wales) or management permission (in Scotland) being obtained from the NHS/HSC R&D office prior to the start of the study (see "Conditions of the favourable opinion" below).

Non-NHS/HSC sites

I am pleased to confirm that the favourable opinion applies to any non-NHS/HSC sites listed in the application, subject to site management permission being obtained prior to the start of the study at the site.

Approved documents

The final list of documents reviewed and approved by the Committee is as follows:

Document	*Version*	*Date*
Copies of materials calling attention of potential participants to the research [Flyer Control]	1.1	19 August 2024
Copies of materials calling attention of potential participants to the research [Flyer Patient]	1.3	19 August 2024
GP/consultant information sheets or letters [GP Letter]	1.0	18 June 2024
Interview schedules or topic guides for participants [Demographics]	1.0	18 March 2024
IRAS Application Form [IRAS_Form_20062024]		20 June 2024
Letter from sponsor [Sponsorship Approval Letter]		18 June 2024
Other [Data Protection Impact Assessment]	1.3	13 June 2024
Other [Expression of Interest Control]	1.1	30 April 2024
Other [Expression of Interest Patient]	1.1	30 April 2024
Other [Debrief Patient]	1.1	08 May 2024
Other [Debrief Control]	1.1	08 May 2024
Other [Distress Protocol]	1.1	29 July 2024
Other [Personal Safety and Lone Worker Policy]	2	15 May 2024
Other [Safeguarding Children Policy]	8	31 May 2023
Other [Responses to Provisional Opinion]	1.0	19 August 2024
Participant consent form [Consent Form]	1.2	19 August 2024
Participant information sheet (PIS) [PIS Patient]	1.3	19 August 2024
Participant information sheet (PIS) [PIS Control]	1.3	19 August 2024

Research protocol or project proposal [Research Protocol]	1.3	19 August 2024
Summary CV for Chief Investigator (CI) [CI CV]		27 February 2024
Summary CV for supervisor (student research) [Supervisor LJ CV]		29 February 2024
Summary CV for supervisor (student research) [Supervisor FC CV]		01 March 2024
Validated questionnaire [DASS-21 (Lovibond & Lovibond, 1995)]		
Validated questionnaire [PRFQ (Luyten et al., 2017)]		
Validated questionnaire [PSS (Berry & Jones, 1995)]		
Validated questionnaire [R-GPTS (Freeman et al., 2021)]		

Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

User Feedback

The Health Research Authority is continually striving to provide a high quality service to all applicants and sponsors. You are invited to give your view of the service you have received and the application procedure. If you wish to make your views known please use the feedback form available on the HRA website: Quality assurance - Health Research Authority (hra.nhs.uk)

HRA Learning

We are pleased to welcome researchers and research staff to our HRA Learning Events and online learning opportunities– see details at: Learning - Health Research Authority (hra.nhs.uk)

IRAS project ID: 340088 Please quote this number on all correspondence

With the Committee's best wishes for the success of this project.

Yours sincerely

Dr Alan Lamont
Chair
Pp. Laura Fairman

Approvals Administrator

Email:CambridgeEast.REC@hra.nhs.uk

Enclosures: "After ethical review – guidance for researchers"

After ethical review guidance for sponsors and investigators –
Non CTIMP Standard Conditions of Approval

Copy to: Ms Natalia Jastrzębska, Oxford Health NHS Foundation Trust

Lead Nation

England: approvals@hra.nhs.uk

Figure N2

REC Amendment Approval for Substantial Amendment 1 (SA01)

Health Research Authority

East of England - Cambridge East Research Ethics Committee

2 Redman Place
London
EC20 1JQ

Tel: 02071048181

Please note: This is the favourable opinion of the REC only and does not allow the amendment to be implemented at NHS sites in England until the outcome of the HRA assessment has been confirmed.

07 March 2025

Mr Francis Madden
Oxford Health NHS Foundation Trust
The Oxford Institute of Clinical Psychology Training
Isis Education Centre
Warneford Hospital
Oxford
OX3 7JX

Dear Mr Madden

Study title:	**Understanding parent-child interactions in parents with psychosis and their young children**
REC reference:	**24/EE/0154**
Protocol number:	**PID 17994**
Amendment number:	**Substantial Amendment 01 (SA01)**
Amendment date:	**17 February 2025**
IRAS project ID:	**340088**

The above amendment was reviewed at the meeting of the Sub-Committee held on 06 March 2025 in correspondence.

Ethical opinion

The members of the Committee taking part in the review gave a favourable ethical opinion of the amendment on the basis described in the notice of amendment form and supporting documentation.

Approved documents

The documents reviewed and approved at the meeting were:

Document	*Version*	*Date*
Completed Amendment Tool [Completed Amendment Tool]	1.6	17 February 2025
Copies of materials calling attention of potential participants to the research [Patient Study Flyer Clean]	1.4	04 February 2025
Copies of materials calling attention of potential participants to the research [Direct Patient Study Flyer Clean]	1.0	04 February 2025
Copies of materials calling attention of potential participants to the research [Control Study Flyer Clean]	1.2	04 February 2025
Copies of materials calling attention of potential participants to the research [Control Study Flyer Tracked]	1.2	04 February 2025
Copies of materials calling attention of potential participants to the research [Patient Study Flyer Tracked]	1.4	04 February 2025
Other [Video Explainer Clean]	1.0	04 February 2025
Other [Video Explainer Tracked]	1.0	04 February 2025
Other [Control Debrief Sheet Tracked]	1.2	04 February 2025
Other [Patient Debrief Sheet Tracked]	1.2	04 February 2025
Other [Patient Debrief Sheet Clean]	1.2	04 February 2025
Other [Control Debrief Sheet Clean]	1.2	04 February 2025
Other [MS Form Direct Patients 1.1 Comments.pdf]	1.1	06 March 2025
Participant information sheet (PIS) [Patient Participant Information Sheet 1.4 Tracked.docx]	1.4	04 March 2025
Participant information sheet (PIS) [Control Participant Information Sheet 1.4 Tracked.docx]	1.4	04 March 2025
Research protocol or project proposal [Protocol 1.5 Tracked.docx]	1.5	04 March 2025

Membership of the Committee

The members of the Committee who took part in the review are listed on the attached sheet.

Working with NHS Care Organisations

Sponsors should ensure that they notify the R&D office for the relevant NHS care organisation of this amendment in line with the terms detailed in the categorisation email issued by the lead nation for the study.

Amendments related to COVID-19

We will update your research summary for the above study on the research summaries section of our website. During this public health emergency, it is vital that everyone can promptly identify all relevant research related to COVID-19 that is taking place globally. If you have not already done so, please register your study on a public registry as soon as possible and provide the HRA with the registration detail, which will be posted alongside other information relating to your project.

Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

HRA Learning

We are pleased to welcome researchers and research staff to our HRA Learning Events and online learning opportunities– see details at: https://www.hra.nhs.uk/planning-and-improving-research/learning/

IRAS Project ID - 340088:	**Please quote this number on all correspondence**

Yours sincerely

Dr Alan Lamont
Chair
Pp. Laura Fairman
Approvals Administrator

E-mail: CambridgeEast.REC@hra.nhs.uk

Enclosures: *List of names and professions of members who took part in the review*

Copy to: *Mr Francis Madden*

East of England - Cambridge East Research Ethics Committee

Attendance at Sub-Committee of the REC meeting on 06 March 2025

Committee Members:

Name	*Profession*	*Present*	*Notes*
Dr Alan Lamont	Retired Consultant Oncologist	Yes	Chair
Dr Jessica Santos	Global Head of Compliance, DPO (Data Protection Officer)	Yes	

Also in attendance:

Name	*Position (or reason for attending)*
Mrs Laura Fairman	Approvals Administrator

Figure N3

Health Research Authority (HRA) Approval Letter

Ymchwil Iechyd a Gofal Cymru
Health and Care Research Wales

NHS
Health Research Authority

Mr Francis Madden
Trainee Clinical Psychologist
Oxford Health NHS Foundation Trust
The Oxford Institute of Clinical Psychology Training
Isis Education Centre, Warneford Hospital
Oxford
OX3 7JX

Email: approvals@hra.nhs.uk
HCRW.approvals@wales.nhs.uk

23 August 2024

Dear Mr Madden

HRA and Health and Care Research Wales (HCRW) Approval Letter

Study title:	**Understanding parent-child interactions in parents with psychosis and their young children**
IRAS project ID:	**340088**
Protocol number:	**PID 17994**
REC reference:	**24/EE/0154**
Sponsor	**Oxford Health NHS Foundation Trust**

I am pleased to confirm that **HRA and Health and Care Research Wales (HCRW) Approval** has been given for the above referenced study, on the basis described in the application form, protocol, supporting documentation and any clarifications received. You should not expect to receive anything further relating to this application.

Please now work with participating NHS organisations to confirm capacity and capability, in line with the instructions provided in the "Information to support study set up" section towards the end of this letter.

How should I work with participating NHS/HSC organisations in Northern Ireland and Scotland?
HRA and HCRW Approval does not apply to NHS/HSC organisations within Northern Ireland and Scotland.

If you indicated in your IRAS form that you do have participating organisations in either of these devolved administrations, the final document set and the study wide governance report (including this letter) have been sent to the coordinating centre of each participating nation. The relevant national coordinating function/s will contact you as appropriate.

Please see IRAS Help for information on working with NHS/HSC organisations in Northern Ireland and Scotland.

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

What are my notification responsibilities during the study?

The standard conditions document "*After Ethical Review – guidance for sponsors and investigators*", issued with your REC favourable opinion, gives detailed guidance on reporting expectations for studies, including:

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

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

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

Your IRAS project ID is **340088**. Please quote this on all correspondence.

Yours sincerely,
Laura Greenfield

Approvals Specialist

Email: approvals@hra.nhs.uk

Copy to: *Ms Natalia JastrzÄ™bska, Oxford Health NHS Foundation Trust*

List of Documents

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

Document	*Version*	*Date*
Contract/Study Agreement template [Model PIC Agreement]	1.0	01 July 2024
Copies of materials calling attention of potential participants to the research [Flyer Control]	1.1	19 August 2024
Copies of materials calling attention of potential participants to the research [Flyer Patient]	1.3	19 August 2024
GP/consultant information sheets or letters [GP Letter]	1.0	18 June 2024
Interview schedules or topic guides for participants [Demographics]	1.0	18 March 2024
IRAS Application Form [IRAS_Form_20062024]		20 June 2024
Letter from sponsor [Sponsorship Approval Letter]		18 June 2024
Other [Data Protection Impact Assessment]	1.3	13 June 2024
Other [Expression of Interest Control]	1.1	30 April 2024
Other [Expression of Interest Patient]	1.1	30 April 2024
Other [Debrief Patient]	1.1	08 May 2024
Other [Debrief Control]	1.1	08 May 2024
Other [Distress Protocol]	1.1	29 July 2024
Other [Personal Safety and Lone Worker Policy]	2	15 May 2024
Other [Safeguarding Children Policy]	8	31 May 2023
Other [Responses to Provisional Opinion]	1.0	19 August 2024
Participant consent form [Consent Form]	1.2	19 August 2024
Participant information sheet (PIS) [PIS Patient]	1.3	19 August 2024
Participant information sheet (PIS) [PIS Control]	1.3	19 August 2024
Research protocol or project proposal [Research Protocol]	1.3	19 August 2024
Summary CV for Chief Investigator (CI) [CI CV]		27 February 2024
Summary CV for supervisor (student research) [Supervisor LJ CV]		29 February 2024
Summary CV for supervisor (student research) [Supervisor FC CV]		01 March 2024
Validated questionnaire [R-GPTS (Freeman et al., 2021)]		
Validated questionnaire [DASS-21 (Lovibond & Lovibond, 1995)]		
Validated questionnaire [PRFQ (Luyten et al., 2017)]		
Validated questionnaire [PSS (Berry & Jones, 1995)]		

IRAS project ID	340088

Information to support study set up

The below provides all parties with information to support the arranging and confirming of capacity and capability with participating NHS organisations in England and Wales. This is intended to be an accurate reflection of the study at the time of issue of this letter.

Types of participating NHS organisation	Expectations related to confirmation of capacity and capability	Agreement to be used	Funding arrangements	Oversight expectations	HR Good Practice Resource Pack expectations
There are two types of NHS organisations undertaking this study. The site-types are; 1. Research site -This is a single site study sponsored by the participating NHS organisation therefore there is only one site type. 2. PIC - Activities at NHS	1. The single participating NHS organisation of this type is also sponsoring the research. You should work with your sponsor R&D office to make arrangements to set up the study. The sponsor R&D office will confirm to you when the study can start following issue of HRA and HCRW Approval. 2. Research activities should not commence at participating NHS	1. This is a single site study sponsored by the participating NHS organisation therefore no agreements are expected. 2. The sponsor has provided the appropriate model commercial PIC agreement that it intends to use as a subcontract between	1.No external study funding has been sought. 2. Sponsor is not providing funding to PICs	1.Principal Investigators are expected to be in place at participating NHS / HSC organisations where locally employed staff take responsibility for research procedures. 2. The Chief Investigator will be responsible for all study activities performed at PICs.	1+2 - Where an external individual will be conducting any of the research activities that will be undertaken at this site type then they would be expected to hold a Letter of Access. This should be issued be on the basis of a Research Passport (if university employed) or an NHS to NHS confirmation of pre-engagement checks letter (if NHS employed). These should confirm Occupational Health Clearance. These should confirm enhanced DBS checks and appropriate barred list checks.
organisations will involve PIC activity only, including the identification of participants, database searches and the mailing out of study documentation.	organisations in England or Wales prior to their formal confirmation of capacity and capability to deliver the study in accordance with the contracting expectations detailed. Due to the nature of the activities involved, organisations will be expected to provide that confirmation to the sponsor; 1. Within 35 days of receipt of the local information pack 2. 2. After HRA/HCRW Approval has been issued. If the organisation is not able to formally confirm capacity and capability within this timeframe, they must inform the sponsor of this and	participating organisations and NHS organisations acting as their Participant Identification Centres (PICs).			

	provide a justification. If the sponsor is not satisfied with the justification, then the sponsor may escalate to the National Coordinating Function where the participating NHS organisation is located.				

Other information to aid study set-up and delivery

This details any other information that may be helpful to sponsors and participating NHS organisations in England and Wales in study set-up.
The applicant has indicated that they do not intend to apply for inclusion on the NIHR CRN Portfolio.

Figure N4

HRA Substantial Amendment Approval (SA01)

Outlook

IRAS Project ID 340088. HRA and HCRW Approval for the Amendment

From CambridgeEast.REC@hra.nhs.uk <noreply@harp.org.uk>
Date Wed 12/03/2025 08:09
To francis.madden@psy.ox.ac.uk <francis.madden@psy.ox.ac.uk>; research <research@oxfordhealth.nhs.uk>

Dear Mr Madden,

IRAS Project ID:	340088
Short Study Title:	Parent-child interactions in parents with psychosis
Amendment No./Sponsor Ref:	Substantial Amendment 01 (SA01)
Amendment Date:	17 February 2025
Amendment Type:	Substantial Non-CTIMP

I am pleased to confirm **HRA and HCRW Approval** for the above referenced amendment.

You should implement this amendment at NHS organisations in England and Wales, in line with the guidance in the amendment tool.

User Feedback

The Health Research Authority is continually striving to provide a high quality service to all applicants and sponsors. You are invited to give your view of the service you have received and the application procedure. If you wish to make your views known please use the feedback form available on the HRA website: http://www.hra.nhs.uk/about-the-hra/governance/quality-assurance/.

Please contact [amendments@hra.nhs.uk]amendments@hra.nhs.uk for any queries relating to the assessment of this amendment.

Kind regards

Laura Greenfield
Health Research Authority
2nd Floor | 2 Redman Place | Stratford | London | E20 1JQ
E.amendments@hra.nhs.uk
W. www.hra.nhs.uk

Sign up to receive our newsletter HRA Latest

Appendix O - Measures and Questions Used in the Study

Researcher-developed questionnaire for demographic & clinical info

1. What is your gender?
2. What is your age (in years and months)?
3. What is your ethnicity?
4. [Patient Only] When did you have your first psychotic episode (month & year if possible)?
5. [Patient Only] How many times have you been admitted to hospital due to psychosis?
6. [Patient Only] When was your most recent hospital admission due to psychosis (month & year if possible)?
7. Please provide the following information about your children:
    1. Age (years and months)
    2. Gender
    3. Any additional learning needs? (additional learning needs refers to any current investigation or established diagnosis of autism spectrum disorder (ASD), attention deficit hyperactivity disorder (ADHD), or any diagnosed behavioural or emotional difficulties)
    4. If yes, please describe:

Parental Reflective Functioning Questionnaire (PRFQ; Luyten et al., 2017)

Listed below are a number of statements concerning you and your child. Read each item and decide whether you agree or disagree and to what extent. Use the following rating scale, with 7 if you strongly agree; and 1 if you strongly disagree. The midpoint, if you are neutral or undecided, is 4.

Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree

1. The only time I'm certain my child loves me is when he or she is smiling at me.
2. I always know what my child wants.
3. I like to think about the reasons behind the way my child behaves and feels.
4. My child cries around strangers to embarrass me.
5. I can completely read my child's mind.
6. I wonder a lot about what my child is thinking and feeling.
7. I find it hard to actively participate in make believe play with my child.
8. I can always predict what my child will do.
9. I am often curious to find out how my child feels.
10. My child sometimes gets sick to keep me from doing what I want to do.
11. I can sometimes misunderstand the reactions of my child.
12. I try to see situations through the eyes of my child.
13. When my child is fussy he or she does that just to annoy me.
14. I always know why I do what I do to my child.
15. I try to understand the reasons why my child misbehaves.
16. Often, my child's behavior is too confusing to bother figuring out.
17. I always know why my child acts the way he or she does.
18. I believe there is no point in trying to guess what my child feels.

Revised Green et al., Paranoid Thoughts Scale (R-GPTS; Freeman et al., 2021)

Part A. Please read each of the statements carefully. They refer to thoughts and feelings you may have had about others over the last month. Think about the last month and indicate the extent of these feelings from 0 (Not at all) to 4 (Totally). (Please do not rate items according to any experiences you may have had under the influence of drugs.)

1. I spent time thinking about friends gossiping about me.
2. I often heard people referring to me.
3. I have been upset by friends and colleagues judging me critically.
4. People definitely laughed at me behind my back.
5. I have been thinking a lot about people avoiding me.
6. People have been dropping hints for me.
7. I believed that certain people were not what they seemed.
8. People talking about me behind my back upset me.

Part B. Please read each of the statements carefully. They refer to thoughts and feelings you may have had about others over the last month. Think about the last month and indicate the extent of these feelings from 0 (Not at all) to 4 (Totally). (Please do not rate items according to any experiences you may have had under the influence of drugs.)

1. Certain individuals have had it in for me.
2. People wanted me to feel threatened, so they stared at me.
3. I was certain people did things in order to annoy me.
4. I was convinced there was a conspiracy against me.
5. I was sure someone wanted to hurt me.
6. I couldn't stop thinking about people wanting to confuse me.
7. I was distressed by being persecuted.
8. It was difficult to stop thinking about people wanting to make me feel bad.
9. People have been hostile towards me on purpose.
10. I was angry that someone wanted to hurt me.

Parental Stress Scale (PSS; Berry & Jones, 1995)

The following statements describe feelings and perceptions about the experience of being a parent. Think of each of the items in terms of how your relationship with your child

or children typically is. Please indicate the degree to which you agree or disagree with the following items by placing the appropriate number in the space provided.

1 = Strongly disagree 2 = Disagree 3 = Undecided 4 = Agree 5 = Strongly agree

1 I am happy in my role as a parent.

2 There is little or nothing I wouldn't do for my child(ren) if it was necessary.

3 Caring for my child(ren) sometimes takes more time and energy than I have to give.

4 I sometimes worry whether I am doing enough for my child(ren).

5 I feel close to my child(ren).

6 I enjoy spending time with my child(ren).

7 My child(ren) is an important source of affection for me.

8 Having child(ren) gives me a more certain and optimistic view for the future.

9 The major source of stress in my life is my child(ren).

10 Having child(ren) leaves little time and flexibility in my life.

11 Having child(ren) has been a financial burden.

12 It is difficult to balance different responsibilities because of my child(ren).

13 The behaviour of my child(ren) is often embarrassing or stressful to me.

14 If I had it to do over again, I might decide not to have child(ren).

15 I feel overwhelmed by the responsibility of being a parent.

16 Having child(ren) has meant having too few choices and too little control over my life.

17 I am satisfied as a parent.

18 I find my child(ren) enjoyable.

Depression, Anxiety and Stress Scales (DASS-21; Lovibond & Lovibond, 1995)

Please read each statement and circle a number 0, 1, 2 or 3 which indicates how much the statement applied to you over the past week. There are no right or wrong answers. Do not spend too much time on any statement.

The rating scale is as follows:

0 Did not apply to me at all

1 Applied to me to some degree, or some of the time

2 Applied to me to a considerable degree, or a good part of time

3 Applied to me very much, or most of the time

1. I found it hard to wind down
2. I was aware of dryness of my mouth
3. I couldn't seem to experience any positive feeling at all
4. I experienced breathing difficulty (eg, excessively rapid breathing, breathlessness in the absence of physical exertion)
5. I found it difficult to work up the initiative to do things
6. I tended to over-react to situations
7. I experienced trembling (eg, in the hands)
8. I felt that I was using a lot of nervous energy
9. I was worried about situations in which I might panic and make a fool of myself
10. I felt that I had nothing to look forward to
11. I found myself getting agitated
12. I found it difficult to relax
13. I felt down-hearted and blue

14. I was intolerant of anything that kept me from getting on with what I was doing
15. I felt I was close to panic
16. I was unable to become enthusiastic about anything
17. I felt I wasn't worth much as a person
18. I felt that I was rather touchy
19. I was aware of the action of my heart in the absence of physical exertion (eg, sense of heart rate increase, heart missing a beat)
20. I felt scared without any good reason
21. I felt that life was meaningless

Emotional Availability Scales (Biringen et al., 2000)

Parental sensitivity. The sensitivity scale rates parents on a scale of 9 (highly sensitive) to 1 (highly insensitive), according to the following criteria.

9 HIGHLY SENSITIVE

Emotional communication between parent and infant is for the most part positive, appropriate, and creative. The highly sensitive parent displays much genuine, authentic, and congruent interest, pleasure, and amusement with the infant (as opposed to performing these behaviors), as demonstrated by warm smiles and giggles, interested eye contact, and comforting and playful physical contact. Parental facial expressions and tone of voice are pleasant and there are no sudden or marked shifts in emotional tone. In fact, both the parent and child show clear enjoyment and delight with each other. The parent accurately reads the child's signals, even subtle ones that may not be clear to an outsider, and reacts appropriately. He or she has a well-developed sense of timing and rhythmicity during interactions with transitions between activities appearing smooth rather than abrupt and enforced. Parental behavior appears flexible and adaptable, according to the demands of particular situations.

When parent and child are physically separated, they are likely to maintain emotional connectedness at a distance, at the very least by the parent occasionally calling the child's name or looking in on him or her. Thus, verbal and visual communications between parent and child are ongoing but not constant or overwhelming. Statements to and regarding the child are affirmative and accepting, rather than sarcastic, critical, or highly prohibitive. The amount of interaction is fairly high. Play interactions are creative and joyful for both parent and child. The parent further responds with short latency to distress signals, attempting to soothe and to explore reasons for such communications. Conflict situations do not lead to long breakdowns in the relationship; instead, they too are handled smoothly and effectively. Overall, the observer sees a very 'special' quality in these interactions, and delights in the dancelike quality of this interaction. This is the most optimal rating.

7 GENERALLY SENSITIVE

This parent is very similar to a '9', except that there is a less spectacular quality to these parent–child exchanges. This rating refers to a 'good enough' parent. Typically, very positive interactions get rated down to '7' for some of the following reasons: the parent did not interact in a creative manner, although he or she was affectively connected to the infant and interactions were harmonious and enjoyable; or the parent's affect and behavioral style were extremely well suited to this infant, creating a generally lively and engaging climate, but at brief moments, he or she displayed subtle preoccupation with his/her own thoughts, as if processing another agenda; or the like. However, the differences between a '9' and a '7' are small.

5 INCONSISTENTLY SENSITIVE

The parent is sensitive in some ways, but the observer finds it difficult to give this relationship a clean bill of health. Parental inconsistency in behavior may be one tell-tale sign (including signs of inconsistency discussed at the end of the section on sensitivity). For

example, the parent may fluctuate from being creative and joyful during play times to being preoccupied with other concerns, or other questionable (though not clearly negative/insensitive) behaviors. This characteristic is particularly significant, given that parents usually want to look their best for a videotaped session. Thus, some parents may 'leak' inconsistencies of behavior; it may simply be too stressful for some to maintain well-modulated positivity for long. Such variability may be observed on different days or at different times in the same session.

3 SOMEWHAT INSENSITIVE

Insensitivity is typically displayed in one of two general ways, one being an active/harsh style (overly active and overbearing) and the other being a passive/depressed/affectively flat (noninteractive and silent) style. Still, there are positives here. Both styles suggest unresponsiveness to infant communications and lack many of the features of sensitive interactions described earlier. The active/harsh/volatile style involves facial expressions of disgust and anger and harsh/abrasive/condescending tones of voice. The passive/depressed/affectively flat style involves facial expressions that are depressed and disinterested, and a vocal tempo that is slow, lethargic, or simply unenthusiastic. Also often seen is a businesslike, matter-of-fact style that combines features of both abrasiveness and passivity. The observer may note situations in which there are sudden shifts in mood without gestural or verbal indicators. In other words, the subtle gestural system is not well used, resulting in affect regulation that is not well modulated. Such shifts are likely to be more extreme or upsetting to the child or for the observer to watch than is the case for a '5'. Despite the fact that this parent lacks many crucial features of a sensitive behavioral style, he or she is nonetheless a competent parent in some ways. For example, a very bland affect may be balanced by a desire to engage in playful interactions. Although such interactions may

lack a clear funlike, synchronous quality, they indicate that this parent has some notions about what is important for child-rearing.

1 HIGHLY INSENSITIVE

This parent displays few areas of strength in interaction with his/her child. This 1 rating, like a '2', is uncommonly used in normal or unselected samples and denotes extreme insensitivity to the child's communications and little apparent knowledge of crucial child-rearing techniques. In at-risk populations, however, such lower ratings are more commonly used. The highly insensitive parent is low on almost all qualities discussed in the introduction. Affective negativity (in the form of either active harshness or passive disinterest/depression) is more extreme, as are many of the other qualities. Basically, a '1' is a more extreme version of the sort of insensitivity described for a '3'.

Parental structuring. The scores for parental structuring range from '5' (optimal structuring) to 1 (nonoptimal structuring), as described next.

5 OPTIMAL STRUCTURING

The parent shows an appropriate degree of structuring. The parent's bids are successful in structuring interaction. He or she lets the child lead while providing a supportive frame, that is, the parent offers the child the chance to explore and do things while providing a frame on which the child can build. In the context of limit-setting and discipline, the parent is firm (not harsh) and includes preventive measures whenever possible. The parent is an active member of the interaction and play, providing adequate information, breaking down the steps to complete the exercise, and physically helping in the manipulation of pieces, but does not overpower this interaction at all. In games, the parent may ensure that the child wins or may diminish the importance of parental winning. Parental bids are successful in structuring interaction. The parent also provides appropriate rules and regulations, and can comfortably stand by them. Below the optimal rating of '5' are varying

types of less-than-suitable structuring. For example, if a parent structures a bit much but the child is tuned into such structuring, he or she would be rated a '4'. Similarly, if the parent structures too little but again the attempts are successful, he or she would receive a '4'. That is, when a parent's structuring attempts or style of structuring is successful, he or she is placed above a '3'.

3 INCONSISTENT STRUCTURING

There is overall inconsistency in the parent's ability to structure and/or set limits. The parent may also show unvarying or repetitive attempts to structure that are not successful. In some cases, the parent shows adequate structuring and a supportive frame, but then backs off. The backing off may leave the child without support and sufficient scaffolding. Or, the session may progress such that the parent may seem insufficiently invested in the task at certain times but not at others. The parent who sets appropriate limits on child behavior but 'caves in' under child pressure or acting up would be inconsistent as well. Similarly, the parent may be unstructuring at times and overstructuring at other times. In general, the interaction is less obviously optimal. It is as if the parent is just trying out different techniques but is not comfortable in the most suitable style of structuring with the child. Inconsistent structuring may also be observed in another way. A parent who is consistently playing with the child but not providing much structure to the play may be viewed as apparently structuring. Although there is play between the parent and child, the parent may always be following the child's lead and not contributing or adding to the interaction. It is important to remember, however, that this scale is linear: a little bit more than this 'prototype' should be rated higher and a little bit less than this 'prototype' should be rated lower in structuring than a '3'.

1 NON-OPTIMAL STRUCTURING

The parent sets no limits and provides no structure for the child. The parent appears passive, perhaps indulgent. He or she does not provide an adequate scaffold. This parent may engage in parallel play, manipulating pieces seemingly involved in his/her own play alongside the child's play. Or, the child may entirely structure the interaction. In quality, parent and child may be like peers. Further, limit-setting is likely to be absent, even when sorely called for.

Parental non-intrusiveness. Parental non-intrusiveness is rated from 5 (nonintrusive) to 1 (intrusive), as described next.

5 NON-INTRUSIVE

The parent does not overpower the interactions. He or she lets the child lead and bases play interactions on the child's lead. The interaction is nonintrusive, smooth, and 'spacious'. The parent is available to the child without being intrusive and has a quality of emotionally 'being there' or emotionally available without necessarily doing something to the child. The parent does not overpower the interaction at all. He or she enters the child's play smoothly and in a way that invites further exchange. Except in emergency contexts, he or she avoids interrupting the child and waits for optimal breaks before initiating interactions. This style offers the child a great deal of opportunity to explore and lead. The interaction has a spacious quality. In terms of behaviors such as limit-setting and discipline, the parent shows firmness without harshness.

3 SOMEWHAT INTRUSIVE

The parent too frequently sets the pace of the interaction, asking questions, directing the course of play, making suggestions, and creating frequent theme changes, as opposed to following the child's direction. Parental intrusiveness is not striking, however. Such behavior appears more directive and/or slightly overprotective rather than truly intrusive. The quality of being 'at' the child or doing something to the child is there as well, even if the child is

unresponsive to the parent's behaviors. Parental interventions may also have a matter-of-fact quality, introduced when the parent is ready. The parent uses his/her own initiative, changing themes frequently, rather than elaborating on the child's interests. Thus, the general atmosphere is one of too frequent leading rather than of following.

1 INTRUSIVE

The parent is highly over-stimulating and does not leave enough space in the interaction for the child to explore and lead. The parent controls the interaction, sometimes even physically, punishing or manhandling, and jumps in to do too much for the child, showing a lack of respect and space for not only the child's wishes but also abilities. This parent is constantly 'at' the child. or doing something to the child. This parent appears to want to 'elicit' certain behaviors from the child. This parent, rather than enabling the child to play, leaves no space for the child to 'return the serve' and is highly overstimulating and/or overprotective. He or she simply controls and jumps in to do too much for and to the child (perhaps including physical handling), showing a lack of respect for the child's wishes or ongoing activities. There is an inability to tolerate autonomy in the child. There may be an arbitrary ('no apparent reason') quality to his/her intrusiveness.

Table F1

Measures of parent-child interaction and their pros and cons for this study

Measure	Description	Pros	Cons
Emotional Availability Scales (Biringen et al., 2000)	A holistic judgment on six scales of emotional quality of the parent-child relationship: four for the parent (sensitivity, structuring, non-intrusiveness, non-hostility) and two for the child (responsiveness, involvement).	Goes beyond simple behaviours to assess the emotional connection and atmosphere of the interaction. Clinically relevant scales such as non-intrusiveness are highly relevant for assessing parents with psychosis, who may show behaviours not captured by other measures.	The holistic judgment-based scoring system can be more time-consuming than simple behavioural counts.

Measure	Description	Pros	Cons
Ainsworth's Maternal Sensitivity Scales (Ainsworth, 1969)	A global rating scale for parental sensitivity, assessing the parent's ability to perceive and accurately interpret the child's signals and respond promptly and appropriately.	A classic measure that defined the concept of parental sensitivity. Provides very nuanced and thorough descriptions of sensitive parenting.	Designed for long observations (hours of naturalistic observation), making it difficult to apply practically to a brief 5-minute play session. Geared towards infants rather than preschool age children.

Measure	Description	Pros	Cons
Toddler CARE-Index (Künster et al., 2010)	An observational tool that assesses parent-child interaction with a specific focus on identifying different types of risk. The sensitivity scale distinguishes between controlling and unresponsive forms of insensitivity.	Identifies specific patterns of problematic interaction (e.g., controlling vs. unresponsive), useful for clinical assessment. Acknowledges that parents or children may hide their true feelings, offering a more sophisticated view of the interaction.	Validation studies have found its test-retest reliability to be less consistent than other measures. While adapted for toddlers, it is less established for the upper end of the 2-5 year age range. It is costly to train a rater on this measure.
Keys to Interactive Parenting Scale (Comfort & Gordon, 2006)	A 12-item observational scale designed specifically for practitioners to be easy to use in service settings to guide intervention.	Designed for ease of use with relatively brief training, making it accessible for service providers. The items are directly tied to behaviours that can be targeted in parenting interventions.	Designed for service delivery rather than for nuanced research comparisons between clinical and non-clinical groups.

Measure	Description	Pros	Cons
Maternal Responsiveness Global Rating Scale (Down et al., 2015)	A single-item, 5-point Likert scale that provides one overall rating of maternal responsiveness, accounting for both responsive and undesirable directive behaviours.	Can be scored in real-time with minimal training. Easy to implement in any setting without significant resources.	Lacks depth to capture the complexity of parent-child interactions, especially in a clinical population. Has only shown modest correlations with more detailed measures and child outcomes.

Appendix P - Participant Exclusion Reasons

The reasons for participants to be excluded, where known, are detailed below. For all other excluded participants, responses were not provided.

Patient participants

- Disengaging from service – 6
- Safeguarding concerns – 4
- Too early in early intervention journey – 1
- No longer living with their child – 1
- "Lots going on" / complex case – 2
- Not deemed suitable by clinician – 3
- Not keen on video recording – 3
- Parent still considering / not yet consented – 2
- Unwell – 2
- Bereavement in family – 1
- Preferred not to take part / declined without reason – 4
- Required an interpreter - 1

Control participants

- Child too old - 1
- Not keen on video recording – 2
- Preferred not to take part / declined without reason – 1

Appendix Q - Analyses of Parental Non-intrusiveness and Structuring

Analyses of Parental Non-intrusiveness and Structuring

To compare the distributions of structuring and non-intrusiveness scores between the two conditions, raincloud plots showing individual data points, boxplots, and kernel density estimates were generated (Figure Q1 and Figure Q2).

Figure Q1

Raincloud Plot of Parental Non-intrusiveness Scores for the Control and Psychosis Groups

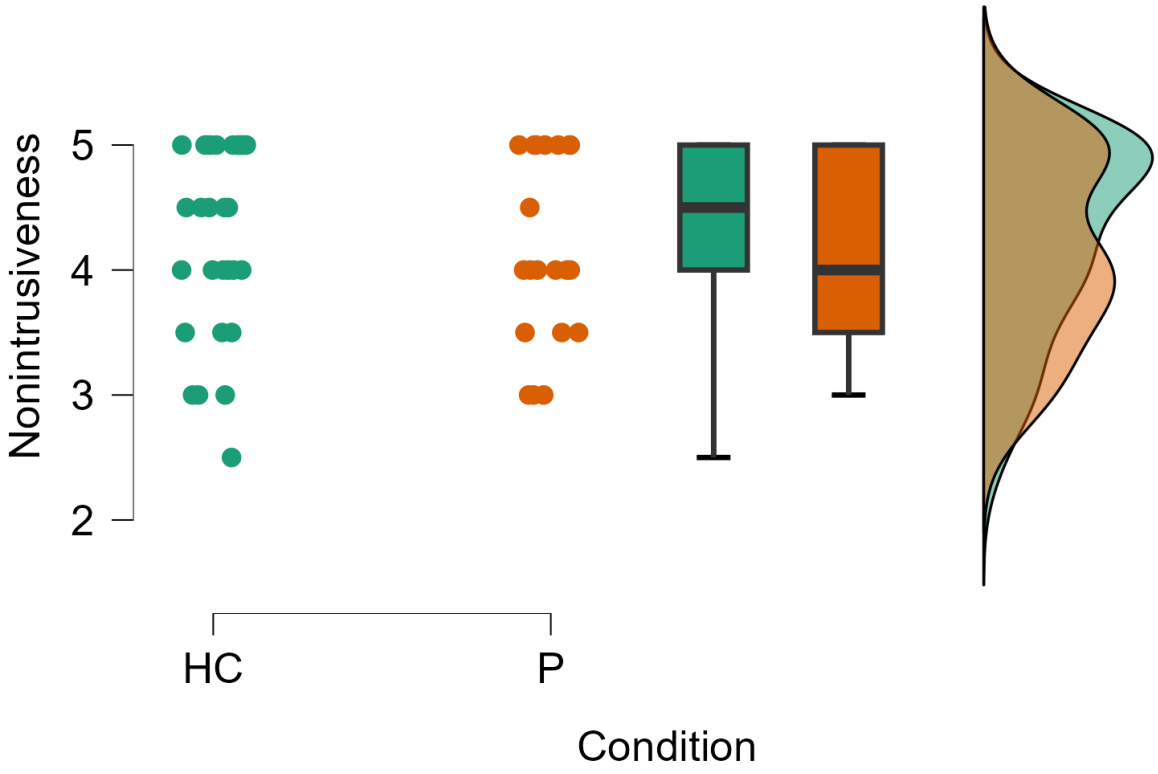
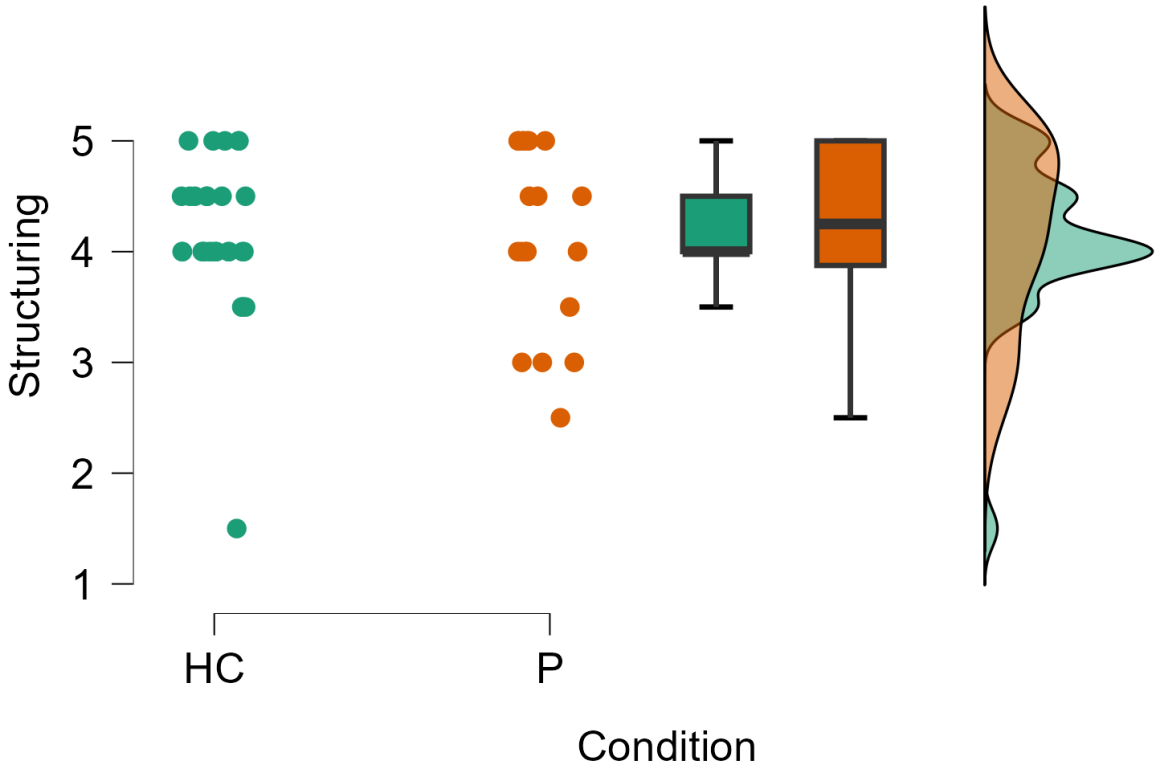


Figure Q2

Raincloud Plot of Parental Structuring Scores for the Control and Psychosis Groups



For structuring, the healthy control (HC) group displayed a wider distribution of scores, ranging from approximately 1.5 to 5, whereas the psychosis (P) group showed a more concentrated range from 2.5 to 5. A similar pattern was observed for non-intrusiveness, with the HC group scores ranging from 2.5 to 5 and the P group ranging from 3 to 5. The boxplots do not appear to show identical central tendencies. The median for structuring appears slightly higher for the psychosis group, while the median for non-intrusiveness is noticeably higher for the healthy controls.

However, the results of the independent-samples Mann-Whitney U tests indicated no significant difference in the ranked scores for non-intrusiveness between the control group (Mean Rank = 26.58) and the psychosis group (Mean Rank = 23.88), U = 267.50 , z = -0.67, p (two-tailed) = .50. Similarly, there was no significant difference in structuring scores between the control group (Mean Rank = 24.78) and the psychosis group (Mean Rank =

26.58), U = 321.50, z = 0.44, p (two-tailed) = .66. To quantify the evidence for these null results, exploratory one-tailed Bayesian Mann-Whitney U tests were performed. With a default Cauchy prior (r = 0.707), the resulting Bayes Factors provided moderate evidence in favour of the null hypothesis of no difference over the alternative hypothesis that the control group would show higher scores (BF_{01} = 3.18 for non-intrusiveness; BF_{01} = 3.22 for structuring). These values indicate that the data are more than three times as likely to occur under the null hypothesis than under the alternative.

Appendix R - Assumption Checks for Multiple Regression

Figure R1

Scatterplot of Standardised Residuals vs. Standardised Predicted Values

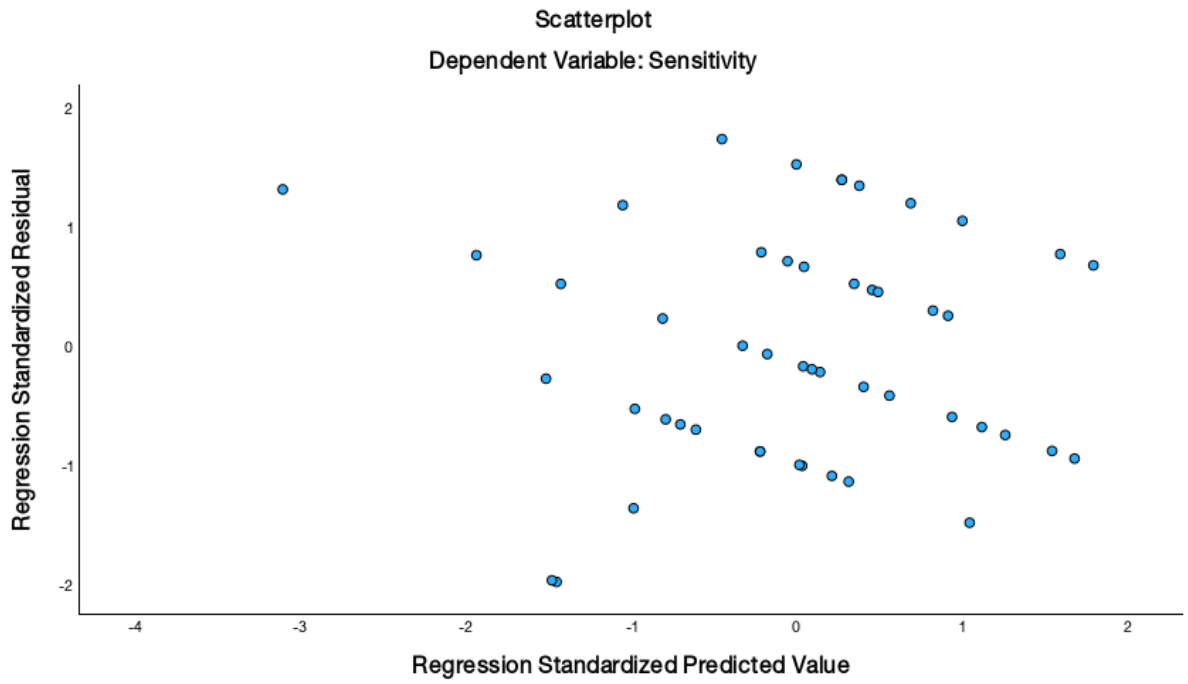


Figure R2

Normal P-P Plot of Regression Standardised Residuals

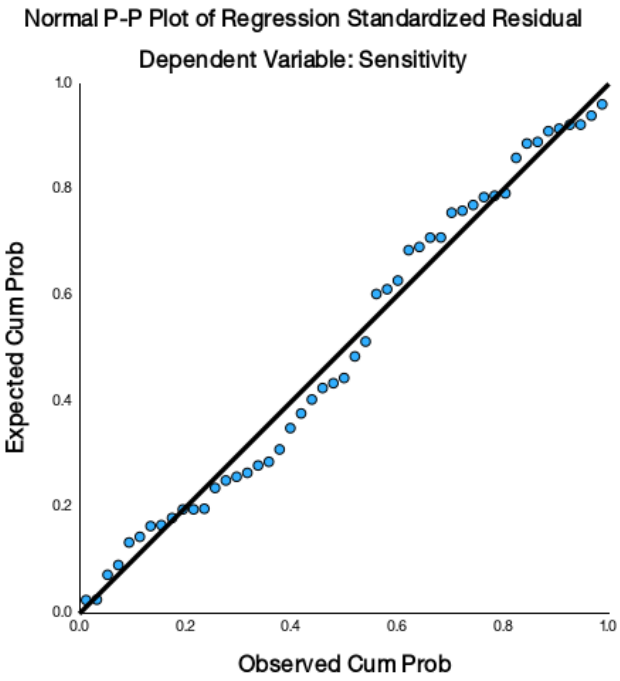
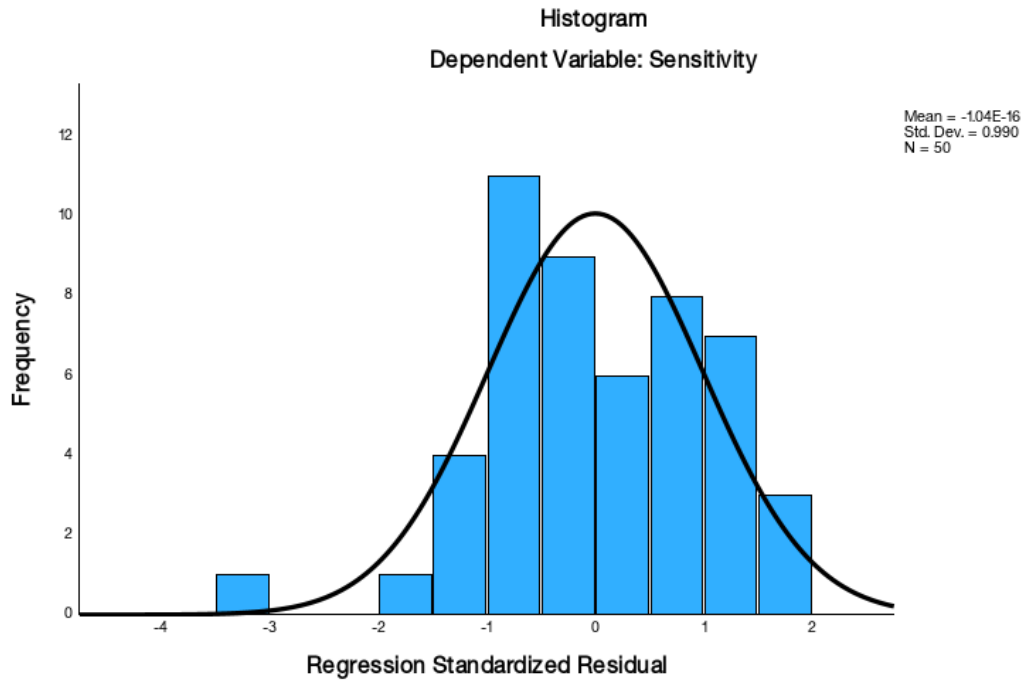


Figure R3

Histogram of Standardised Residuals



Appendix S - Regression Re-run Without Outlier

Table S1

Casewise Diagnostics Table

Case Number	Std. Residual	Sensitivity	Predicted Value	Residual
11	-3.006	3	6.99	-3.987

The overall model was statistically significant , $F(4, 44) = 2.67$, $p = .04$, and accounted for 19.5% of the variance in parental sensitivity ($R^2 = .20$, Adjusted $R^2 = .12$)As shown in Table S2, the PRFQ-IC subscale was significantly and uniquely associated with parental sensitivity.

Table S2

Summary of Multiple Regression Analysis of Factors Associated with Parental Sensitivity without Outlier (N=49)

Variable	B	SE	β	*t*	*p*
(Constant)	2.213	1.665		1.330	.191
PRFQ IC	.769	.255	.444	3.014	**.004**
RGPTS Persecution	.051	.029	.303	1.791	.080
Parental Stress	.010	.021	.071	.465	.644
DASS Total	-.007	.011	-.125	-.681	.500

Note. β = Standardised Beta. PRFQ-IC = Parental Reflective Functioning Questionnaire - Interest and Curiosity; R-GPTS Persecution = Revised Green et al. Paranoid Thought Scales - Part B: Persecution Score; DASS Total = Depression, Anxiety and Stress Scale - Total Score. Bold p-value indicates statistical significance at $p < .05$.

Appendix T - British Journal of Clinical Psychology: Author Guidelines

Sections

1. SUBMISSION

Authors should kindly note that submission implies that the content has not been published or submitted for publication elsewhere except as a brief abstract in the proceedings of a scientific meeting or symposium.

New submissions should be made via the **Research Exchange submission portal**. 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**.

All papers published in the *British Journal of Clinical Psychology* are eligible for Panel A: Psychology, Psychiatry and Neuroscience in the Research Excellence Framework (REF).

Data protection:

By submitting a manuscript to or reviewing for this publication, your name, email address, and affiliation, and other contact details the publication might require, will be used for the

regular operations of the publication, including, when necessary, sharing with the publisher (Wiley) and partners for production and publication. The publication and the publisher recognize the importance of protecting the personal information collected from users in the operation of these services, and have practices in place to ensure that steps are taken to maintain the security, integrity, and privacy of the personal data collected and processed. You can learn more at **https://authorservices.wiley.com/statements/data-protection-policy.html**.

Preprint policy:

This journal 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.

2. AIMS AND SCOPE

The *British Journal of Clinical Psychology* publishes original research, both empirical and theoretical, on all aspects of clinical psychology:

- clinical and abnormal psychology featuring descriptive or experimental studies
- aetiology, assessment and treatment of the whole range of psychological disorders irrespective of age group and setting
- biological influences on individual behaviour
- studies of psychological interventions and treatment on individuals, dyads, families and groups

For specific submission requirements, **read** the Author Guidelines.

The Journal is catholic with respect to the range of theories and methods used to answer substantive scientific problems. Studies of samples with no current psychological disorder will only be considered if they have a direct bearing on clinical theory or practice.

The following types of paper are invited:

- papers reporting original empirical investigations;
- theoretical papers, provided that these are sufficiently related to empirical data;
- review articles, which need not be exhaustive, but which should give an interpretation of the state of research in a given field and, where appropriate, identify its clinical implications;
- Brief Reports and Comments.

3. MANUSCRIPT CATEGORIES AND REQUIREMENTS

Papers describing quantitative research should be no more than 5000 words (excluding the abstract, reference list, tables and figures). Papers describing qualitative research (including reviews with qualitative analyses) should be no more than 6000 words (including quotes, whether in the text or in tables, but excluding the abstract, tables, figures and references). Brief reports should not exceed 2000 words and should have no more than one table or figure. Any papers that are over this word limit will be returned to the authors. Appendices are included in the word limit; however online appendices are not included.

In exceptional cases the Editor retains discretion to publish papers beyond this length where the clear and concise expression of the scientific content requires greater length (e.g., explanation of a new theory or a substantially new method). Authors must contact the Editor prior to submission in such a case.

Refer to the separate guidelines for **Registered Reports**.

All systematic reviews must be pre-registered and an anonymous link to the pre-registration must be provided in the main document, so that it is available to reviewers. Systematic reviews without pre-registration details will be returned to the authors at submission.

4. PREPARING THE SUBMISSION

Free Format Submission

British Journal of Clinical Psychology now offers free format submission for a simplified and streamlined submission process.

Before you submit, you will need:

- Your manuscript: this can be a single file including text, figures, and tables, or separate files – whichever you prefer (If you do submit separate files, we encourage you to also include your figures within the main document to make it easier for editors and reviewers to read your manuscript, but this is not compulsory). All required sections should be contained in your manuscript, including abstract, introduction, methods, results, and conclusions. Figures and tables should have legends. References may be submitted in any style or format, as long as it is consistent throughout the manuscript. If the manuscript, figures or tables are difficult for you to read, they will also be difficult for the editors and reviewers. If your manuscript is difficult to read, the editorial office may send it back to you for revision.
- The title page of the manuscript, including a data availability statement and your co-author details with affiliations. *(Why is this important? We need to keep all co-authors informed of the outcome of the peer review process.)* You may like to use this template for your title page.

Important: the journal operates a double-anonymous peer review policy. Anonymise your manuscript and prepare a separate title page containing author details. *(Why is this important? We need to uphold rigorous ethical standards for the research we consider for publication.)*

- An ORCID ID, freely available at https://orcid.org. *(Why is this important? Your article, if accepted and published, will be attached to your ORCID profile. Institutions and funders are increasingly requiring authors to have ORCID IDs.)*

To submit, login at **https://wiley.atyponrex.com/journal/BJC** and create a new submission. Follow the submission steps as required and submit the manuscript.

If you are invited to revise your manuscript after peer review, the journal will also request the revised manuscript to be formatted according to journal requirements as described below.

Revised Manuscript Submission

Contributions must be typed in double spacing. All sheets must be numbered.

Cover letters are not mandatory; however, they may be supplied at the author's discretion.

Parts of the Manuscript

The manuscript should be submitted in separate files: title page; main text file; figures/tables; supporting information.

Title Page

You may like to use **this template** for your title page. The title page should contain**:**

i. A short informative title containing the major key words. The title should not contain abbreviations (see Wiley's best practice SEO tips);
ii. A short running title of less than 40 characters;
iii. The full names of the authors;
iv. The author's institutional affiliations where the work was conducted, with a footnote for the author's present address if different from where the work was conducted;
v. Abstract;
vi. Keywords
vii. Data availability statement (see Data Sharing and Data Accessibility Policy);
viii. Acknowledgments.

Author Contributions

For all articles, the journal mandates the CRediT (Contribution Roles Taxonomy)—more information is available on our **Author Services** site.

Abstract

Please provide a structured abstract under the headings: Objectives, Methods, Results, Conclusions. For Articles, the abstract should not exceed 250 words. For Brief Reports, abstracts should not exceed 120 words.

Articles which report original scientific research should also include a heading 'Design' before 'Methods'. The 'Methods' section for systematic reviews and theoretical papers should include, as a minimum, a description of the methods the author(s) used to access the literature they drew upon. That is, the abstract should summarize the databases that were consulted and the search terms that were used.

Keywords

Provide appropriate keywords.

Acknowledgments

Contributions from anyone who does not meet the criteria for authorship should be listed, with permission from the contributor, in an Acknowledgments section. Financial and material support should also be mentioned. Thanks to anonymous reviewers are not appropriate.

Practitioner Points

All articles must include Practitioner Points – these are 2-4 bullet points, following the abstract, with the heading ‘Practitioner Points’. These should briefly and clearly outline the relevance of your research to professional practice.

Main Text File

As papers are double-anonymous peer reviewed, the main text file should not include any information that might identify the authors.

Manuscripts can be uploaded either as a single document (containing the main text, tables

and figures), or with figures and tables provided as separate files. Should your manuscript reach revision stage, figures and tables must be provided as separate files. The main manuscript file can be submitted in Microsoft Word (.doc or .docx) or LaTex (.tex) format.

If submitting your manuscript file in LaTex format via Research Exchange, select the file designation “Main Document – LaTeX .tex File” on upload. When submitting a LaTex Main Document, you must also provide a PDF version of the manuscript for Peer Review. Please upload this file as “Main Document - LaTeX PDF.” All supporting files that are referred to in the LaTex Main Document should be uploaded as a “LaTeX Supplementary File.”

LaTex Guidelines for Post-Acceptance:

Please check that you have supplied the following files for typesetting post-acceptance:

- PDF of the finalized source manuscript files compiled without any errors.
- The LaTeX source code files (text, figure captions, and tables, preferably in a single file), BibTex files (if used), any associated packages/files along with all other files needed for compiling without any errors. This is particularly important if authors have used any LaTeX style or class files, bibliography files (.bbl, .bst. .blg) or packages apart from those used in the NJD LaTex Template class file.
- Electronic graphics files for the illustrations in Encapsulated PostScript (EPS), PDF or TIFF format. Authors are requested not to create figures using LaTeX codes.

Your main document file should include:

- A short informative title containing the major key words. The title should not contain abbreviations;
- Abstract structured (objectives/methods/results/conclusions);
- Up to seven keywords;

- Practitioner Points: Authors will need to provide no more than 2-4 bullet points, written with the practitioner in mind, that summarize the key messages of their paper to be published with their article;
- Main body: formatted as introduction, materials & methods, results, discussion, conclusion;
- References;
- Tables (each table complete with title and footnotes);
- Figure legends: Legends should be supplied as a complete list in the text. Figures should be uploaded as separate files (see below).

Supporting information should be supplied as separate files. Tables and figures can be included at the end of the main document or attached as separate files but they must be mentioned in the text.

- As papers are double-anonymous peer reviewed, the main text file should not include any information that might identify the authors. Do not mention the authors' names or affiliations and always refer to any previous work in the third person.
- The journal uses British/US spelling; however, authors may submit using either option, as spelling of accepted papers is converted during the production process.

References

This journal uses APA reference style; as the journal offers Free Format submission, however, this is for information only and you do not need to format the references in your article. This will instead be taken care of by the typesetter.

Tables

Tables should be self-contained and complement, not duplicate, information contained in the text. They should be supplied as editable files, not pasted as images. Legends should be

concise but comprehensive – the table, legend, and footnotes must be understandable without reference to the text. All abbreviations must be defined in footnotes. Footnote symbols: †, ‡, §, ¶, should be used (in that order) and *, **, *** should be reserved for P-values. Statistical measures such as SD or SEM should be identified in the headings.

Figures

Although authors are encouraged to send the highest-quality figures possible, for peer-review purposes, a wide variety of formats, sizes, and resolutions are accepted.

Click here for the basic figure requirements for figures submitted with manuscripts for initial peer review, as well as the more detailed post-acceptance figure requirements.

Legends should be concise but comprehensive – the figure and its legend must be understandable without reference to the text. Include definitions of any symbols used and define/explain all abbreviations and units of measurement.

Supporting Information

Supporting information is information that is not essential to the article, but provides greater depth and background. It is hosted online and appears without editing or typesetting. It may include tables, figures, videos, datasets, etc.

Wiley's FAQs on supporting information.

Note: if data, scripts, or other artefacts used to generate the analyses presented in the paper are available via a publicly available data repository, authors should include a reference to the location of the material within their paper.

General Style Points

For guidelines on editorial style, please consult the **APA Publication Manual** published by the American Psychological Association. The following points provide general advice on formatting and style.

- **Language:** Authors must avoid the use of sexist or any other discriminatory language. The BPS's Inclusive Language Guidance provides a set of recommendations to support the key principles of inclusivity in writing.
- **Abbreviations:** In general, terms should not be abbreviated unless they are used repeatedly and the abbreviation is helpful to the reader. Initially, use the word in full, followed by the abbreviation in parentheses. Thereafter use the abbreviation only.
- **Units of measurement:** Measurements should be given in SI or SI-derived units. Visit the Bureau International des Poids et Mesures (BIPM) website for more information about SI units.
- **Effect size:** In normal circumstances, effect size should be incorporated.
- **Numbers:** numbers under 10 are spelt out, except for: measurements with a unit (8mmol/l); age (6 weeks old), or lists with other numbers (11 dogs, 9 cats, 4 gerbils).

Wiley Author Resources

Manuscript Preparation Tips: Wiley has a range of resources for authors preparing manuscripts for submission available **here.** In particular, we encourage authors to consult Wiley's best practice tips on **Writing for Search Engine Optimization**.

Article Preparation Support: **Wiley Editing Services** offers expert help with English Language Editing, as well as translation, manuscript formatting, figure illustration, figure formatting, and graphical abstract design – so you can submit your manuscript with confidence.

Also, check out our resources for **Preparing Your Article** for general guidance and the **BPS Publish with Impact infographic** for advice on optimizing your article for search engines.

ECR Best Paper Award

The **BPS Early Career Researcher Best Paper Award** is open to researchers and practitioners who completed their highest degree no more than five years ago. Please read full

terms and criteria before applying. Those who wish to apply can opt-in to the question when submitting their manuscript for peer review.

5. EDITORIAL POLICIES AND ETHICAL CONSIDERATIONS

Peer Review and Acceptance

Except where otherwise stated, the journal operates a policy of anonymous (double-anonymous) peer review. Please ensure that any information which may reveal author identity is anonymized in your submission, such as institutional affiliations, geographical location or references to unpublished research. We also operate a triage process in which submissions that are out of scope or otherwise inappropriate will be rejected by the editors without external peer review. Before submitting, read **the terms and conditions of submission** and the **declaration of competing interests**.

We aim to provide authors with a first decision within 90 days of submission.

Further information about the process of peer review and production can be found in '**What happens to my paper?**' **Read** Wiley's policy on the confidentiality of the review process.

Appeals Procedure

Authors may appeal an editorial decision if they feel that the decision to reject was based on either a significant misunderstanding of a core aspect of the manuscript, a failure to understand how the manuscript advances the literature or concerns regarding the manuscript-handling process. Differences in opinion regarding the novelty or significance of the reported findings are not considered as grounds for appeal.

To raise an appeal against an editorial decision, please contact the Editor who made the decision in the first instance using the journal inbox, quoting your manuscript ID number and

explaining your rationale for the appeal. Appeals are handled **according to the procedure recommended by COPE**. If you are not satisfied with the Editor(s) response, you can appeal further by writing to the BPS Knowledge & Insight Team by email at **Academic.Publications@bps.org.uk**. Appeals must be received within two calendar months of the date of the letter from the Editor communicating the decision. The BPS Knowledge and Insight Team's decision following an appeal consideration is final.

If you believe further support outside the journal's management is necessary, please refer to **Wiley's Best Practice Guidelines on Research Integrity and Publishing Ethics** or contact **Academic.Publications@bps.org.uk**.

Clinical Trial Registration

The journal requires that clinical trials are prospectively registered in a publicly accessible database and clinical trial registration numbers should be included in all papers that report their results. Authors are asked to include the name of the trial register and the clinical trial registration number at the end of the abstract. If the trial is not registered, or was registered retrospectively, the reasons for this should be explained.

Research Reporting Guidelines

Accurate and complete reporting enables readers to fully appraise research, replicate it, and use it. Authors are encouraged to adhere to recognised research reporting standards.

We also encourage authors to refer to and follow guidelines from:

- Future of Research Communications and e-Scholarship (FORCE11)
- The Gold Standard Publication Checklist from Hooijmans and colleagues
- FAIRsharing website

Conflict 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. The existence of a conflict of interest does not preclude publication. 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.

Funding

Authors should list all funding sources in the Acknowledgments section. Authors are responsible for the accuracy of their funder designation. If in doubt, please check the Open Funder Registry for the correct nomenclature: **https://www.crossref.org/services/funder-registry/**

Authorship

All listed authors should have contributed to the manuscript substantially and have agreed to the final submitted version. Authorship is defined by the criteria set out in the APA Publication Manual:

"Individuals should only take authorship credit for work they have actually performed or to which they have substantially contributed (APA Ethics Code Standard 8.12a, Publication Credit). Authorship encompasses, therefore, not only those who do the actual writing but also those who have made substantial scientific contributions to a study. Substantial professional contributions may include formulating the problem or hypothesis, structuring the experimental design, organizing and conducting the statistical analysis, interpreting the

results, or writing a major portion of the paper. Those who so contribute are listed in the byline." (p.18)

Data Sharing and Data Accessibility Policy

The *British Journal of Clinical Psychology* recognizes the many benefits of archiving data for scientific progress. Archived data provides an indispensable resource for the scientific community, making possible future replications and secondary analyses, in addition to the importance of verifying the dependability of published research findings.

The journal expects that where possible all data supporting the results in papers published are archived in an appropriate public archive offering open access and guaranteed preservation. The archived data must allow each result in the published paper to be recreated and the analyses reported in the paper to be replicated in full to support the conclusions made. Authors are welcome to archive more than this, but not less.

All papers need to be supported by a data archiving statement and the data set must be cited in the Methods section. The paper must include a link to the repository in order that the statement can be published.

It is not necessary to make data publicly available at the point of submission, but an active link must be included in the final accepted manuscript. For authors who have pre-registered studies, please use the Registered Report link in the Author Guidelines.

In some cases, despite the authors' best efforts, some or all data or materials cannot be shared for legal or ethical reasons, including issues of author consent, third party rights, institutional or national regulations or laws, or the nature of data gathered. In such cases, authors must inform the editors at the time of submission. It is understood that in some cases access will be provided under restrictions to protect confidential or proprietary information. Editors may grant exceptions to data access requirements provided authors explain the restrictions on the

data set and how they preclude public access, and, if possible, describe the steps others should follow to gain access to the data.

If the authors cannot or do not intend to make the data publicly available, a statement to this effect, along with the reasons that the data is not shared, must be included in the manuscript.

Finally, if submitting authors have any questions about the data sharing policy, access the **FAQs** for additional detail.

Refer and Transfer Program

Wiley believes that no valuable research should go unshared. This journal participates in Wiley's **Refer & Transfer program**. If your manuscript is not accepted, you may receive a recommendation to transfer your manuscript to another suitable Wiley journal, either through a referral from the journal's editor or through our Transfer Desk Assistant.

Open Research initiatives.

Recognizing the importance of research transparency and data sharing to cumulative research, *British Journal of Clinical Psychology* encourages the following Open Research practices.

Sharing of data, materials, research instruments and their accessibility. British Journal of Clinical Psychology encourages authors to share the data, materials, research instruments, and other artifacts supporting the results in their study by archiving them in an appropriate public repository. Qualifying public, open-access repositories are committed to preserving data, materials, and/or registered analysis plans and keeping them publicly accessible via the web into perpetuity. Examples include the Open Science Framework (OSF) and the various Dataverse networks. Hundreds of other qualifying data/materials repositories are listed at the

Registry of Research Data Repositories (**http://www.re3data.org**). Personal websites and most departmental websites do not qualify as repositories.

Publication Ethics

Authors are reminded that the *British Journal of Clinical Psychology* adheres to the ethics of scientific publication as detailed in the ***Ethical principles of psychologists and code of conduct*** (American Psychological Association, 2010). The Journal 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**). 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.

Note this journal uses iThenticate's CrossCheck software to detect instances of overlapping and similar text in submitted manuscripts. **Read** Wiley's Top 10 Publishing Ethics Tips for Authors. **Read** Wiley's Publication Ethics Guidelines can be found.

ORCID

As part of the journal's commitment to supporting authors at every step of the publishing process, the journal requires the submitting author (only) to provide an ORCID iD when submitting a manuscript. This takes around 2 minutes to complete. **Find more information here.**

6. AUTHOR LICENSING

WALS + standard CTA/ELA and/or Open Access for hybrid titles

You may choose to publish under the terms of the journal's standard copyright agreement, or Open Access under the terms of a Creative Commons License.

Standard **re-use and licensing rights** vary by journal. Note that **certain funders** mandate a

particular type of CC license be used. This journal uses the CC-BY/CC-BY-NC/CC-BY-NC-ND **Creative Commons License**.

Self-Archiving Definitions and Policies: Note that the journal's standard copyright agreement allows for **self-archiving** of different versions of the article under specific conditions.

BPS members and open access: if the corresponding author of an accepted article is a Graduate or Chartered member of the BPS, the Society will cover will cover 100% of the APC allowing the article to be published as open access and freely available.

7. PUBLICATION PROCESS AFTER ACCEPTANCE

Accepted Article Received in Production

When an accepted article is received by Wiley's production team, the corresponding author will receive an email asking them to login or register with **Wiley Author Services**. The author will be asked to sign a publication license at this point.

Proofs

Once the paper is typeset, the author will receive an email notification with full instructions on how to provide proof corrections.

Please note that the author is responsible for all statements made in their work, including changes made during the editorial process – authors should check proofs carefully. Note that proofs should be returned within 48 hours from receipt of first proof.

Early View

The journal offers rapid publication via Wiley's Early View service. **Early View** (Online Version of Record) articles are published on Wiley Online Library before inclusion in an issue. Before we can publish an article, we require a signed license (authors should login or register with **Wiley Author Services**). Once the article is published on Early View, no further changes to the article are possible. The Early View article is fully citable and carries an online publication date and DOI for citations.

8. POST PUBLICATION

Access and Sharing

When the article is published online:

- The author receives an email alert (if requested).
- The link to the published article can be shared through social media.
- The author will have free access to the paper (after accepting the Terms & Conditions of use, they can view the article).
- For non-open access articles, the corresponding author and co-authors can nominate up to ten colleagues to receive a publication alert and free online access to the article.

Promoting the Article

To find out how to best promote an article, click **here**.

Wiley Editing Services offers professional video, design, and writing services to create shareable video abstracts, infographics, conference posters, lay summaries, and research news stories for your research – so you can help your research get the attention it deserves.

Measuring the Impact of an Article

Wiley also helps authors measure the impact of their research through specialist partnerships with **Kudos** and **Altmetric**.

9. EDITORIAL OFFICE CONTACT DETAILS

For help with submissions, please contact the Editorial Assistant at **bjc@wiley.com**.