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ABSTRACTS

CRITICAL REVIEW OF THE LITERATURE

God is in my heart, not in my head. A meta-ethnography exploring themes of religious content in psychotic delusions and hallucinations: Implications for clinical practice

Purpose: Individuals with religious delusions present with higher levels of grandiosity, more severe hallucinations, poorer prognosis and functioning, longer illness duration, and increased medication use compared to others with psychosis. Given the complex nature of religious delusions, it is essential to contextually understand their content. This meta-ethnography explores (a) common themes of content in religious delusions across religions, (b) common narratives of the emergence and experience of religious delusions and (c) clinical implications for working with religious delusions.

Methods: A systematic search of papers which met inclusion criteria was carried out across four databases, supported by examining reference lists. Two appraisal tools (CASP and a Data Richness Scale) were used to appraise potentially relevant papers. A meta-ethnography was conducted of published qualitative papers between 2000-2022, whose focus was on adult populations' experiences of religious delusions in psychosis. The meta-ethnographic approach involved an iterative process of translating and synthesising themes within and across papers.

Results: Sixteen papers were included in the meta-ethnography. Synthesis indicated that themes complimented each other across source papers and review questions. Fifteen themes, 6 Overarching themes and a Line of Argument synthesis were formed.

Conclusions: Whilst this research is limited by its exploratory nature, it highlights common themes in religious delusions across religions and offers a possible framework for working with religious delusions in psychosis.

Keywords: *religious delusions, sense-making, psychosis, religion, meta-ethnography*

SERVICE IMPROVEMENT PROJECT

ME, MY CHILD, AND US: A group parenting intervention for parents with lived experience of psychosis.

Objectives. Many patients with psychosis have dependent children. Being a parent is an important part of their identity and role. However, the problems of psychosis can disrupt parent-child interactions which can negatively affect both parents and children. Despite this, there remains a lack of diagnosis-specific parenting interventions for parents with lived experience of psychosis. A digital eight-week mentalization-based parenting group (Me, My Child and Us) was piloted to evaluate its acceptability, feasibility, and impact on self-reported parenting satisfaction, parental relationship, and overall wellbeing.

Design and Methods. The study used a within-participant non-controlled pre-post design using mixed quantitative and qualitative methodology. Thirteen parents with dependent children were recruited and two eight-week groups were run. Eleven parents completed the intervention and pre- and post- group measures and provided qualitative feedback on their experience of the intervention.

Results. There was an average of 75% attendance, with parents reporting high satisfaction with the content and structure of the group. Scores on pre- and post-group measures suggest positive improvements in parental wellbeing, parental relationship, parenting stress levels, parenting satisfaction, and efficacy and mentalizing capacity.

Conclusion. The Me, My Child and Us parenting group is feasible to deliver and acceptable for parents with lived experience of psychosis. The self-reported improvements support local implementation and the need for a controlled evaluation of the intervention.

Keywords: *psychosis, parents, parenting, mentalization, group therapy*

THEORY DRIVEN RESEARCH PROJECT

Brief Imagery-Based Metacognitive Intervention for Flashforwards in Psychosis: A fixed baseline case series

Background and objectives*:* Distressing mental images are common experiences in people with psychosis. Imagery based interventions have been found to be effective in directly targeting properties of distressing mental images. Given the central role of metacognitive deficits in psychosis, it appears that metacognitive techniques with imagery properties could play a central role in managing distressing mental imagery. A brief imagery-based metacognitive intervention was developed to target the control mechanism of distressing mental images in people with persecutory delusions. A fixed baseline case series was designed to investigate whether the protocol was feasible, acceptable, and evaluate preliminary signs of effectiveness effective.

Methods: Eight participants who met criteria for a schizophrenia spectrum diagnosis who experienced distressing non-trauma related mental images completed a brief metacognitive intervention which consisted of three phases; a baseline phase which comprised of an assessment, Psychoeducation and Microformulation, an intervention phase which included learning, developing and consolidating metacognitive techniques targeting the control mechanism of mental images and a follow up phase which included gathering qualitative feedback about the intervention. Characteristics of the image were assessed throughout the intervention. Symptoms of anxiety, depression, persecutory delusions, and schemas were assessed pre- and post- intervention.

Results: The metacognitive intervention was feasible, acceptable, and rated as highly satisfactory, successful, and useful. One participant dropped out at the baseline phase. No adverse events were reported throughout the intervention. Reliable change was reported for anxiety, depression, persecutory delusions, and schemas. Tau-U analysis showed positive

trends and high effect sizes when comparing characteristics of distressing mental images at baseline compared to intervention and follow up.

Conclusion: Participants described positive symptomatic changes following the intervention and high satisfaction levels with their experience of engaging with the intervention. Our present findings suggest that it is feasible and acceptable to engage people with persecutory delusions in brief imagery based metacognitive interventions and that positive change can be achieved. However, the study is limited by an absence of a control group and rater-blinding so future studies are needed to replicate and clarify this finding.

Keywords: *Mental images, flash-forwards, persecutory delusions, metacognitive intervention***,** *novel intervention*

CRITICAL REVIEW OF THE LITERATURE

God is in my heart, not in my head. A meta-ethnography exploring themes of religious content in psychotic delusions and hallucinations: Implications for clinical practice

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God is in my heart, not in my head. A meta-ethnography exploring themes of religious content in psychotic delusions and hallucinations: Implications for clinical practice

Abstract

Purpose: Individuals with religious delusions present with higher levels of grandiosity, more severe hallucinations, poorer prognosis and functioning, longer illness duration, and increased medication use compared to others with psychosis. Given the complex nature of religious delusions, it is essential to contextually understand their content. This meta-ethnography explores (a) common themes of content in religious delusions across religions, (b) common narratives of the emergence and experience of religious delusions and (c) clinical implications for working with religious delusions.

Methods: A systematic search of papers which met inclusion criteria was carried out across four databases, supported by examining reference lists. Two appraisal tools (CASP and The Data Richness Scale) were used to appraise potentially relevant papers. A meta-ethnography was conducted of published qualitative papers between January 2000 to April 2023, whose focus was on adult populations' experiences of religious delusions in psychosis. The meta-ethnographic approach involved an iterative process of translating and synthesising themes within and across source papers and review questions.

Results: Sixteen papers were included in the meta-ethnography. Synthesis indicated that themes complimented each other across source papers and review questions. Fifteen themes, six overarching themes, and a Line of Argument synthesis were formed.

Conclusions: Whilst this research is limited by its exploratory nature, it highlights common themes in religious delusions across religions and offers a possible framework for working with religious delusions in psychosis.

Keywords: *religious delusions, sense-making, psychosis, religion, meta-ethnography*

1. INTRODUCTION

The study of religious and spiritual experiences is an important field in clinical psychology. Many aspects of religious experiences are similar in form and content to symptoms of psychosis (Eeles & Wellman, 2003). However, there are no clear clinical guidelines on differentiating them (Bhargav, Jagannathan, Raghuram et al., 2015).

Psychosis is a complex collection of phenomena understood as a cluster of positive, negative, and cognitive experiences ranging from healthy to clinically psychotic symptoms. Several psychotic symptoms, such as delusions and hallucinations, are recognised as multidimensional and culturally contextualised in meaning (Luhrmann, 2017; Peters, 2001; Garety & Hemsley, 1994; Saveedra, 2014).

The *Diagnostic and Statistical Manual of Mental Disorders* (5th ed.; DSM–5; American Psychiatric Association, 2013) define delusions as "fixed beliefs that are not amenable to change in light of conflicting evidence". Contrarily, religious beliefs (RB) are spiritual and abstract beliefs held with insight (Sims, 2009). RBs are framed within religious ideologies and shared with a group of individuals. Individuals with RBs acknowledge that their beliefs are not universally held (Sims, 2007). Delusions, hallucinations, and grandiose ideas associated with religious content are collectively termed religious delusions (RD; Grover et al., 2014). Delusions with religious content are often accompanied by hallucinations of religious nature, thus both are often studied together, under the umbrella label 'Religious Delusions' (Krzystanek et al., 2012; Rudalevičienė et al., 2008). These beliefs are idiosyncratic and held with high conviction yet lack flexibility and objective evidence. RDs are not accepted within an individual's subculture (Iyassu et al., 2014; Siddle et al., 2002). Experiences of RDs negatively interfere with, rather than enrich lifestyles and goals (Siddle et al., 2009).

It can be hard to differentiate non-clinical overvalued ideas, such as RBs from RDs, mainly as RDs tend to be shaped by dynamic interplays between personal, interpersonal, and sociocultural (e.g., cultural and religious) processes (McLean et al., 2017; Ritunnano et al., 2022).

Studies show that the type, themes, and content of RDs are heterogeneous and culturally pathoplastic, i.e., influenced by local expectations and meaning (Laroi et al., 2014; Fleming et al., 2023). Several studies have found that individuals with psychosis report religion and religious activities as beneficial to their mental health and recovery (Yamada et al., 2020; Panzini et al., 2017). Religion and associated RBs can provide a framework for finding meaning in the face of adverse events or unusual experiences (Huguelet et al., 2006; Taves & Asprem, 2017). There is, however, a complex and bidirectional relationship between RBs and RDs (Cook & Cullinan, 2022). RBs can influence coping and/or symptom formation (Noort et al., 2020; Cook & Cullinan, 2022). RDs may be held within existing religiously informed meaning-making frameworks, which may explain why RDs are held with more conviction than non-religious delusions.

Cognitive models of psychosis (Garety et al., 2001; Freeman et al., 2002; Morrison, 2004) suggest that symptoms are maintained by an interplay between various factors such as peoples' beliefs and interpretations about themselves and their experiences, persisting anomalous experiences, reasoning biases, maladaptive affective processes, and poor adjustment to illness (Byrne et al., 2003; Berry et al., 2007; Upthegove et al., 2016). Given their phenomenological nature, "RDs can be plausibly linked to increased difficulty in all these areas"(Iyassu et al., 2014, p. 2).

Furthermore, Stompe et al. (2006) suggest that cultural perspectives influence up to 30% of the expression of psychosis. Cultural belief systems and explanatory models may construct interpretations of sensory, emotional, and behavioural experiences. Cook (2015)

estimates that 20–60% of patients with psychosis experience RDs. Cross-cultural studies have found that prevalence rates for inpatients with RDs vary from 6% in Pakistan to 36% in North America (as cited in Mohr et al., 2010). Uniformly, religious content is the most common content in grandiose delusions across cultures (Ndetei & Vandher, 1984; Suhail & Ghauri, 2009).). For example, Smith et al. (2005) found that 55% of grandiose delusions had religious content. These studies draw attention to the influence of religion on the content and interpretation of delusional experiences.

People with RDs consistently present with more severe symptoms of psychosis, e.g., higher levels of grandiosity, more severe hallucinations, poorer prognosis, longer illness duration, and increased medication use (Siddle et al., 2002; Iyassu et al., 2014; Mohr et al., 2011; Moss et al., 2006; Huguelet et al., 2007; Bhavsar & Bhugra, 2008; Maselko et al., 2008). Poorer therapeutic alliances (Mohr et al., 2010) and lower degrees of therapy satisfaction (Huang et al., 2011) have also been reported in this client group, highlighting the complexity of effectively treating people with RDs.

Though advances have been made in treating psychotic delusions, the efficacy and prognosis for treating RDs remain poor (Bhavsar & Bhugra, 2008; Riunnano et al., 2022). A richer understanding of the content and narrative interpretations of RDs could serve as a first step in contextually understanding and exploring clinical concepts that are difficult to measure quantitatively. This information can then be used to inform better clinical practice.

Given the pathoplasticity of RDs, there will undoubtedly be an extraordinary breadth of content in RDs. Categorising such content into themes would preserve RDs' meaning while identifying common characteristics to better understand their emergence and maintenance. To date, no qualitative synthesis has explored themes of RDs in psychosis.

1.1 AIMS (Getting Started)

The present review aimed to identify common themes in RDs to better inform clinical practice. It considered the following questions:

(1) What are common themes of religious content in delusions across religions?

(2) What are common narratives of the emergence and experience of RDs?

(3) What are the clinical implications of working with RDs?

As the review aimed to offer an overarching identification of phenomenological themes of RDs in psychosis, it was deemed that the review questions would be explored using meta-ethnography (see Table 1) as outlined by Noblit and Hare (1988).

2. METHODS

The meta-ethnography review followed the eMERGE meta-ethnography reporting guidance (France et al., 2019), as outlined in Table 1.

Table 1

Summary of the seven-stage process of meta-ethnography (Noblit & Hare, 1988 as outlined in eMERGE, 2019)

Phases	Description
1. Getting Started	• Aims of meta-ethnography • Identifying review questions • Rationale for using meta-ethnography.
2. Deciding what is relevant to the initial interest	• Developing a search strategy • Selecting and presenting source papers • Quality appraisal
3. Reading included papers	• Repeated reading of source papers • Presenting characteristics of included studies • Data extraction: nothing interpretive themes and constructs
4. Determining how studies are related	• Exploring how studies are related;

	identifying and understanding how key themes, metaphors, constructs, phrases, ideas, or concepts are used in studies and juxtaposing them.
5. Translating studies into one another	• Compare and translate how meaning and relationships between concepts of studies were translated from one study to another.
6. Synthesizing translations	• Synthesis of the themes and interactions and line of argument synthesis.
7. Expressing the synthesis	• Summarizing the findings and presenting recommendations.

2.1 DECIDING WHAT IS RELEVANT TO THE INITIAL INTEREST

2.1.1 Search strategy and process

To identify the parameter of the synthesis, four databases (PsychINFO, Web of Science, PubMed, and SCOPUS) were searched for qualitative literature on patients with psychosis with experiences of RDs, using the Boolean terms [Delusion* OR Hallucination* OR Psychosis] AND [Religi*] AND [Qualitative*]. The selection of terms followed predetermined inclusion and exclusion criteria (see Table 2).

Table 2

Inclusion and exclusion criteria

Inclusion	Exclusion
Adult participants aged 18 or over	Papers including child or adolescent participants
Studies in English	Studies written in languages other than English
Papers focusing on experiences of delusional beliefs with religious content	The studies do not identify qualitative themes appropriate for synthesis.
Papers using qualitative methods of data analysis	Papers using quantitative designs or mixed quantitative and qualitative designs (Sattar et al., 2021).
Peer-reviewed qualitative papers (not limited to	Reviews, commentaries, editorials, dissertations,

ethnographies) Studies were only included if interviewee's experiences of religious delusions were reflected in the analysis.	theses, and non-peer-reviewed journal articles.

All papers included adult participants, were peer-reviewed, and published in English between January 2000 to April 2023. Reference lists of included papers were examined to identify further relevant papers. The PRISMA diagram, as seen in Figure 1, summarises the results of the systematic search.

The database search initially produced 500 abstracts. Sixty-nine additional papers were identified through reference lists. Duplicates were removed, and 528 abstracts remained. The search was re-run in April 2023, and 527 abstracts were identified. However, none of the new abstracts met the inclusion criteria.

The first author screened all titles and abstracts, and the second screened 20% of the total. Five hundred and fifty-three papers were excluded based on exclusion criteria. A Cohen's kappa coefficient of $\kappa = .86$ was achieved between raters.

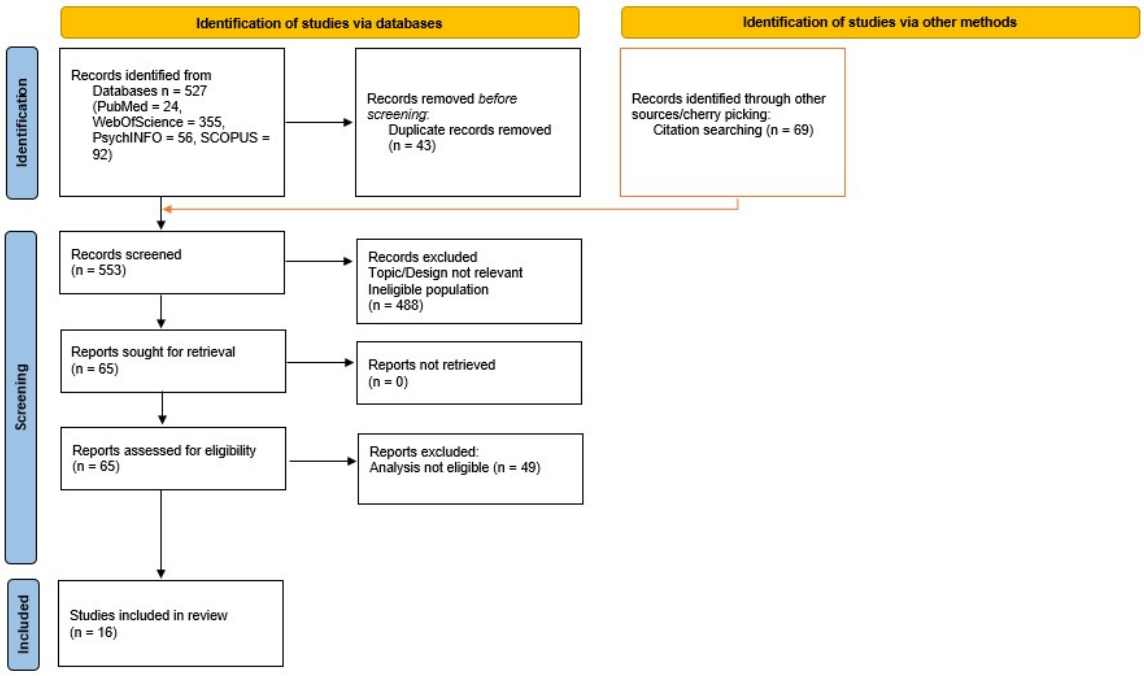


Figure 1. PRISMA diagram summarising the results of the systematic search.

2.1.2 Selecting the source papers

Sixty-five papers met the inclusion criteria and passed the initial screening questions. Authors reviewed all full texts. Forty-nine articles were excluded as their analysis was deemed non-eligible, resulting in 16 papers being included in the qualitative analysis. A Cohen's kappa coefficient of $\kappa = .91$ was achieved. Table 3 summarises the included studies' characteristics.

Table 3

Study characteristics of source papers to be synthesised

No.	Author, year, and country of publication	Sample *N (gender)*	Objective of the study	Methodology and Analysis	**CASP Rating**	**Data Richness Scale Rating**
1	Wiebe, (2004), Canada	3 participants (Range = unknown, Median = unknown all adults) 1F & 2M	To examine the feasibility of the claim that perceptual experiences might lie on a continuum.	Interview study. Content analysis	14	5
2	Drinnan & Lavender (2006), UK	7 participants (Range = 30-53 Median = unknown) 1F & 6M	To explore what factors influence the development of religious delusions.	Interview study. Open coding & Axial coding	16	3.5
3	Handevik, Hestad, Lien, Teglbjaerg, & Danbolt (2013), Norway	5 participants (Range = unknown Median = unknown - all adults) 5F	To describe the course of an art therapy group for five women suffering from a psychotic disorder and their statements of the usefulness of the therapy.	A multiple case study. Systemic text condensation analysis.	19	3
4	Hustift, Hestad, Lien, Moller, & Danbolt (2013), Norway.	6 participants (Range = 18-68, Median = unknown mean age 35) 4F & 2M	To understand how spirituality was experienced to be significant when coping with schizophrenia.	Interview study. Systematic text condensation and hermeneutic circle analysis.	18	5
5	De, Dhatia, Thomas, Chakraborty,	1952 records (unknown ages – all	To determine the frequency, criteria for classification, and other clinical aspects of bizarre delusions and justify their	Interview study. Coding	14	3

	Prasad, Nagpal, Nimgaonkar, &Deshpande (2013), India	adults) Genders unknown	importance in the diagnostic system.			
6	Saavedra (2014), Spain	1 participant (Range = unknown Median = unknown, adult) 1M	To analyse religious delusions complexes in situ during a narrative interview with a person with paranoid schizophrenia.	Narrative interviews. Positioning analysis	17	5
7	Ouwehand, Wong, Boeije, & Braam, (2014), Netherlands	10 participants (Range = unknown Median = unknown average age 45.2) 6F & 4M	To explore the interpretation of religious and spiritual experiences during mania, depression, and recovery from the perspective of bipolar clients.	Interview study. Content analysis	19	5
8	Luhrmann, Padmavati, Tharoor & Osei, (2014), USA, India & Ghana	20 participants (Range = Median = average age 39) 31F & 29M	To explore voice-hearing experience among persons who meet inclusion criteria for schizophrenia in USA, India, and Ghana.	Interview study. Content analysis	15	5
9	Ouwehand, Murhert, Zock, Boeije,& Braam, (2018), Netherlands	35 participants (Range = 23-69years Median = average, 45.6) 17F & 18M	To explore religious and spiritual experiences during mania and periods of stability of bipolar patients.	Interview study. IPA Analysis	19	5

10	Ouwehand, Zock, Muthert, Boeije, & Braam,(2019), Netherlands	34 participants (Range = 23-69, Median = average, 44) 16F & 18M	To explore how patients with Bipolar Disorder interpret religious experiences, how these change over time and their expectations of treatment.	Interviews and written testimonials. IPA Analysis	18	5
11	Marriot, Thompson, Cockshutt, & Rowse (2019), UK	8 participants (Range = 24-75 Median = unknown) 4F & 4M	To explore the validity of the narrative insight construct within a group of people who have experienced psychosis.	Interview study. IPA Analysis	20	4
12	Lewis, -Sanderson, Gupta, & Klein (2020), UK	5 participants (Range = 20-52 years Median = 24) 2F & 3M	To explore the role of spirituality in the sense-making process of hearing voices	Interview study. IPA analysis	18	5
13	Gunn & Larkin (2020), UK	4 participants (Range = unknown Median = unknown all adults) 3F & 1M	Explores the impact of severe disruptions in affective experiences arising from a person-environment system in the formation of delusions.	Interview study. IPA Analysis	16	4
14	Ouwehand, Zock, & Muthert, (2020), Netherlands	1 participant (Range = known Median = unknown, adult) 1M	Explores psychological dimensions of voice interpretation from the perspective of Hubert Herman's dialogical self-theory.	Interview study. Herman's DST analysis	16	5
15	Jones, Read, & Wood (2021), UK	160 participants (Range = unknown Median =	To explore the thematic content of psychotic phenomena in a sample of clients with a first episode of psychosis.	Qualitative data were obtained from electronic medical records. Thematic Analysis	18	3

		unknown mean age 23.07) 80F & 80M				
16	Pietkiewics, Klosinska, & Tomalski (2021), Poland	4 participants (Range = 21-30 years Median = unknown) 2F & 2M	To explore how patients with schizophrenia concluded that they were possessed and how this affected help-seeking.	Interview study. IPA Analysis	18	4

Note. F=Female, M=Male, IPA=Interpretative phenomenological analysis, DST=Dialogical Self Theory.

2.1.3 Critical appraisal

The Data Richness Scale (Ames et al., 2019) was used to sample data thickness. This scale ranges from 0 (very little qualitative data presented) to 5 (a large amount and depth of qualitative data). The Critical Appraisal Skills Programme (CASP, 2018) Qualitative Studies Checklist was then used to assess the strength and limitations of the studies' methodologies and findings.

2.3 READING INCLUDED PAPERS

2.3.1 Synthesis using meta-ethnography

Meta-ethnography is an interpretative method that systematically draws together a body of qualitative research. It focuses on translating qualitative studies into one another with a final objective of developing new conceptual insights. An iterative process was followed to derive at such translations (Atkins et al., 2008), see Figure 2.

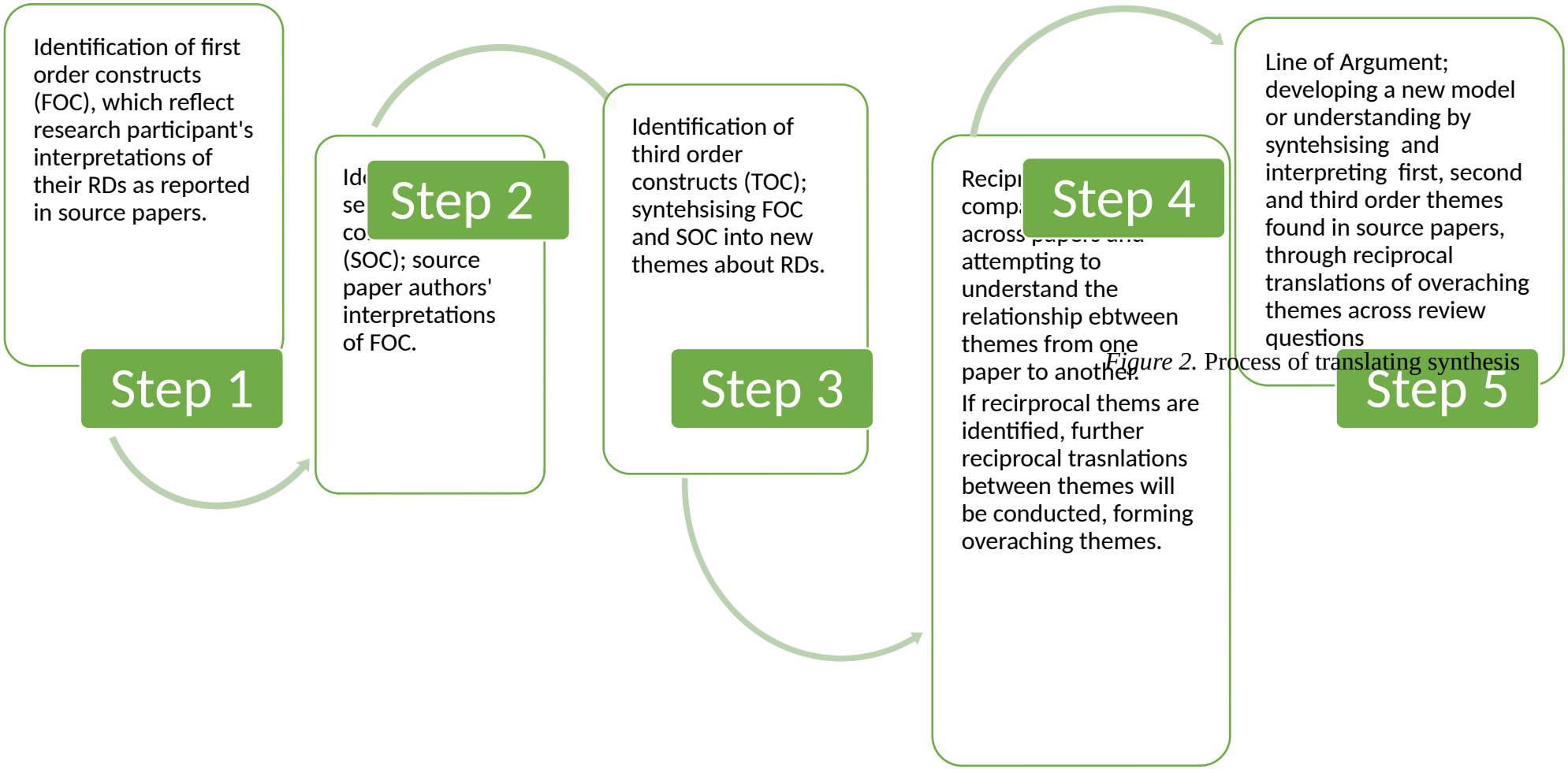


Figure 2. Process of translating synthesis

2.3.2 Reflexivity

A critical realist perspective was adopted throughout this review. This approach acknowledges that individuals make sense of their experiences and reality differently (Bhaskar, 1989). It was recognised that the reviewers' sociocultural position and personal conceptions will have shaped the meta-ethnographic process (Smith, 2015).

The lead author is a Swedish- second-generation Tamil- Hindu- female- living in the UK, completing doctoral training in Clinical Psychology. Given her relationship with religion, voluntary and clinical interest in working with people with psychosis, she had a long-standing interest in understanding the relationship between religion and psychosis. It was acknowledged that these interests and experiences allowed her to be open to religious experiences being helpful and/or unhelpful at varying times for different people. The second author had been christened Catholic but was non-practising. The remaining authors were raised in Church of England households, although both identified as agnostic. Regular discussions within the research team allowed for the identification of personal and professional sources of resonance and potential biases in interpreting and translating the data.

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discussions within the research team allowed for the identification of personal and professional sources of resonance and potential biases in interpreting and translating the data.

2.4 DETERMINING HOW STUDIES ARE RELATED

The first author read all source papers multiple times and drew conceptual maps for each source paper. Key concepts and themes across all source papers were identified. These conceptual maps were discussed and reviewed with the remaining authors. The number of themes identified per source paper varied depending on the number of participants involved and the methodology applied. Particular papers were referenced as index papers. Index papers were deemed conceptually rich with the potential to make significant contributions to the synthesis. Nonetheless, it was noted that similar themes appeared across papers, and no disconfirming themes were identified. This formed the basis for the reciprocal translation described below.

2.5 TRANSLATING STUDIES INTO ONE ANOTHER

Source papers were ordered chronologically. This method of ordering was chosen as a number of the papers were written by the same authors and because the source papers were published across twenty years with significant shifts in the overall understanding of psychosis and delusions.

A grid was developed to identify and differentiate first order constructs (FOC) from second order constructs (SOC). Metaphors and concepts identified per source paper were compared with remaining source papers. For each paper, we examined in detail the content of delusions, narratives of meaning-making of RDs, and clinical implications identified by FOC and SOC. As we combined and compared the source papers, broad grouping of themes started

to emerge, forming third order constructs (TOC). No new categories were formed, although several subthemes were discovered. Overall, SOC neatly translated into one another.

2.6 SYNTHESISING TRANSLATIONS

FOC, SOC and TOC across papers per and across review questions complimented each other, which guided us to conduct reciprocal translations (see Table 4). Six reciprocal translations, one per review question (1x3) and three across review questions were conducted.

These translations were drawn together to form a Line of Argument (LoA) synthesis. LoA synthesis in meta-ethnography refers to an overarching argument summarising datasets to offer a fuller account of phenomena derived from metaphors from primary studies (Noblit & Hare, 1988).

3. FINDINGS

3.1 CRITICAL APPRAISAL

Papers were deemed ‘good to very good quality’ overall. All studies scored between three (a reasonable amount of qualitative data) and five (a large among and depth of qualitative data) on The Data Richness Scale. Additionally, all papers scored between 14-20 out of a total score of 20 on the CASP checklist. CASP scores indicated ‘good to very good’ ratings. Thirty percent of the papers were inter-rater against the CASP checklist by two authors, and a kappa coefficient of $\kappa = 0.90$ was achieved. See critical appraisal scores in Table 3. No papers were excluded based on the critical appraisal scores, however relative weaknesses were identified and considered in relation to conclusions drawn.

3.2 EXPRESSING THE SYNTHESIS

3.2.1 Synthesis of review question one: What are common themes of religious content in delusions across religions?

Table 4 provides an overview of the synthesis of themes of contents of RDs across religions. The table shows TOC as themes and subthemes translated by SOC identified across source papers. Six themes (TOC) were identified with three-six subthemes each. Themes encompassed multidimensional experiences of delusions, including identity, sensory modality, power, relationship, and affective experiences, as well as metacognitive interpretations of experiences of RDs.

Theme 1: Identification

Fourteen studies recognised Identification in RDs. This theme encompasses the idea of attributing religious significance to oneself either by: (1) assigning oneself a religious role or identity or (2) believing that one has a special relationship with a religious figure, entity, or symbol (e.g., being God's daughter). Four subthemes of Identification were observed: *God, Identity, Angels, and Spirits* (see Table 4).

God defined beliefs where one identified themselves as God or as having a special relationship with God. *Identity* described beliefs where individuals believed they were any other religious or spiritual figure except God. *Angels* referred to content of RDs directly referring to Angels, including seeing, feeling, communicating, or identifying as Angels. *Spirits* refer to ideas about having special relationships with spirits (e.g., hearing, sensing, and communicating with spirits).

Theme two: Being Possessed

Eight studies reported delusional characteristics of 'Being Possessed.' This theme was comprised of delusional content centred on feeling the presence of being controlled or

influenced by an entity or spirit. This RD was multimodal and was reported to be experienced physically, emotionally, and cognitively. Six subthemes were noted, each representing different constructs of 'possession' within religious contexts: *The Devil, Satan, Demons, Spirits, Evil* and *Black Magic* (see Table 4). There were differences in expressions of these RDs between religions. Similar entities were repeatedly reported among particular religious groups, e.g., *The Devil, Satan,* and *Demons* in Christian populations, *Spirits* and *Evil* in Muslim populations and *Spirits* and *Black Magic* in Hindu populations. However, the predominant belief that one is possessed unified this overarching theme across religions.

Theme three: Being Gifted

Individuals believed they were gifted because they experienced signs and revelations from God. The content of these RDs was predominantly visual- and auditory hallucinations. Three subthemes were identified: *Mission/Vocation, Spiritual Gifts, and Powers*. *Mission/Vocation* referred to contents related to having an important mission or vocation in the world, i.e., a mission to pursue some form of justice, such as saving a religious figure. S*piritual Gifts* related to beliefs about one having special spiritual skills, gifts, or experiences. Similar experiences have been reported to be common and favourable in several religious communities. The difference here is the phenomenological nature and impact of these RDs. In this population, individuals experience alterations in their perception of time and space and a lack of control over the event. Finally, *Powers* refer to experiences where participants believe they have special, supernatural, supreme, or magical powers.

Theme four: Spirituality

These RDs refer to the desire of wanting to understand existence, particularly suffering. Four subthemes were identified, *Sin, Divine, Altered Awareness* and *Belonging* (see

Table 4 for SOC). *Sin* was understood as an immoral act, transgressing from a religion's virtuous way of living. Participants believed they had sinned, that they were unable to be freed or that they were being punished for their sins.

The second subtheme was *Divine*. Ouwehand et al. (2018) described the presence of a Divine as "an intense presence of God, Jesus, the Holy Spirit of a supernatural Light. This was described by some participants as a sense of presence, by others as an apparition or a divine voice speaking to them" (2018, p. 38). Akin to the experience of divine presence, other authors also gave examples of participants reporting feeling something divine within themselves, feeling a somatic healing energy in their body, experiencing the ascending of one's soul, hearing an apparition of a divine voice speaking, and an emotional sense of unity or connection to a divine or transcendental reality.

Altered Awareness involved RDs where individuals perceive changes in their external and internal worlds. Individuals saw things differently, discovered new realities, or discovered relationships between previously unobserved things. Situations, thoughts, sensations, emotions, and actions were perceived as happening automatically and being out of one's control.

The final subtheme was *Belonging*. Interpretations of these metaphors pertain to RDs outlining a theme of seeking a sense of belonging. Lewis et al. (2020) found that a search for belonging occurred to counteract isolation. "This sense of belonging was sometimes provided by the voice" (p. 53). Studies delineated metaphors such as 'need for connection, feeling valued and a search for the sacred'.

Theme five: Meaning-Making

This theme describes RDs representing evaluations, meaning and ideas versus 'making sense of RDs' (second review question). Three subthemes were identified, *Negotiation, Justice and Magical Thinking* (see Table 4).

Negotiation describes the assimilation of three processes: "social context and triggers for psychological difficulties, personal-identity development and religious-identity development" (Drinnan & Lavender, 2006). The fundamental element in these RDs referred to negotiating one's identity from one's experiences. The second subtheme was *Justice*. Gunn & Larkin's (2020) study described several examples where participants experienced a sense of injustice in life circumstances mirrored in their RDs. For example, they describe their interpretations of one participant's experiences; "This might help to restore his previously held ideas about the world being just. If there is no justice or fairness in the workplace, there is justice through God. Andrew, as God's messenger, could commit to participating in making sure that justice was done by "doing all that is necessary" (p. 156).

Caution must be exercised, particularly with the subtheme, *Magical Thinking*. Most source authors reported magical thinking ideas to be marginally acceptable in participants' faith communities; the ideas reported by participants were often consistent with widespread religious phenomena. Though, here, magical thinking experiences 'push the limits' of what may be culturally acceptable at the present time and are not shared or accepted by their subculture.

Theme six: Emotional experiences

Here, individuals described feeling exceptional affective experiences. Three subthemes were identified, *Positive Emotions*, such as feeling 'euphoric, total happiness, perfect peace, exceptional beauty and enormous freedom.' *Negative Emotions*, where individuals felt intense guilt or fear, a sense of feeling punished or being a failure, and

Physical Sensations which referred to intense physical sensations, e.g., having out-of-body experiences, experiencing involuntary movements of the limbs, and believing one was having a sexual relationship with supernatural beings. De et al. (2013) found that a group of their participants had strong false beliefs suggestive of sexual relationships with supernatural beings. They reported, “Subjects described their experiences as “semen is inserted inside my body, and I will be killed in 2 days” (a male patient); “if I marry, (my) penis will bleed, and I might die of that”, “Goddess Durga is my wife” (p. 270).

These emotional experiences may occur in acceptable ways. However, when it occurs uncontrollably, they can cause distress by confusing the differentiation between subjective internal experiences and experiences of physical reality (see Table 4).

3.2.2 Synthesis of review question two: What are common narratives of the emergence and experience of RD?

Themes identified below pertain to the synthesis of SOC exploring the understanding of participants’ narratives of the emergence and experience of RDs. Five TOC were formed, each with respective subthemes.

Theme one: Positive Internalized Identity (PII)

Eleven papers reported participants attributing positive narratives about the Self, to explain the development and maintenance of their RDs. This theme was informed by four subthemes: *New Identities, Externalize Sources Positively to Religious Attributions or Spiritual Frameworks, Internalized Experiences* and *Parental Relationship with God*. *New Identities* are related to participants forming new positive identities based on ideas that they had special relationships, connections and experiences with religious figures and entities. *Externalize Sources Positively to Religious Attributions or Spiritual Frameworks*, related to participants positively externalising their experiences onto external sources, often attributed

to God, mystical factors, or spiritual forces. For example, Ouwehand et al. (2019) reported, “In their eyes, their illness was predestined by God or a higher power or was a result of Karma” (p. 445).

Internalised experiences related to making sense of experiences based on internal positive experiences such as possessing an inner spiritual force or divine token, being spiritually gifted or having spiritual experiences. The final subtheme, *Parental Relationship with God*, related to beliefs about one’s relationship with God. Drinnan and Lavender (2006) stated, “Participants also described a relationship with God that seemed parental, in that it offered protection and guidance. This may also relate to the reported lack of parental availability in childhood, with individuals seeking an alternative way to have some of their attachment and security needs met” (p. 326).

Theme two: Negative Externalized Identity (NEI)

NEI encapsulated experiences where participants attributed their experience of RDs to external sources, which they had negative perceptions about (see Table 4). Participants had a negative relationship with their RDs; the threat agent in their delusion was usually a malevolent characteristic/entity. Two subthemes were identified *Being Governed by Evil Forces* and *Symptoms as Consequences* of *Mystical Factors*. For the former subtheme, Hustoft et al. (2013) suggested that some participants marked spiritual experiences negatively, e.g., some participants were left with a ‘sense of being a victim of dark forces’ or ‘being haunted by evil forces’ (p. 141).

As an example of the latter subtheme, Pietkiewicz et al. (2021) reported, “Because of his voices and tactile symptoms persisted despite pharmacotherapy, he also refused to accept the medical diagnosis of schizophrenia, deciding instead that his problems could only be

explained in terms of demonic possession. He believed that spirits could produce symptoms resembling mental illness and could also mess with his mind" (p. 6).

Theme three: Sociocultural Constructions

Sociocultural narratives emerged as a prominent theme in influencing individuals' meaning-making process. Individuals made sense of their RDs based on common sociocultural beliefs, stories, and identities, influenced by pre-existing cultural knowledge and parents' interpretations of experiences. Five subthemes were identified: *Familial Interpretations, Local Culture Influences, Self-informed Reflections, Jumping to Conclusions* and *Multicausal Explanations*.

Source authors suggested that *Familial Interpretations* and narratives of RDs influenced participants' interpretations of their RDs. The narrative framework adopted by an individual was likely influenced by how the family made sense of the RDs and how they responded to them.

Local Culture Influences are related to narratives influenced by pre-existing cultural knowledge of religious ideas, stories, and entities. They relate to narratives influenced by pre-existing cultural knowledge of religious ideas, stories, and entities and local communities' interpretations of individuals' experiences. One participant remarked, "A manic episode, I've come to view it differently… We call it bipolar disorder. In other cultures, they refer it as being spiritually gifted' (Ouwehand et al., 2019, p. 447).

Self-Informed Reflection refers to participants making sense of their experiences of RDs based on self-reflection. For example, Lewis et al. (2018) reported, "When a preferred self is challenged, an individual must either reassemble their view of the self or work out how the phenomenological experience best fits. Identities of those experiencing distress often result in re-formulation within a context of mental illness" (p. 58).

Jumping to conclusions depicted the absence of data-gathering. Hustoft et al. (2013) posited that "one of the reasons for jumping to conclusions might be a lack of knowledge and no help from a religious community, and a lack of understanding of their psychosis. It seems the patients are left to interpret their hallucinatory experiences in solitude and create new spiritual/delusional belief systems" (p.141).

The final theme, *Multicausal Explanations*, encompassed findings suggesting that some participants could hold multicausal explanations to their RDs, such as religious, biological, other social frameworks, psychological and medical models.

Theme four: Religious Constructions

Religious Constructions depicted common narratives within religious groups of similar experiences, e.g., speaking to God or perceiving signs and revelations, which typically are observed, sometimes even favoured, in some faith groups. These views are religiously reinforced, often attempting to put the responsibility of misfortune or suffering on religiously acceptable external forces. Overall, eleven studies portrayed the influence of emic religious perspectives on individuals' narrative constructions of their RDs.

Four subthemes were identified, which reflected religious interpretations of religious content across different religions identified in source papers: *Hinduism, Christianity, New Spirituality,* and *Islam.* Variation in content and meaning was observed, reflecting differences between religious narratives. For example, in studies with Hindu populations, narratives were framed within contexts of Spiritual Gifts, Karma, and Relationships with Religious Figures. In Christian populations, narratives involved God, Satan, Guilt, Punishment and Sins; in New Spirituality, narratives involved Transcendence and Energies. In Muslim populations, narratives complemented Jinns and Evil spirits.

Theme five: Psychological Interpretations

This theme described various psychological interpretations individuals adopted to make sense of their RDs. Five subthemes were uncovered, all reflecting various psychological theories, ideas, or frameworks to explain anomalous experiences: *Early Experiences, Reasoning Biases, The Enactment Approach, Positions Theory and Haptic Perceptions*. *Early experiences* refer to conceptualisations of how early experiences influence content and maintenance of RDs. *Reasoning biases* highlighted the role of cognitive biases in individuals' narrative constructions of their RDs. *The Enactive Approach* (Gunn & Larkin, 2020) suggests that several factors are intermeshed to create a person-environment system, where the mind, physical body and the world are all viewed as one entity. *Positioning Theory* (McVee et al., 2014) posits that people take up a particular position in the world and see the world from that vantage point. Finally, *Haptic Perceptions* constitute a psychological hypothesis that sensations, perceptions, hallucinations, dreams, and thoughts exist on a continuum and only vary in degrees of vivacity, coherence, voluntariness, creativeness, concreteness, and verticality (Wiebe, 2004).

3.2.3 Synthesis of review question three: What are the clinical implications of working with RDs?

This review question explored clinical implications suggested by source authors for working with RDs. A pertinent pattern across all studies was the recognition of disparity in clinical attention and interventions offered to patients with RDs. Four themes were identified, and none endorsed sub-themes (see Table 4).

Theme one: Psychoeducation

This theme focused on the importance of psychoeducation for individuals experiencing RDs. Source authors zoomed in on the importance of delivering psychoeducation which focuses on main aims: (1) understanding and differentiating RBs from RDs and (2) developing and comprehending idiosyncratic maintenance cycles of delusions. This theme considers elements of psychoeducational interventions, such as understanding biopsychosocial factors that frame the psychosis continuum to help evaluate whether the religious experience a person has is healthy and acceptable in their subcultural context or delusional (see Table 4).

Theme two: Shared narratives

This was the most common theme across all studies (see Table 4). Source authors highlighted the importance of clinicians and patients having a shared narrative of patients' experiences. Source authors identified the need for clinicians to non-judgmentally assess the content and characteristics of patients' RDs, their relationship with their RDs, their narratives, and any alternative narratives they have about their experiences. This theme was also informed by source authors suggestion that clinicians should support patients in respectfully exploring alternative explanations for the emergence of RDs.

Theme three: Clinicians' Recognition of Religion and Spirituality

Source authors emphasised clinicians' importance in recognising religion and spirituality (see Table 4) in clinical contexts. Source authors identified that clinicians' attitudes towards religion may be erroneous, influencing language, communication, openness, level of collaboration, trust and decision-making, which consequently would dictate what intervention was offered to patients. This theme encompasses the importance of clinicians

respecting religious views and including culturally acceptable ideas in therapy rather than pathologizing them.

Theme four: Psychological Interventions

This final theme summarises psychological skills and interventions recommended by source authors for working with RDs across religions. A range of verbal to practical skills ad interventions were identified. See Table 4 for a comprehensive list of recommendations.

Table 4

Common themes identified per review question – Showing third order constructs as themes and subthemes translated by second order constructs

Review Question 1: Common themes of religious content in delusions across religions		
Concepts (Third-order constructs)	Second Order Constructs	Papers *(Numbers in bold indicate index papers)*
Identification		1, **2, 4,** 5, **6,** 7, 8, 9, 11, **12,** 13, 14, 15, 1**6**
Subthemes • *God* • *Identity* • *Angels* • *Sprits*	Being God. Communicating/Having a special relationship with God. Being an angel. Being God's daughter. Being a religious figure.	
		4, 5, **6, 7,** 8, 9, 15, **16**
Possession		
Subthemes • *The Devil* • *Satan* • *Demon* • *Spirits* • *Evil* • *Black Magic*	Being possessed by demons. Receiving commands from Satan/Lucifer. Being haunted by spirits, black magic, or a Jinn.	
Being Gifted		**3, 4,** 5, **6,** 7, 9, 11, 13, 14, 16
Subthemes • *Mission/Vocation* • *Spiritual Gifts* • *Powers*	Having a mission/vocation. Being spiritually gifted. Having supernatural powers. Being divine.	
Spirituality		1, 3, **4, 6,** 7, 9, 10, 11, **12,** 14
Subthemes • *Sin* • *Divine* • *Altered awareness* • *Belonging*	Total happiness. Being in sin. Finding inner peace. A search for the sacred.	

Meaning Making		1, **2, 4,** 5, **6,** 7, 9, 10, 11, **12,** 13,14, 15
Subthemes • *Negotiation* • *Justice* • *Magical thinking*	Spiritual struggles Constructing new identities Negotiating identity Religious identity Injustice Symbols/symbolic images or visions	
Emotional experiences		1, **4, 6**, 7, 8, 9, 11, 13, 14, **16**
Subthemes • *Positive emotions* • *Negative emotions* • *Physical sensations*	Feeling euphoric Exceptional beauty Guilt Being punished Out-of-body experiences	

Review Question 2: Common narratives of the emergence and experience of RDs

Concepts (Third-order constructs)	Second Order Constructs	Papers *(Numbers in bold indicate index papers)*
Positive internalised identity		**2, 3,** 5, 6, 8, 9, 10, **12**, **13**, 14, 15
Subthemes • *New identities* • *Externalise sources positively to religious attributions or spiritual frameworks* • *Internalised experiences* • *Parental relationship with God*	Bringing forward new identities. Externalise sources of voices (e.g., God or spiritual forces). Internalised experiences (e.g., an inner spiritual force or divine tokens). Having a parental relationship with God.	
Negative Externalized Identity		2, **3, 4, 6,** 7, 8, 10, 11, **12,** 15, **16**
Subthemes • *Being governed by evil forces* • *Symptoms as consequences of mystical*	Believing one is haunted/governed by evil forces, spirits or a dark force controlling them. Delusional experiences due to mystical factors such as black magic, evil spirits, karma, or the devil.	

factors		
Sociocultural Constructions		**2**, 3, 4, 5, **6**, 8, 9, 10, 11, **12,** 13, 15, 1**6**
Subthemes	Cultural beliefs influence narratives.	
• *Familial interpretations*	Social interactions, significant others, and self-informed reflection shape narratives.	
• *Local cultural influences*	Parents' understanding of voices endorses and influences narratives.	
• *Self-informed reflections*	Multicausal models to explain experiences.	
• *Jumping to conclusions*	Jumping to conclusions due to a lack of religious knowledge, lack of support from	
• *Multicausal explanations*	religious communities, lack of understanding of their psychosis and lack of support for psychosis.	
Religious Constructions		1, **2,** 4, 5, **6,** 7, 8, 9, 10, 11, 14, 1**6**
Subthemes	Mental disorders as a source of misfortune, karma, and evil spirits.	
• *Hinduism*	Believing that asanas can awaken energy.	
• *Christianity*	Mental illness is caused as a result of sinning or being possessed.	
• *New Spirituality*	Beliefs that supernatural creatures such as genies and Jinns coexist in societies and can	
• *Islam*	interact or influence human lives.	
Psychological Interpretations		1, **2**, **4,** 5, **6,** 8, **9,** 10, **12,**13, 15, 16
Subthemes	Lack of parental role models.	
• *Early experiences*	Search for an external figure to identify with.	
• *Reasoning biases*	Delusions exist on a continuum.	
• *The Enactive Approach*	The error of a delusional belief is understandable through understanding cognition as an	
• *Positioning Theory*	emergent property of a person-environment system.	
• *Haptic Perceptions*	People make themselves recognisable to their interlocutors through virtues, motives, and skills.	
	Haptic perception is experienced with other perceptual systems, particularly the visual.	

Review Question 3: Clinical implications for working with RDs

Concepts (Third-order constructs)	Second Order Constructs	Papers *(Numbers in bold indicate index papers)*
Psychoeducation	Recognition of illness symptoms. Belief in being possessed as an overvalued idea.	1, **4, 6,** 7, 8, 14, **16**
Shared Narratives	The content of RD is personally meaningful.	1, 2, **4, 6,** 7, 8, 9, 10, 11, **12,** 15, 16

	Support patients disclosure and sense-making process. Important for clinicians to understand meanings ascribed to individual's voices.	
Clinician's Recognition of Religion and Spirituality	Must be non-judgmental and recognise the importance of religious experiences. Should be aware of the functionality, meaning, content and structure of RDs. They need to be educated on different religions, religious narratives, and experiences. Need to appreciate multicausal models of understanding RDs.	2, 3**, 4, 6,** 7, 9, 10, 11, **12**, **13**, 14, 15
Psychological interventions	Provide therapeutic space for patients to discuss religious concerns. Pay attention to how RBs and RDs relate to life experiences. Ask about content, form, and significance of RDs. Can use a narrative-, or cognitive model. Look at evidence for and against the beliefs and consider alternatives. Liaise with hearing voices groups. Use voice dialogue and voice-relatedness interventions. Develop shared formulations. Work on cognitive biases and jumping to conclusions. Include a broader involvement in the social context. Write a religious or spiritual relapse prevention plan.	**4,** 6, 7, 8, 9, 10, 11, **12, 13,** 14, **15**

Note: Source papers referenced as index papers were deemed conceptually rich with the potential to make significant contributions to the synthesis.

3.3 LINE OF ARGUMENT SYNTHESIS

Reciprocal translations of themes across papers per review questions built on one another to tell a richer story than any singular theme could in isolation. These synthesised six overarching themes, as seen in Table 5.

Table 5

Overarching themes per review question formed by reciprocal translations of themes

Review Question	**TOC**	**Overarching themes** (Reciprocal translations of Themes)
One	Identification Being Possessed Being Gifted	**Self-Concept** Delusional content with excessive self-significance encompassing anomalous experiences.
	Spirituality Meaning Making Emotional Experiences	**Personal Significance** Attributing excessive personal significance based on content of delusional experiences.
Two	Positive Internalized Identity Negative Externalized Identity Sociocultural Constructions Religious Constructions Psychological Interpretations	**Overvalued Self-Concept** Individuals making sense of their RDs by placing excessive value on personal identities. **Misattribution of Personal Significance** Existing knowledge, sociocultural influences and biases lead to misattributions of personal significance in relation to making sense of RD experiences.
Three	Shared Narratives Clinicians' Recognition of Religion and Spirituality	**Understanding the Overvalued Self-Concept** Importance of understanding contents of RDs and narrative and relationships with RDs.
	Psychoeducation Psychological Interventions	**Intervening with Misattributions of Personal Significance** The need to focus on direct clinical skills and interventions intervening with misattributions of personal significance in the context of RDs.

Reciprocal translations of the overarching themes across review papers, formed two overarching reciprocal syntheses. *Self-Concept, Overvalued Self-Concept*, and *Understanding the Self-Concept* complimented each other. The remaining overarching themes, *Personal Significance*, *Misattributions of Personal Significance*, and *Intervening with Misattributions of Personal Significance* endorsed each other. The understanding of synthesising these overarching reciprocal translations developed the model depicted in Figure 3 (LoA).

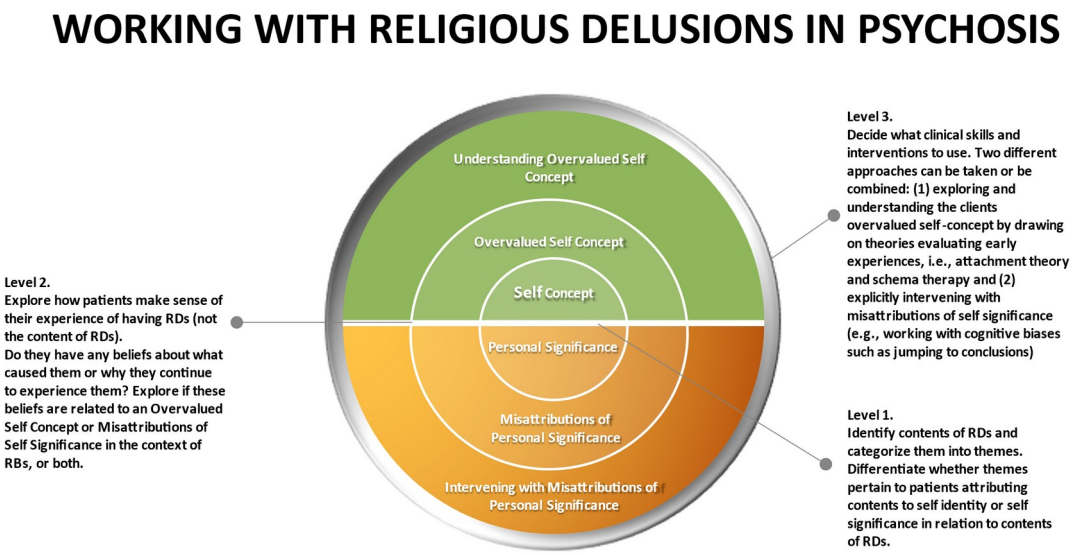


Figure 3. Line of Argument Synthesis Model

The LoA synthesis conceptualises how understanding contents and narratives of RDs could guide clinical focus. Underpinning all themes identified across the review questions was the importance of understanding the position and role of the 'Self' concerning (1) contents of RDs and (2) formation of narratives about the emergence and experience of RDs. The reciprocal translations of themes and overarching themes, suggests that the focus of therapeutic interventions could be guided by individuals' content and respective narratives (i.e., Understanding the Self Concept or Intervening with Misattributions of Self Significance).

The first level of the model depicts the role of reciprocal translations of SOC, which showed that the contents of RDs in psychosis can be categorized into distinct themes. The identification of themes aid a better understanding of patients' inner worlds (second level of model) which would subsequently prompt collaborative work to gain a better understanding of patients' narratives about their experiences. This could have the following implications: (1) give insight into what is culturally acceptable and not (minimizing the risk of over-pathologizing experiences), (2) aid the development of a shared formulation (guiding therapy interventions), (3) highlight metacognitive beliefs and beliefs about power concerning experiences of RDs, and (4) effectively integrate religion and RBs into therapy work.

The third level of the model suggests that clinicians' understanding of evidence-based psychological models when working with delusions (e.g., CBTp, Attachment Theory, and Schema Therapy), coupled with their new knowledge about the nature and meaning of RDs (derived at the second level of the model), could inform clinical practice. Source authors provided various psychological tools and interventions for working with RDs (see Table 4), encompassing four key themes: Psychoeducation, Shared Narratives, Clinicians' Recognition of Religion and Spirituality and Psychological Interventions.

4. DISCUSSION

4.1 EXPRESSING THE SYNTHESIS

This is the first meta-ethnography studying RDs in psychosis. We sought to expand existing understanding of RDs by illustrating themes of religious content, identify common narratives of the emergence and maintenance of RDs and offer recommendations for clinical practice.

Sixteen qualitative studies were reviewed, including qualitative data from 2255 participants. Reciprocal translations between SOC within and across review questions were

conducted. A total of six overarching themes, two per review question, were reported. Synthesis across overarching themes formed two overarching reciprocal translations, which formed a LoA synthesis.

Our meta-ethnographic review offered three novel insights which formed the basis of our LoA synthesis, a model for working with RDs in psychosis (see Figure 3). First, it showed, through a process of reciprocal translation, that contents of RDs in psychosis across religions can be categorised into distinct themes and subthemes.

A second reciprocal translation suggested that narratives of the emergence and experiences of RDs across religions can be described using two overarching themes, Overvalued Self-Concept, and Misattributions of Personal-Significance.

Third, reciprocal translations of first and second-order constructs across studies found that four themes of clinical implications could be used when working with the eleven themes of contents and narratives identified in this review.

By employing a LoA approach, our findings discovered a patterning between contents, narratives and choice of clinical interventions when working with RDs with psychosis.

Existing evidence based cognitive models such as the Cognitive Model for Command Hallucinations (CTCH; Byrne et al., 2003) described five core maintenance factors for command hallucinations: (1) voice activity and content, (2) beliefs about power/omniscience, control, identity, meaning/purpose, and compliance, (3) emotional consequences, (4) behavioural consequences and (5) understanding dominant subordinate schemas, which informs a cognitive behavioural protocol to working with command hallucinations.

Although our model (LoA) only outlines two maintenance factors and includes suggestions for therapeutic focus, the model integrates information about content (Level 1), beliefs (Level 2), emotional consequences (Level 1), behavioural consequences (Level 1 and

3) and explore underlying beliefs/schemas (Level 3). These findings resonate with the CTCH model (Bryne et al., 2003).

The identification of six themes with subthemes of contents of RDs in psychosis supports existing knowledge that delusions are phenomenologically complex yet that there is commonality across them, allowing them to be themed together. Acknowledging the potential heterogeneity and diversity in contents of RDs, it could seem strenuous to try to understand it all. Several source authors suggested that contents of RDs vary across cultures. Our synthesis explicitly explored religious content disregarding any other cultural content and found similar themes of RDs across religions. However, in line with previous literature, some differences in narratives of the emergence and experience of RDs were found between religions. Differences in content was also seen in metaphors of SOCs of the theme, 'Being Possessed.' These differences provide some evidence supporting existing suggestions that delusions (including RDs) may be pathoplastic (e.g., Laroi et al., 2014; Fleming et al., 2023; Stompe et al., 2006).

Overall, the findings of this synthesis suggest that contents of RDs may be underpinned by key phenomenological characteristics which allow them to be themed together without losing their meaning. Identifying and understanding themes of RDs could provide important insight into the phenomenology of RDs, i.e., content is related to either one's Self-Concept (Identification, Being Possessed and Being Gifted) or Personal Significance (Spirituality, Meaning Making, and Emotional Experiences). Given the difficulty in treating RDs (Siddle et al., 2002; Iyassu et al., 2014; Bhavsar & Bhugra, 2008), this insight could encourage future clinical research to evaluate whether there are significant differences between themes and consider clinical interventions respectively.

The themes derived from the second reciprocal translation shaped two overarching themes of narratives which support previous claims that delusions are entrenched in dynamic

processes of intrapersonal and interpersonal identity negotiations and constitutions (Ritunnano et al., 2022): Misattributions of Personal Significance and Overvalued Self-Concept. Existing cognitive models of psychosis, including the CTCH, emphasise the role of appraisals and beliefs about anomalous experiences in maintaining psychosis (Garety et al., 2001; Freeman et al., 2002; Morrison, 2004).

Given the patterning relationship between contents and narratives discovered in our synthesis, it appears that beliefs need to be explored on three levels when working with RDs in psychosis, (1) RBs, (2) beliefs about experiences of RDs, and (3) beliefs about the Self (Self-Concept/Personal Significance). Given the role and impact of beliefs and narratives about RDs, our findings would also suggest that it is important for clinicians to consider their own beliefs about religion, RBs, beliefs about working with RDs and potential inherent religious biases (Ng, 2007). As the second level of our model (LoA synthesis) suggest, clinicians' beliefs and biases could impact understanding and working with narratives about RDs, which could subsequently affect the therapeutic relationship and choice of therapy interventions (i.e., Understanding the Overvalued Self-Concept and Intervening with Misattributions of Personal Significance).

Analysis of the third review question highlighted the importance of clinicians learning about different religions and creating dialogues where emic perspectives can be explored so genuine collaboration can form a premise for developing a shared formulation/narrative about RDs.

These discoveries were not evident in any of the singular source papers. Synthesising the findings of the source papers cumulated these findings. We contend that the systematic comparison and reciprocal translation produced new understandings about RDs in psychosis, which has scarce research and evidence. This showed that the meta-ethnographic method

offered more insight and conceptual understanding of RDs than an individual case study or quantitative research could have.

4.1.1 Clinical Implications

Religious themes may be more universal than culture-specific (Whaley & Hall, 2009). Although likely to be shaped by patients' cultural backgrounds, religious themes are separate, and a subset of these themes encompass a range of content across religions. Our LoA synthesis suggests that RDs can be better understood by: (1) identifying contents/themes of RDs, (2) developing a shared understanding of the patient's developmental history, including important biopsychosocial factors, socio-cultural contexts, religious beliefs and exploring idiosyncratic narratives about the emergence and experience of RDs and (3) facilitating therapeutic work that focuses on understanding patient's constitution of the Self and intervening with maintenance factors such as cognitive biases, e.g., Misattribution of Personal Significance.

Cognitive models of psychosis such as the CTCH model (Byrne et al., 2003), and Cognitive Attachment Model of Voices (Berry et al., 2017) suggest that attachment and schemas play a critical role in the development of positive psychotic symptoms. Given the dynamic interplay between intrapersonal and interpersonal/socio-cultural beliefs in developing narratives about the emergence and experience of RDs, our findings tentatively support such claims.

4.1.2 Implications for Research

Investigating religious content in psychotic delusions has received limited attention in mental health research. At present, the influence of religion on psychosis remains vague. One limitation is the lack of clarity on what attributes to religious affiliation versus cultural

affiliation. Both constructs are often intertwined in the literature. This is, to some extent, a reflection of reality, as religious and cultural influences often coexist. An explication of culture, religiosity, and religious affiliation is needed for better-targeted research and clinical practice. Our findings shed light on a novel understanding suggesting that there are universal characteristics of RDs which may aid a better understanding of their emergence and maintenance. Future direction for research is to look at differences between themes of RDs to better understand meaning, maintenance, and impact on therapy engagement. This could help identify why people with RDs present with more severe symptoms of psychosis, poorer therapeutic alliances, and lower satisfaction with therapy (Mohr et al., 2010; Huang et al., 2011). Investigation of RDs using diverse methodological approaches will facilitate the design and implementation of acceptable, feasible and sensitive interventions for RDs.

4.1.3 Limitations

Due to the review's qualitative nature, it was recognised that potential biases would be present at all levels of this review, including study conception and researcher biases. Attempts were made to minimise biases by continually considering reflexivity and having at least two authors engage in all stages of analysis.

Authors have critiqued the CASP checklist for qualitative studies for its limitations in its subjectivity and sole focus on quality rather than relevance (Dixon-Woods et al., 2007). Therefore, a threshold was not set to measure inclusion scores, and all appraised papers were included in the synthesis. We believed this would not impact the findings because similar themes were endorsed across papers. Furthermore, the Data Richness Scale was used to concentrate on the qualitative quality of each paper. A pattern that appeared from appraising the source papers was the lack of reflexivity of primary authors. Thus, it was challenging to

effectively evaluate authors' theoretical position and lens when interpreting their interpretations.

Finally, including articles written in foreign languages may have resulted differently, as studies with non-western populations may broadly be published in foreign languages. This limitation may also explain the lack of diversity in religious populations studied across our source papers. Most papers involved Christian populations. This further limits the transferability of our findings. Future research with different religious populations and wider researcher viewpoints would be of value.

5. CONCLUSION

The results of this meta-ethnography illustrate that it is possible and evident that contents and narratives of RDs can be themed across religions. The synthesis reiterates the importance of clinicians identifying, understanding, and attending to RDs in psychosis. We argue that the themes and examples articulated here enhance previous findings about contents of RDs by exploring and translating themes in extensive detail. Further research should consider these points and continue to investigate this phenomenon, with an emphasis on improving the quality of research produced. Although the synthesis quality is satisfactory overall, it could have been improved by increased transparency regarding authors' epistemological positions and the inclusion of participant demographics and study settings during the synthesising process of the review.

CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

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SERVICE IMPROVEMENT PROJECT

ME, MY CHILD, AND US: A group-based parenting intervention for parents with lived experience of psychosis

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ME, MY CHILD, AND US: A group parenting intervention for parents with lived experience of psychosis.

ABSTRACT

Objectives. Many patients with psychosis have dependent children. Being a parent is an important part of their identity and role. However, the problems of psychosis can disrupt parent-child interactions, which can negatively affect both parents and children. Despite this, there remains a lack of diagnosis-specific parenting interventions for parents with lived experience of psychosis. A digital eight-week mentalization-based parenting group (Me, My Child and Us) was piloted to evaluate its acceptability, feasibility, and impact on self-reported parenting satisfaction, parental relationship, and overall wellbeing.

Design and Methods. The study used a within-participant non-controlled pre-post design using mixed quantitative and qualitative methodology. Thirteen parents with dependent children were recruited, and two eight-week groups were run. Eleven parents completed the intervention and pre- and post-group measures and provided qualitative feedback on their experience of the intervention.

Results. There was an average of 75% attendance, with parents reporting high satisfaction with the content and structure of the group. Scores on pre- and post-group measures suggest positive improvements in parental wellbeing, parental relationship, parenting stress levels, parenting satisfaction, and efficacy and mentalizing capacity.

Conclusion. The Me, My Child and Us parenting group is feasible to deliver and acceptable for parents with lived experience of psychosis. The self-reported improvements support local implementation and the need for a controlled evaluation of the intervention.

Keywords: psychosis, parents, parenting, mentalization, group therapy

PRACTITIONER POINTS

- The challenges of managing the dual demands of being a parent and coping with psychosis can make parents with psychosis more vulnerable to stress.
- There remains a lack of appropriate, effective, and timely parenting interventions to support this parent population.
- Group-based diagnosis-specific parenting interventions could fill existing gaps in supporting parents with psychosis.

INTRODUCTION

Living with psychosis can impact social, emotional, and psychological functioning (Booij et al., 2018). Parenting stress can exacerbate psychotic symptoms and their impact on functioning (Radley et al., 2022a; Wolfenden et al., 2022). The exact prevalence of psychosis amongst parents is uncertain, although previous studies have reported that more than 50% of women and 25% of men with psychosis are parents (Campbell et al., 2012; Seeman, 2002). Using anonymised electronic health record data from Oxford Health NHS Foundation Trust (OHFT), Radley et al. (2022b) calculated that 38.8% of patients with psychosis are parents. Based on existing data, it is estimated that approximately 17000 children in the United Kingdom have a parent with psychosis (Seidman et al., 2013).

The challenges of managing the dual demands of being a parent and coping with psychosis can make these parents more vulnerable to stress (Strand & Rudolfsson, 2020). Studies have found that more severe symptoms and longer duration of psychosis correlate with greater parenting difficulties (Campbell et al., 2018). Stress vulnerability theories (e.g., The Stress Vulnerability Model, Wied & Jansen, 2002) and research into parents with psychosis (PWP) suggest that stressful interpersonal environments and social difficulties can exacerbate psychotic symptoms and trigger relapse (Chien, Bressington, & Chan, 2018; Radley et al., 2022c).

Societally, PWP are likely to encounter greater adversities compared to other parents, including lower social and emotional support (Campbell et al., 2018), financial disadvantage (Montgomery et al., 2011), greater social isolation (Seeman, 2012) and increased stigmatization (Malhotra et al., 2015), particularly about child custody. The fear of child protection intervention and losing custody or access to children is not unfounded; 30-80% of mothers with a psychotic disorder report having lost custody of their children (Nicholson et

al., 2001). These parents are, therefore, likely to minimize or be reluctant to disclose any parenting difficulties.

Stress incurred by social adversities and relational difficulties, such as parenting stress (Kadish, 2015) and attachment problems (Engur, 2017), can impact parents' mental health, child-parent relationships, and children's mental health. Concurrently, "the parental role can also create meaning, belonging and increase self-worth, and as such is an important part of self-identity for both men and women with psychosis and may be an important focus for recovery" (Wolfenden et al., 2022, p. 1).

When considering the impact of symptoms of psychosis on the parent-child relationship, it is important to recognize the episodic and fluctuating nature of psychotic disorders (Blegen et al. 2010, 2012; Krumm et al. 2013). Positive symptoms, such as preoccupation with delusional ideas or experiences of hallucinations, can affect parents' attentional focus and, therefore, their ability to communicate and meet a child's emotional needs (Ostler & Ackerson, 2009; Healy et al., 2016; Kahl & Jungbauer, 2014). Hallucinations and delusions may affect aspects of parenting, such as providing protection- support- and participating in reciprocal interactions (Healy et al., 2016; Kahl & Jungbauer, 2014; Strand, Boström & Grip, 2020). More stable negative symptoms, as well as side effects of antipsychotic medication, can manifest as lethargy, irritability, poor concentration, blunted affect, withdrawal, and lack of motivation (Evenson et al., 2008; Nicholson et al., 1998; Dolman et al., 2013). As such, negative symptoms can interfere with parents' ability to engage emotionally with their children (Montag et al., 2014), form appropriate relationships, and manage discipline and boundaries (Campbell et al., 2018). Furthermore, cognitive impairments can make it more difficult for parents to plan and achieve daily parental tasks (Nicholson & Miller, 2008).

A common difficulty of PWP concerns recognizing, engaging, and connecting with their children's emotional needs. This is due to a reduced capacity to take their children's perspective (Strand et al., 2020; Strand & Boström, 2020; Grusec & Davidov, 2010). The capacity for parents to separate their mental states from their child's mental states and then attune to the child's mental states plays a central role in responsive and effective parenting (Camoirano, 2017). The capacity of the self to imagine, recognize and reflect upon one's own mental state and simultaneously attune to others' mental states (including feelings, thoughts, desires, and beliefs) is referred to as mentalization (Fonagy & Target, 2006; Luyten et al. 2017, Sharp & Fonagy 2008, Slade 2005). Reflective Functioning (RF) is a concept that specifically depicts a parent's ability to mentalize their child's mental states (Luyten et al. 2017; Sharp & Fonagy 2008).

Problems with mentalization and RF are common in people with psychotic disorders (Sprong et al., 2007; Strand et al., 2020). Stressful situations such as parenting trigger lapses in mentalizing for most people, whether or not they have mental health difficulties (Pereira et al., 2012). When parents experience altered mental states, showing parental sensitivity, and remaining flexible in their thinking becomes harder. When parents experience these altered mental states, they may jump to conclusions and make snap judgements about their child's intentions (Fishburn et al., 2017), or they may be overly focused on and influenced by their own internal world at the expense of noticing and acknowledging their child's mental states.

Parents' ability to understand and respond in a timely and appropriate way to children's communication (termed 'parental sensitivity') requires them to have capacity to mentalize. Mentalization-based treatment (MBT) works directly "to foster in parents an active curiosity about the child's inner world and a readiness in parents to reflect on their own thoughts, feelings, and reactions" (Sleed, Fearon, Martin, Midgley & McFarquhar, 2021, p.5). Clinical interventions designed to improve mentalization may be valuable to PWP.

There is a need to understand the specific parenting needs of parents with particular mental health difficulties and diagnoses (Bornstein et al. 2008; Grusec & Davidov 2010; Turiel 2010; Venkataraman 2008). There is increasing awareness that offering general parenting practices to all parents undervalues the impact of the broader context of specific illness-related symptoms, parenting needs, and parent-child relationships. Indeed, particular parenting practices in one context could even be harmful in another (Stand et al., 2020).

Despite the evidence of extensive unmet needs for PWP, there remains a lack of appropriate, effective, and timely parenting interventions to support them (Wolfenden et al., 2020). Given the specific and additional challenges associated with being PWP, generalized parenting programmes will be of limited usefulness. Tailored interventions are needed (Campbell et al., 2007). “Parents with psychosis should be offered interventions that enable them to create positive parental role models, develop mentalization/reflective functioning, and identify situations in which their symptoms might hinder positive parenting” (Strand et al., 2020, p. 1014). Scoping reviews (e.g., Radley, Sivarajah, Moltrecht et al., 2022d; Schrank et al., 2015) suggest many of the needs highlighted in previous studies (e.g., Strand et al., 2020) continue to be unmet by existing parenting interventions and routine service provision.

In OHFT, parenting groups are offered to parents with severe anxiety or depression (Knowing Me, Knowing You group) and to parents (often with a personality disorder) where children are at risk of maltreatment (The Lighthouse Parenting Programme), but there is no routine offer for PWP. Qualitative interview studies with PWP and their family members (Radley et al., 2022c; Radley et al., 2022e) highlight that PWP would benefit from peer support from other PWP, understanding the inter-relationship between psychotic symptoms and parenting stress, and learn skills to improve communication with family members, particularly about psychosis.

Aims

The primary aim was to pilot and ascertain the acceptability and feasibility of a co-produced eight-week mentalization-centred parenting group intervention for parents with lived experience of psychosis. A secondary aim was to investigate whether there was any change in parents' stress levels, general mental health and parent-child relationship following the group.

METHODS

Study Design

A within-participant non-controlled pre-post design was employed. Mixed quantitative and qualitative methodology generated knowledge concerning the acceptability, feasibility, and perceived change following the intervention.

Participants

Parents were invited to take part in the group if they met the following criteria: (1) able to provide informed consent for measures; (2) be English speaking; (3) have a diagnosis of a psychotic disorder; (4) be at least 18 years of age and (5) be a parent of a child aged 2-18 years old. Recruitment occurred through liaison with care coordinators in community mental health teams serving people with early and established psychosis. Forty-one referrals were received, and twenty-eight people expressed an interest in the group. Fifteen were either unable to commit to the time of the intervention or could not be contacted before the start of the group. Thirteen parents provided written consent and took part in the intervention. Two participants dropped out: one due to ongoing court proceedings and the other due to physical ill health.

Measures

Primary outcomes of feasibility and acceptability were assessed by session attendance and qualitative participant feedback, including satisfaction ratings.

Secondary outcome measures consisted of standardized and validated self-report questionnaires to assess symptoms and functioning concerning mood, parental stress levels and parent-child relationship satisfaction. These measures were completed online using Microsoft Forms with the support of the facilitators. Measures were completed prior to the first session and immediately after the final session.

Table 1

Summary of secondary outcome measures and their properties

Name of measure	Function	Properties
Clinical Outcomes in Routine Evaluation, CORE-10, (Barkham et al., 2013)	Used to measure distress and functioning.	10-item questionnaire. Scores are presented as a total score of 0-40, and a mean score between 0-4. Higher scores indicate higher levels of general psychological distress. A total score of 11 or above indicates clinical significance. It has an internal reliability (alpha) of 0.9.
Being a Parent Scale, BAPS, (Gibaud-Wallson & Wandersmith, 1978 as cited in Johnston & Mash, 1989)	Assesses parents' feelings of self-efficacy and satisfaction regarding their parenting experiences.	The 16-item questionnaire uses a 6-point Likert-type scale, which parents use to answer the extent to which they agree or disagree with statements about their parenting experiences. Scores range from 16-96. Scores are divided into satisfaction and efficacy with lower scores indicating higher efficacy and satisfaction. Cronbach's alpha

		coefficients of 0.75 for satisfaction scale and 0.76 for efficacy scale have been reported for reliability.
Child-Parent Relationship Scale (Pianta, 1992)	Assesses parents perceptions of their parent-child relationship.	The measure consists of 15 items. Each item is made up of 2 statements (30 statements in total), reflecting both positive and negative aspects of parent-child relationships. Parents use a 5-point scale to respond, and ratings are clustered into two groups conflict and closeness. Lower scores on the conflict questions indicate more positive experiences, and higher scores for closeness questions, indicate more positive experiences.
The Parental Reflective Functioning Questionnaire, PRFQ (Luyten et al., 2017)	Focuses on parents' capacity to mentalize about and reflect on their actual and evolving relationship with their child(ren). The PRFQ assesses some critical aspects of parenting, such as the parent's understanding, curiosity about or disavowal of mental states, and the relationship between mental states and behaviour.	18 item questionnaire. Scores range from 18-126. There are three subscales, each consist of 6 subscales and are rated on a 7-point Likert scale. The PRFQ has good internal consistency (Cronbach's alpha of 0.688, 0.772 and 0.745 per respective subscale). For the pre-mentalizing subscale higher scores indicate lower levels of parental reflective functioning. For the certainty and interest/curiosity subscales average scores are considered optimal.
Parental Stress Scale (Berry & Jones, 1995)	A measure that captures parents stress levels associated with child-rearing. It focuses on parents' perceptions of their parental	An 18-item measure. Scores range from 18-90, where higher scores indicate higher stress levels. Acceptable

role rather than on the sources of stress themselves.	reliability ratings have been reported cross-culturally (Naerde & Hukkleberg, 2020).

Procedure

Before conducting the study, Quality Improvement approval was obtained from Oxford Health NHS Foundation Trust that participants were recruited from (see Appendix B2).

There were three stages to the study, outlined in Figure 1 below.

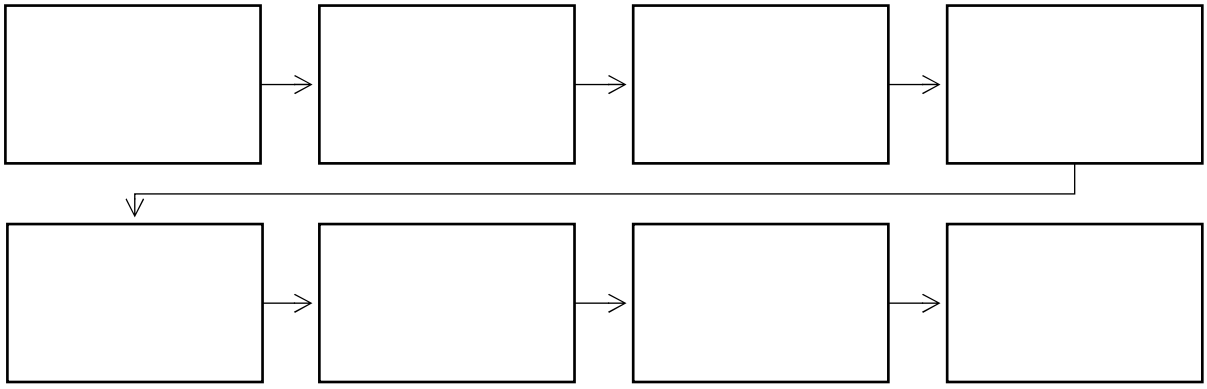


Figure 1. Overview of the study procedure.

Stage 1: Conceptualisation

An extensive scoping review was undertaken to identify and explore content of existing parenting interventions for PWP (Radley et al., 2022d). The first author attended webinars and online training on a range of relevant topics (parenting interventions, mentalizing and reflective functioning skills practices, and neuropsychological attachment theories) to learn more about mentalizing, Attunement, and attachment in parent-child relationships. The first author also conducted semi-structured interviews with two field experts and one expert by experience to learn about (1) care that is currently available in NHS routine practice, (2) barriers faced by services to support PWP, (3) barriers faced by PWP

when seeking support, (4) the nature of the support that PWP want to access, (5) current recommendations made by researchers in the field, and (6) the process in which existing recommendations could effectively translate into a group-based intervention. Principles of reflexive thematic analysis (RTA; Braun & Clarke, 2019) were used to analyse learning from training and webinars, and the interview data and to establish the structure and content of the intervention. The themes from this analysis are presented in the data analysis section.

Stage 2: The Intervention

Prior to starting the intervention, one of the group facilitators contacted each participant and assisted them in completing baseline measures via Microsoft Forms. The facilitators were a trainee clinical psychologist, a consultant clinical psychologist and a final year PhD student. In line with other existing parenting programs, the intervention comprised eight weekly sessions. Each session was 90 minutes long, with a 10-minute break halfway through.

The content of the sessions was informed by the conceptualization stage described above. A client workbook and comprehensive PowerPoint Presentation were developed by the first author with support from the second author. Sessions followed a structure based on cognitive-behavioural therapy, with a clear agenda for each session (see Figure 2). The contents included didactic psychoeducation elements, video clips, experiential exercises, group discussions, self-reflective exercises, and homework setting. All sessions ended with a three-minute relaxation or guided mindfulness exercise. See Table 2 for an overview of the eight sessions.

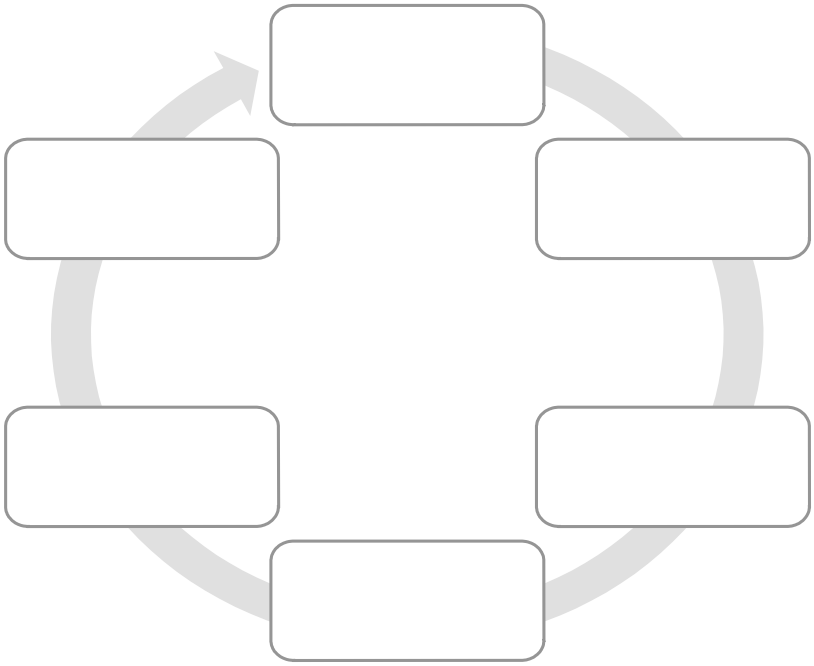


Figure 2. Overview of session structure

Principles of mentalization and RF underpinned the entire intervention. Facilitators modelled key skills, gave illustrative examples, and played scripted videos to demonstrate new skills and strategies. Experiential exercises were brief and scaffolded, and learning points were summarised to accommodate everyone's information processing speed and emotional arousal. Participants were invited to practise the new skills on their own and with each other in small groups. This active, experiential element was included to consolidate participants' learning, normalize their experiences, and promote peer support in a non-judgemental space.

Table 2

Overview of intervention

Session Number	Topic Discussed
One	Background to Parenting (as seen in Family Talk, Let's Talk about children, CHIMPS, Kids Time, Triple P, Beardslee's preventive family intervention and VIA family)
Two	Mentalization (as seen in the Lighthouse Parenting Programme and Turning into kids)

Three	Attunement (as seen in the Lighthouse Parenting Programme and Turning into kids)
Four	Communication (as seen in Beardslee's preventive family intervention, Let's talk about children, Kids Time, Family Talk and Think Family Whole Family Programme)
Five	Managing Conflict and Setting Boundaries (as seen in Think Family Whole Family, Triple P and the Parenting Internet Intervention).
Six	Managing Symptoms of Psychosis (components of parental wellbeing or self-care is included in interventions such as CHIMPS, Parenting internet intervention
Seven	Communication about Psychosis with Children (as seen in Behavioral Family Therapy, Family Talk, CHIMPS Intervention, Child Talks, Kids Time, Triple P, and CHIMPS).
Eight	Planning for the Future

Each participant was contacted by a facilitator every week between sessions (see Appendix B5). These check-in calls lasted 10-20 minutes, depending on the individual parent's needs that week. These calls allowed parents to share their learning, give feedback on the previous session, discuss idiosyncratic experiences relating to the session content, and share their learning from the homework with the facilitator. After completing the intervention, all participants were asked to re-complete the baseline measures.

To ensure adherence with the intervention, facilitators followed a detailed session-by-session semi-scripted protocol guided by the notes section on the PowerPoint Presentation. All eight sessions were led by the first author with support from the remaining facilitators. All facilitators attended a brief pre and post-session meeting each week. For the first group, all facilitators met weekly for a 60-minute peer supervision session to plan the upcoming session, discuss reflexivity, and discuss concerns and queries.

Stage 3: Obtaining Qualitative Feedback

Following the intervention, participants were invited to complete a feedback survey (see Appendix B3). This survey invited parents to identify aspects of the intervention they found particularly valuable or difficult, highlight components of the intervention they were satisfied and dissatisfied with, share reflections on changes they had experienced since engaging in the group and any key learning points they took away.

Data Analysis

Interviews with experts by experience and field experts, findings from literature reviews, alongside learning from literature reviews and webinars, were analysed by the first author using principles of RTA. Audio recordings were listened to and transcribed. Principles of the six phases of RTA were followed, and thematic patterns were identified (see Appendix B4). The first author initially listened to the recordings and made notes of salient themes. Coding began immediately after listening to and transcribing the first interview. The author drafted codes of meaningful observations and made possible connections to look out for. As each recording was listened to, codes were generated and compared with the initial analysis. Similarities and differences were noted iteratively. Passages with similar meanings and observations were organized together, and preliminary codes were developed. New concepts were added as they were identified. This process was repeated until codes and themes were deemed to describe all transcripts. The codes and themes were discussed and checked iteratively with the second author during their development.

All quantitative data were analysed using SPSS 25.0. Descriptive statistics, graphical data, and mean scores on the outcome measures were used to ascertain changes following the intervention.

RESULTS

Stage 1: Conceptualisation

Responses from interviews with experts, relevant literature reviews, and webinar recordings grouped eight themes and subsequent sub-themes, as shown in Table 3. This underpinned the development of the intervention.

Table 3

Themes and Subthemes of the Intervention

Phase	Description of the process
Theme One Subthemes	**Psychoeducation** - Parents want to have a better understanding of psychosis. - Parents want to have a better understanding of how psychosis can impact parenting.
Theme Two Subthemes	**Mentalization** - Improving parental mentalization (reflective functioning). - A better understanding of children's needs.
Theme Three Subthemes	**Attunement** - How to better engage with children. - How to better respond to children's needs.
Theme Four Subthemes	**Setting Boundaries and Managing Conflict** - Myth-busting fears about setting boundaries. - Importance of setting boundaries - Skills to better manage conflict.
Theme Five Sub-themes	**Communication Skills** - Encourage, praise and reward. - Assertiveness techniques
Theme Six Subthemes	**Managing symptoms of psychosis** - Identifying and understanding symptoms of psychosis. - Understanding how symptoms and distress are maintained. - Coping strategies
Theme Seven Subthemes	**Communicating about psychosis with children** - Myth-busting fears about talking to children about psychosis. - Exploring what language to use and how to be age appropriate when speaking to children about psychosis. - What resources to use when talking to children about psychosis

Theme Eight Subthemes	**Planning for the future** - Reflecting on learning - Consolidating learning - Planning on how to maintain the use of newly learnt skills and techniques. - Signposting to external agencies

Stage 2: The Intervention

Acceptability and Feasibility

Thirteen parents (eight in the first group and five in the second) commenced the intervention. Two parents dropped out (one from each group). On average, participants attended six sessions. See Table 4 for a summary of participant characteristics. See Appendix B6 for attendance report.

Table 4

Participant characteristics

Gender	*Age*	Ethnicity	No. of children	Children's ages	Employment Status	Marital Status	*Number of sessions attended*
Female	39	Black British	1 Son	6	Unemployed	Divorced	2
Female	36	British Pakistani	1 Son	3	Unemployed	Separated	8
Female	51	White British	1 Son (2 adult daughters)	15	Unemployed	Single	8
Female	49	White British	1 Son	10	Employed	Single	7
Female	44	White British	1 Daughter and 2 Sons	11, 9, 3	Employed	Married	8
Female	50	White British	1 Son	5	Employed	Single	6
Female	47	White British	2 Sons	8, 12	Employed	Married	7

Female	41	White British	2 Daughters and 2 Sons	8, 12, 15, 17	Employed	Single	8
Male	34	White British	2 Daughters and 2 Sons	8, 5, 2, 3	Unemployed	Married	6
Female	34	British Afghan	1 Daughter and 2 Sons	13, 11, 8	Unemployed	Separated	6
Male	50	White British	2 Sons (2 adult daughters)	16, 4	Unemployed	Married	2
Female	34	White British	1 Daughter and 1 Son	6, 5	Unemployed	Married	5
Female	36	British Polish	1 Daughter	5	Employed	Married	5

Impact on parents' stress levels, general mental health, and parent-child relationship satisfaction

Data from eleven out of thirteen participants were analysed. Data from the two parents who dropped out were omitted due to the absence of post-intervention data. Paired t-tests and Wilcoxon Signed-Rank tests were used to analyse the pre-and post-intervention scores of all questionnaires. Paired t-tests were used to determine if there were significant differences between means of the paired groups. Wilcoxon Signed-Rank tests were used to compare the paired data. By using both tests conjunctively, a range of data characteristics and assumptions were accounted for, which allowed for a more robust analysis of the small samples' ordinal questionnaire data. There were statistically significant improvements on all outcome measures following the group, except for the Dependence subscale on the Child Parent Relationship Scale.

Table 5 summarises changes in mean scores following the intervention. Individual and group (mean) pre- and post-intervention scores for each questionnaire are plotted in Figures 3 to 12. The numbers on the graphs are representative of each respective participant.

Table 5

Mean scores before and after Intervention (N=11).

Outcome	Pre-test Mean (SE)	Post-test Mean (SE)	Post-Pre Mean	Post/ Pre Change %	t-value	Paired t-test p-value	Wilcoxon Signed-Rank Test p-value
CORE-10 (psychological distress scores)	13.58 (2.76)	2.58 (1.42)	-11.00	-80.98	4.99	<.0001	0.0005
Being a Parent Scale							
Satisfaction Scale	31.25 (1.78)	44.50 (2.52)	13.25	42.40	-6.43	<0.0001	0.0005
Efficacy Scale	27.83 (1.88)	38.75 (0.95)	10.95	39.22	-7.11	<0.0001	0.0005
Child-Parent Relationship Scale							
Conflicts Scores	34.00 (3.19)	16.42 (1.10)	-17.58	-51.72	7.11	<.0001	0.0005
Positive aspects of relationship (closeness)	39.83 (1.61)	45.50 (0.97)	5.67	14.23	-3.86	0.003	0.0005
Dependence Scores	10.42 (0.67)	8.58 (0.56)	-1.83	-17.60	2.28	0.044	0.0527
The parental reflective functioning scale							
Pre-Mentalizing Modes	3.01 (0.39)	1.08 (0.07)	-1.93	-64.06	4.90	<0.0001	0.0005
Certainty about Mental States	3.63 (0.49)	5.68 (0.14)	2.06	56.70	-4.64	0.001	0.0015
Interest and Curiosity in Mental States	5.22 (0.43)	7.00 (0.00)	1.78	34.04	-4.10	0.002	0.0005

Parental Stress Scale	50.92 (3.24)	23.08 (1.49)	-27.83	-54.66	9.03	<0.0001	0.0005

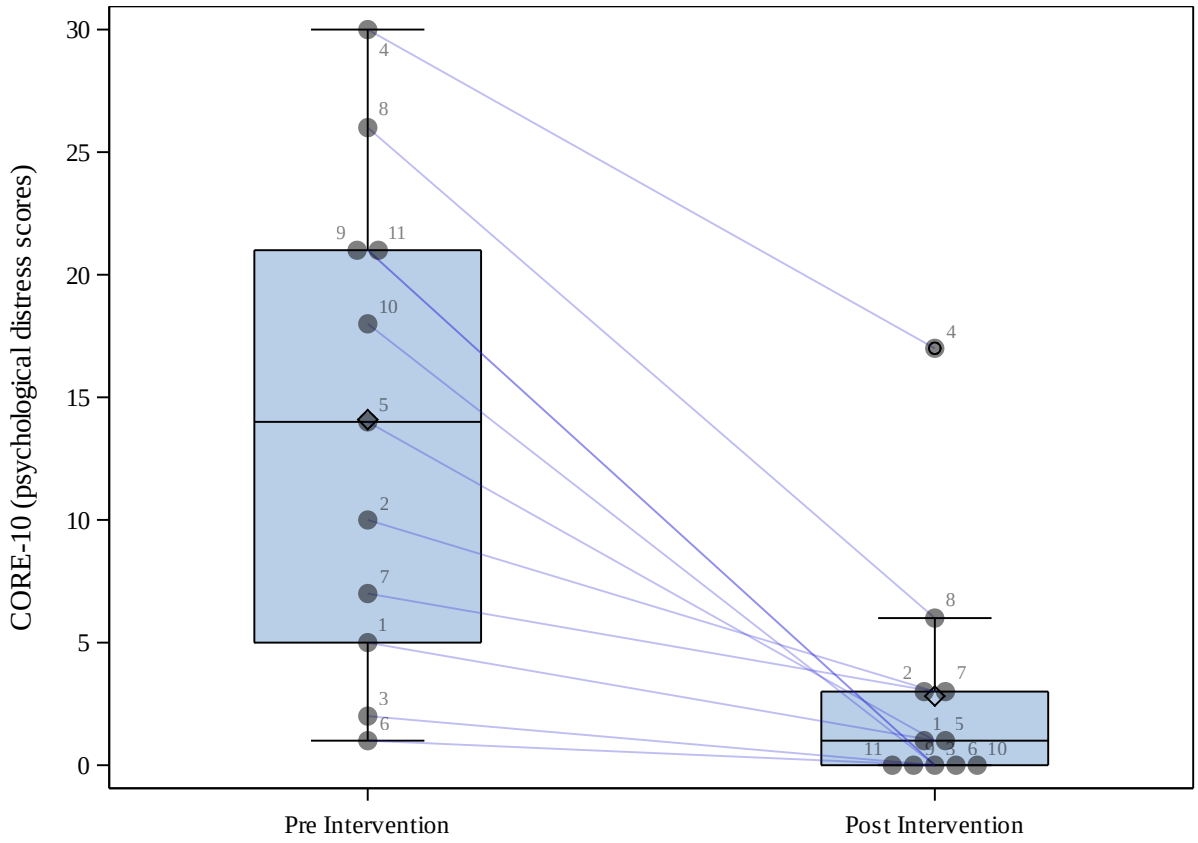


Figure 3.CORE-10 psychological distress scores pre-and post-intervention.

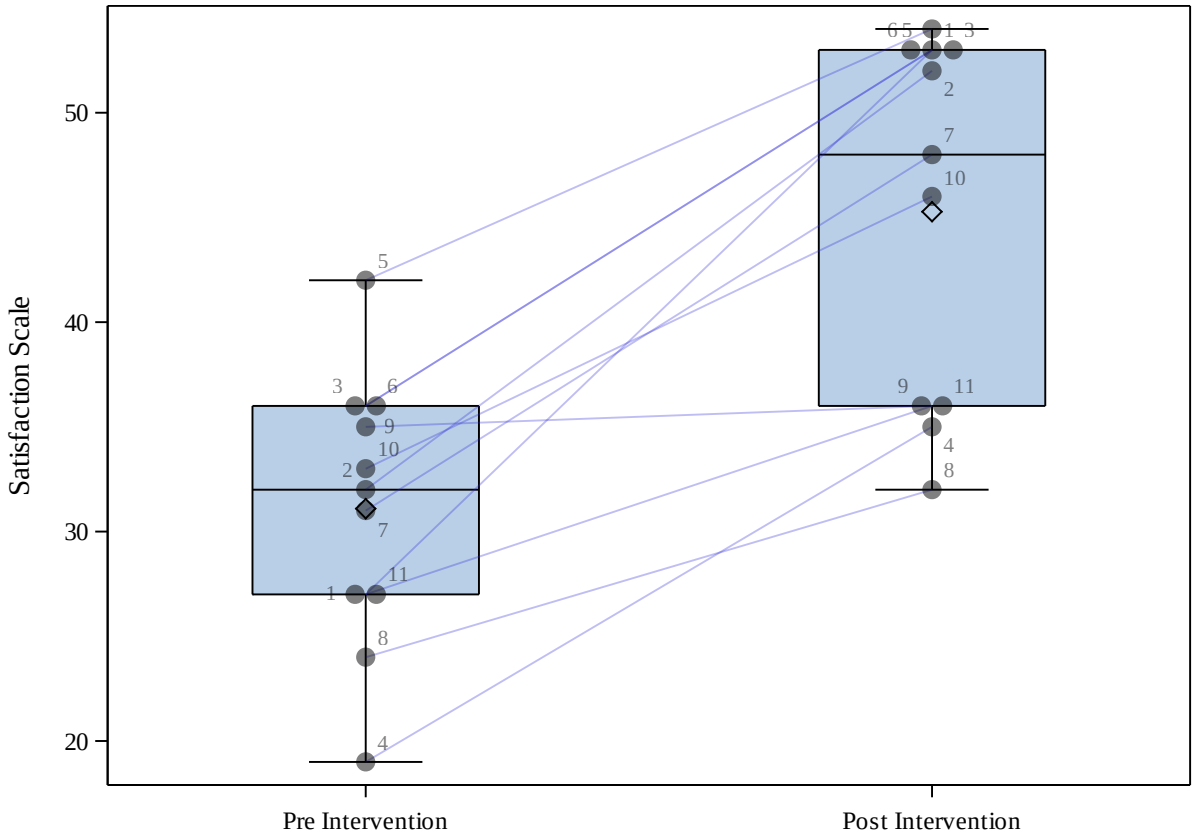


Figure 4. Being a parent questionnaire (Satisfaction subscale) scores pre-and post-intervention.

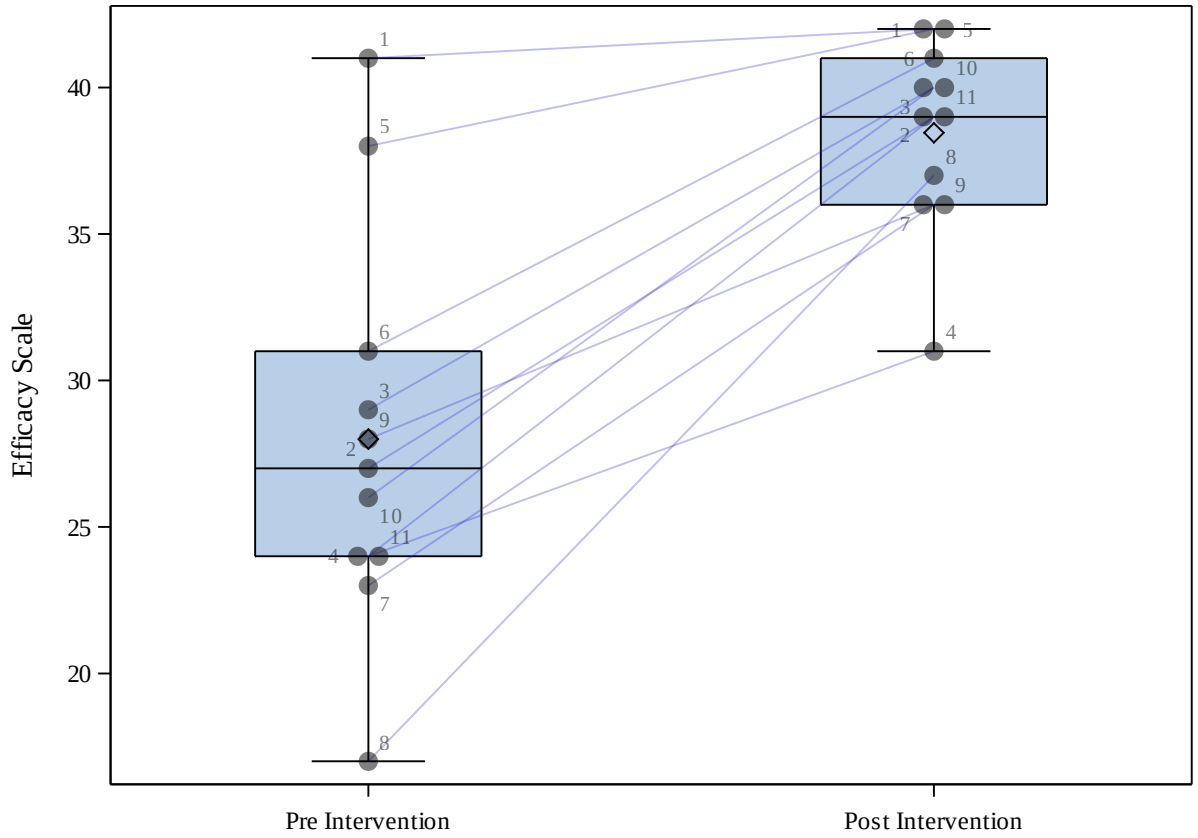


Figure 5. Being a parent questionnaire (Efficacy subscale) scores pre-and post-intervention.

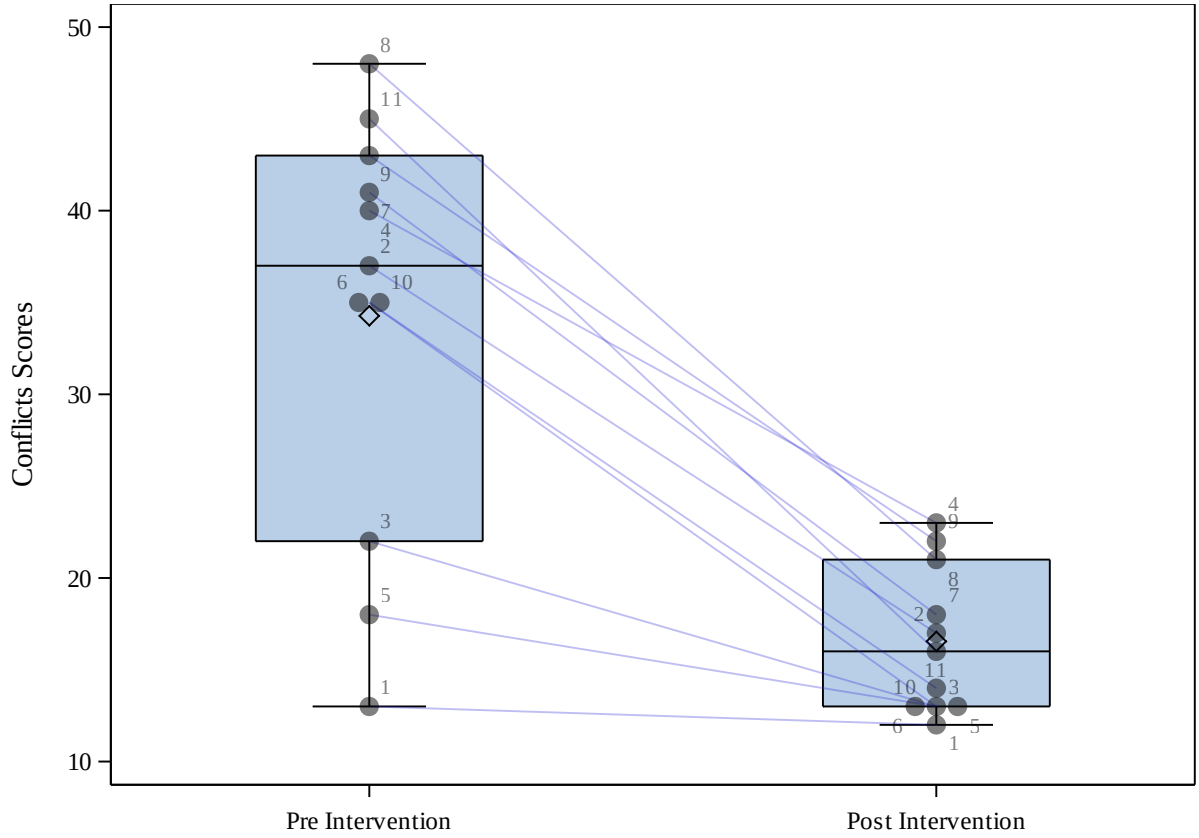


Figure 6. Child-Parent Relationship (Conflict subscale) scores pre-and post-intervention.

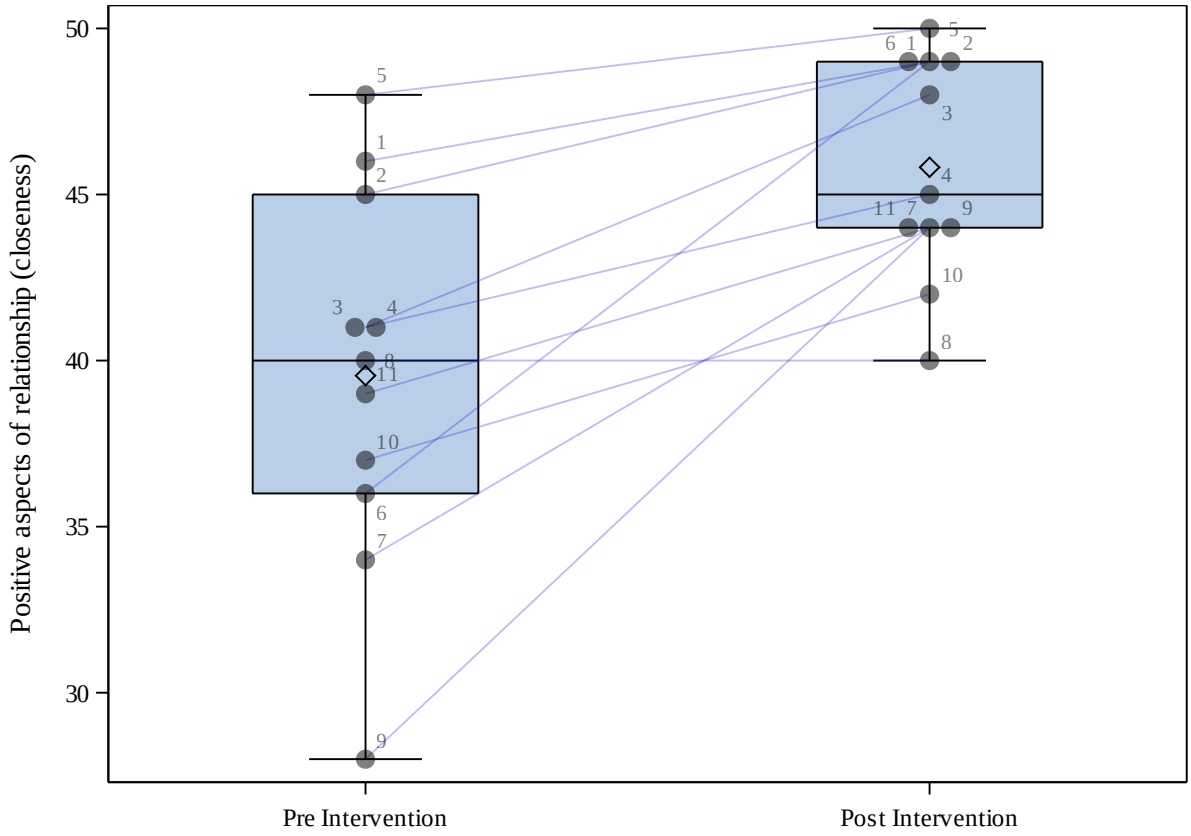


Figure 7. Child-Parent Relationship Scale (Closeness subscale) scores pre-and post-intervention.

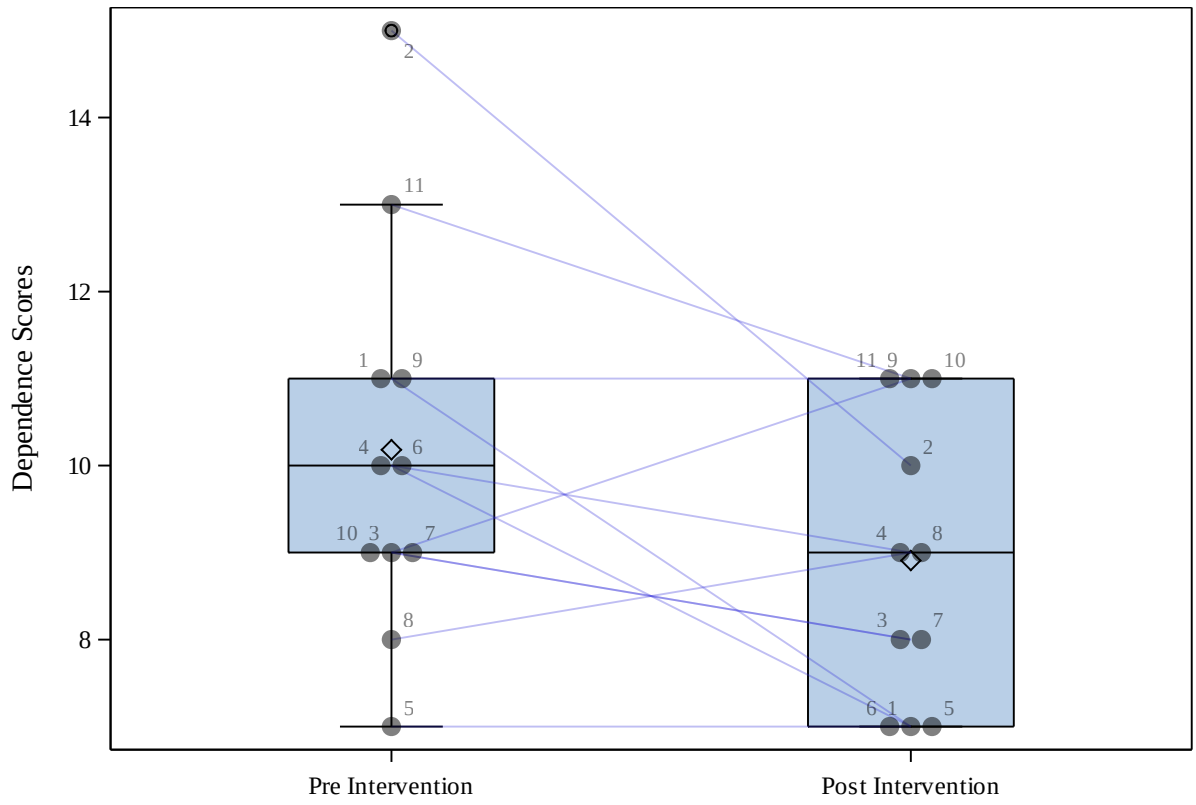


Figure 8. Child-Parent Relationship Scale (Dependence subscale) scores pre-and post-intervention.

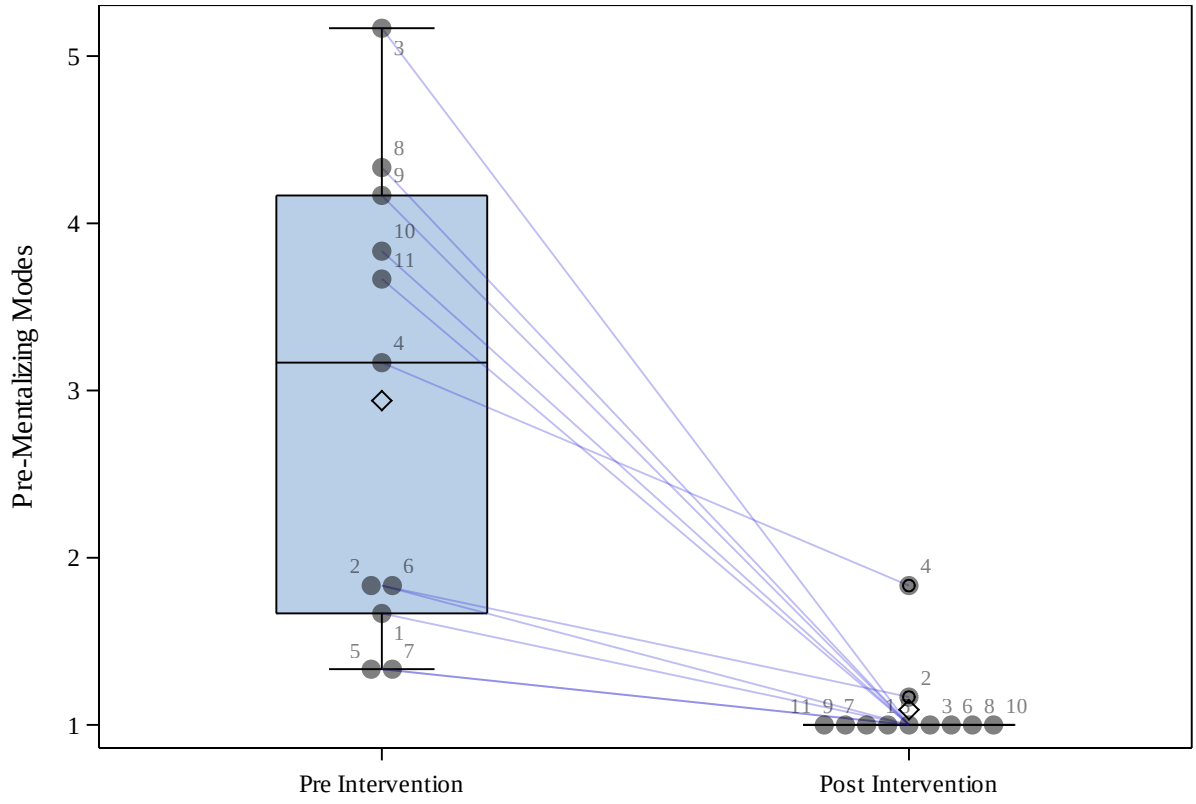


Figure 9. The parental reflective functioning (pre-mentalizing modes) pre-and post-intervention.

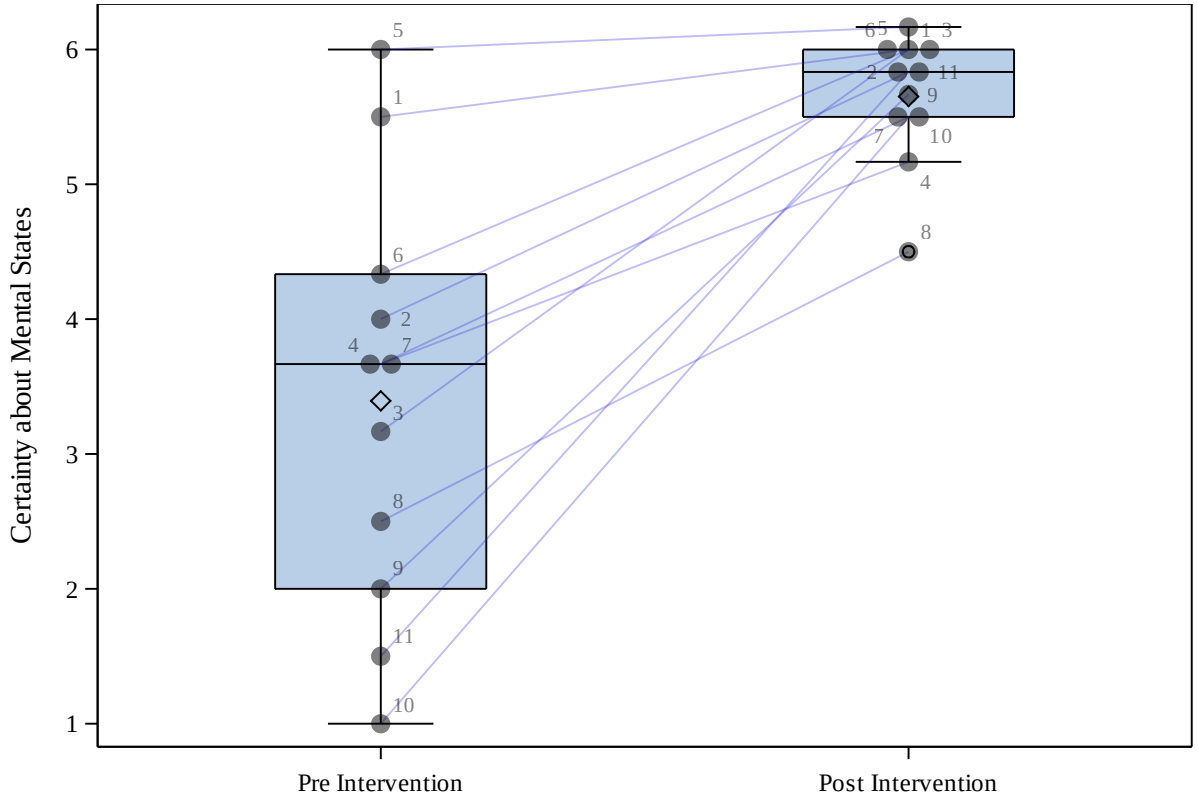


Figure 10. The parental reflective functioning scale (certainty about mental states) pre-and post-intervention.

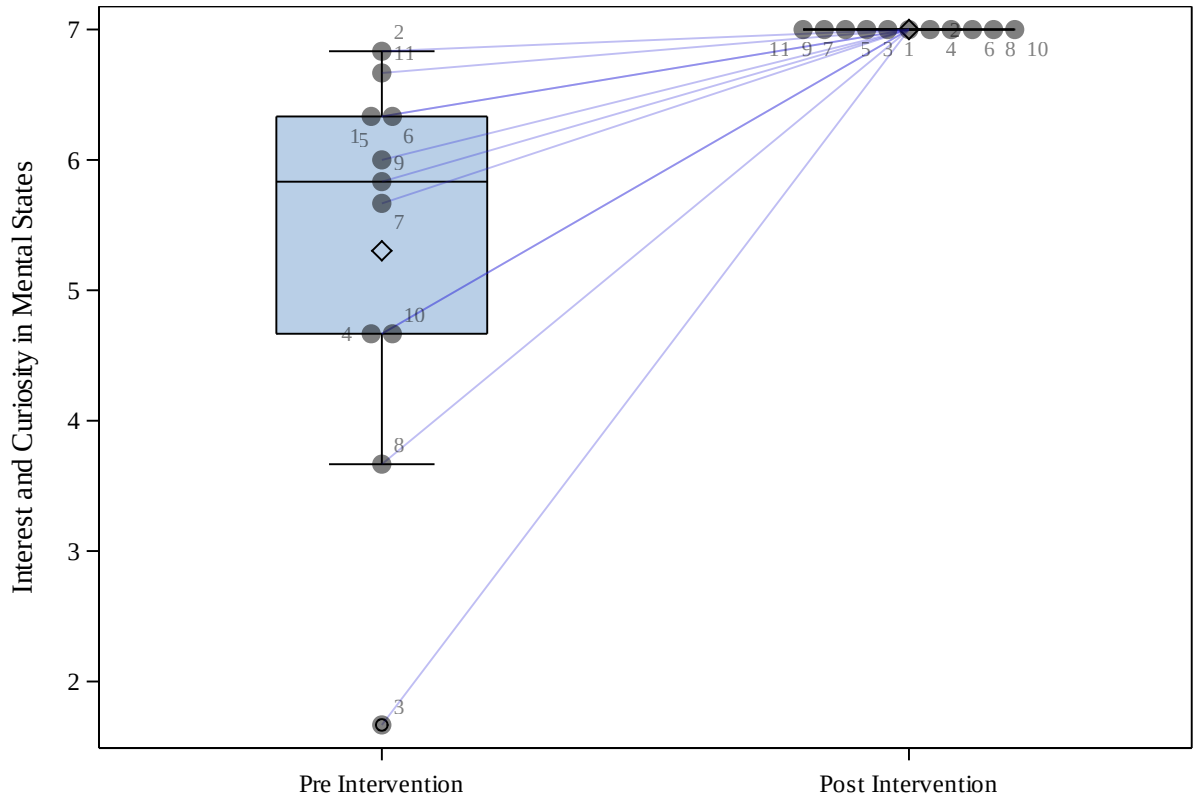


Figure 11. The parental reflective functioning scale (interest and curiosity in mental states) pre-and post-intervention.

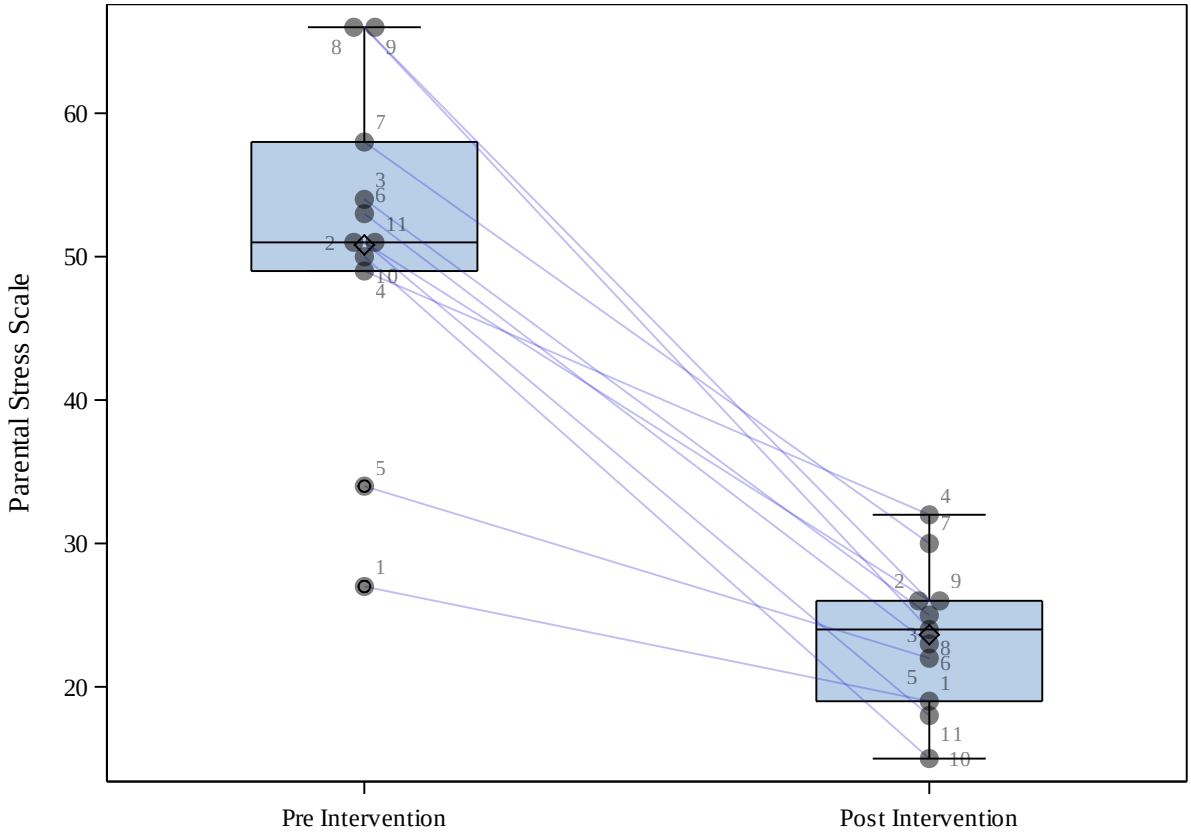


Figure 12. The parental stress scale scores pre-and post-intervention.

Stage Three: Qualitative Feedback

Descriptive statistics were used to analyse the scores from the first section of the feedback survey, which comprised questions with Likert scales. Twelve participants provided qualitative feedback (see Appendix B7). All participants rated being *satisfied* with the parenting group. Ten rated that the intervention had *made things better*, with the remaining two rating it as having *made things slightly better*. All participants rated the between-session calls and the workbook as *very helpful*. All participants rated *definitely yes* when asked if they would recommend the group to others. When asked, "Do you think you are likely to use the parenting skills and techniques?", 11 rated *definitely yes*, and the remaining parent (n= 1) rated *possibly yes.* Table 6 summarises the ratings and qualitative results. Parents shared that

they had become better at mentalizing, become better listeners, felt calmer in themselves, and gained confidence in their role as parents.

Table 6

Summary of Qualitative Feedback (N=12)

Feedback	N	%
1. How did you find the parenting group?		
Satisfied	12	100
2. How did the group impact you?		
Made things better	10	83.33
Made things slightly better	2	16.67
3. How did you find the in-between session calls?		
Very helpful	12	100
4. How did you find the workbook?		
Very helpful	12	100
5. Would you recommend the group to others?		
Definitely yes	12	100
6. The group would be improved if it were co-facilitated by a parent with lived experience of psychosis, e.g., a parent with psychosis delivered some of the material.		
Agree	6	50
Slightly agree	2	16.67
Unsure	4	33.33
7. Was there enough focus on parenting skills and techniques (e.g., Attunement, mentalizing, communication, setting boundaries, STOPP and problem-solving)?		
Just right	12	100
8. Was there enough focus on managing psychosis?		
Just right	11	91.67
Not enough	1	14.29
9. Was there enough focus on the impact of psychosis on you and your children?		
Just right	12	100
10. Was there enough time to talk about your experiences of psychosis?		
Just right	12	100
11. Were eight sessions enough?		
Just right	12	100

Feedback	N	%
12. Was 90 mins the right length of time for each session?		
Just right	12	100
13. Do you think you are likely to use parenting skills and techniques?		
Definitely yes	11	91.67
Possibly yes	1	14.29
14. Was there enough time for discussions in small groups/breakout rooms?		
Just right	12	100
15. Was there enough time to discuss in the big group?		
Just right	12	100
16. Was there enough information delivered by the facilitators in the sessions?		
Just right	12	100
17. Were there enough videos?		
Just right	11	91.67
Not enough	1	14.29
18. The early intervention service is available for up to three years. At what stage in an individual's care should this group be delivered? E.g., within the first six months/the last year.		
First six months	7	58.33
After one year	1	8.33
Depends on how ill the parent is.	2	16.67
Not sure	2	16.67
19. Given a choice, would you have preferred the group to be online or in person?		
Doesn't matter whether it is online or face to face	2	16.66
In-person	1	8.33
Online	9	75

20. Tell us about any changes you have noticed in yourself, parenting skills, or your relationship with your child(ren)?

- Definitely, yes, I listen to them more, and I pay more attention to them, which means that they seem to want to talk to me a bit more and spend more time with me. This is making me more confident as a parent. Spending more time with the kids has also helped with managing the voices.
- I am listening to my children more. I am paying more attention to their needs, understanding them better, and spending more time interacting, engaging, and playing with them. They are sharing more information with me. We have fewer arguments. I have become more assertive and have been able to set boundaries better.
- I have learnt to better understand my daughter, she has some developmental delays, but I understand that being patient and tuning

Feedback	N	%
into her inner world by mentalizing helps me better understand her and respond better to her needs. • I used to feel frustrated before, but as a parent, I understand that I need to take the initiative to repair ruptures. I have noticed that I am more relaxed than before. I am a lot more aware of my own emotions now. This helps me to mentalize my children better. My children are now also more patient with me because I am more open with them. We also have clearer boundaries.		
21. What improvements would you make to the group (is there anything you would change, add, or remove)? • The course was really well-balanced. There was a good variety of material, teaching, videos, discussions, homework, and relaxation. I've never been to any groups before or even courses on psychosis, so it felt really empowering to know that I was not alone and to be able to share and hear about similar experiences. I wouldn't change anything. This probably wasn't the place, but if there were any similar groups just focusing on and understanding psychosis, I would like to go to that. • Even though I did not talk much, it would have been nice to hear more about people's stories of their psychosis.		
22. Any other comments: • It was a really good course; I enjoyed the format. It was organized really well, and I would love to be involved in anything else that you might do in the future. Thank you. • It was the perfect intervention for me. I would like GPs and social services to be aware of this course - it would be great for this to be available across the country. It would really help people. I can see a huge difference in myself, my psychosis, my relationship with my children and their wellbeing. • It's been really helpful. Now it's just about keeping on doing what I am doing - and I have the workbook I can go back to if I forget anything. • It's been the best group I have been to. I have taken away so much in a small amount of time. Being in a group with other parents also made me feel less lonely and more normal.		

DISCUSSION

The primary aim of this study was to assess the acceptability and feasibility of an eight-week mentalization-centred group-based diagnosis-specific parenting intervention (Me, My Child and Us) for PWP. The process of conducting the group and findings from the study showed promising feasibility and good acceptability, suggesting that the group would be feasible to run, well-received, and perceived as beneficial. A preliminary assessment of the

group effects showed significant changes in all pre- post-intervention outcome measures. Participants showed improvement in general wellbeing, parental stress, parenting efficacy and satisfaction, parental relationships, and mentalizing capacity.

Recruitment rates were good; however, some difficulties were encountered. Care coordinators did not always refer parents on their caseloads and required frequent prompting. Inconsistencies in recording dependents on electronic health records also made identifying parents in community mental health teams challenging.

Thirteen parents started the intervention across two groups, and eleven completed the intervention. There was an average of 75% attendance, again suggesting that the group is feasible for this population. During the initial taster session, some parents expressed being unable to join the group during the daytime due to work commitments. Thus, it was arranged to run two separate groups. The first group occurred between January and March and ran on Mondays between 10am and 11.30am. The second group was facilitated later in the year between October and December. This group ran on Wednesday evenings between 6pm-7.30pm. In the end, most of the attendees in the evening group were not employed, and the evening was not the best time for them. Overall, there was higher attendance in the first group, which was run in the mornings earlier in the year. This might suggest that the time of day and year should be carefully considered when setting up the group.

Both groups were conducted using a digital format (Microsoft Teams). This digital delivery enabled practical flexibility to be addressed, such as allowing individuals to join from across a wide geographical area, eliminating travel costs- and time, reducing the need for childcare, and being able to attend from the comfort of one's own home or in some instances, attending whilst at work. Eleven out of twelve participants stated that, given a choice, they would prefer to attend the group online rather than face-to-face. This supports findings from previous studies, which have found that online groups may be suitable and

preferable for this client group because of their anonymity and ease of access. Online digital groups could also appeal to parents as they may help to overcome some of the symptom-related and social barriers associated with psychosis (such as motivation problems, social anxiety, financial problems, and disorganization), which might make attendance in the community more difficult. However, the format of MMCAU can easily be adapted and delivered face-to-face if desired.

Overall, results of the current pilot study demonstrate fair acceptability and promising initial effects of parenting skills and techniques to improve parental distress- and relationships. Qualitative evaluation showed high acceptability ratings and highly positive participant experiences overall. Parents experienced the group as a safe and non-judgmental space, which helped them to speak freely about their experiences, strengths, challenges, and fears. Parents emphasized that they enjoyed the structure of the intervention and appreciated having a workbook to refer to alongside the group sessions. All participants indicated that they planned to continue practising the skills and techniques after the intervention was over.

Previous studies have highlighted the need to identify specific intervention components or combinations of components that are key ingredients related to clinical change. Reviews of the between-session feedback and feedback questionnaires suggest that psychoeducation about psychosis and its impact on parenting, experiential mentalizing and Attunement skills, learning communication strategies, and learning skills to manage symptoms of psychosis, as well as the group discussions were the most beneficial aspects of the current intervention (See Appendix B7 and B8). Existing research recommends that groups cover multiple parenting challenges and techniques that deal with the demands of parenting children of different ages. MMCAU included parents of children aged 2 to 18, and we ensured that the group covered themes and parenting difficulties spanning early childhood through adolescence.

To our knowledge, two existing parenting interventions have been trialled with PWP, Triple P and Family Talk. However, neither have been mentalization-centred or adapted to the specific needs of PWP. Researchers have suggested that severe mental illness (including psychosis) in parents is associated with a diversity of problems, including social, psychological, and emotional difficulties. Thus, generic parenting interventions or interventions with just one or two focal points (e.g., psychoeducation or communication) may be insufficient for PWP. Parents with severe mental illness may also require and request long-term support. Previous studies have reported that parents have found it difficult to maintain learning obtained through time-limited interventions. By incorporating experiential practices into all MMCAU intervention sessions, setting- and reviewing homework, and making support calls between sessions, facilitators supported participants in strengthening and tailoring the skills and techniques to their parenting context and needs. As the group covered themes of parenting skills relevant to childhood and adolescence, parents will be able to use the same skills with their children until they reach adulthood. Having a workbook will also support parents to revisit their learning to refresh their memory.

Researchers have described the importance of incorporating parenting support interventions into adult mental health services (Mayberry & Rupert, 2009). Some studies have found that clinicians are open to this. In contrast, other studies have found clinicians feel powerless to help service users with unshared experiences (McMullan et al., 2018). Others did not feel equipped to work effectively with needs related to parenting and the parental role (Radley et al., 2021). This highlights the need to support staff to feel more confident in working with the dual demands of psychosis and parenting. A manualized intervention such as MMCAU, which is based on skills and techniques already used in adult mental health services, could help bridge this gap. The structure and content of the group allow it to be

delivered efficiently and offered either as a stand-alone intervention or in combination with other ongoing support.

Dissemination

1. A written summary of the results has been sent to the parents who took part in the project.
2. A summary report of the results and future plans was shared with the OHFT quality improvement and clinical audit team (who provided initial Quality Improvement approval).
3. The final results and conclusions were shared with staff in the referring teams. Feedback was gathered from clinicians and care coordinators to understand any referral challenges they experienced. A discussion on how the intervention can be integrated into the overall service care plan has been scheduled with the service lead.
4. In October 2021, the project plan was presented at the Trust Working with Families Conference. There is now a trust-wide QI project Improving Working with Families, which includes a stand on communication, and we will inform the project leads about our work in this area.
5. The aims, methodology, and preliminary results were shared with staff at the Oxford Recovery College (ORC) to explore how PWP may access and participate in groups at the ORC as well as MMCAU. We will re-visit the ORC to share the final findings and consider whether running the group there as a ‘course’, rather than in the team as an ‘intervention’, might be preferred by some PWP.
6. Finally, from a research perspective, the study will be submitted for publication in a psychology journal. The aims, methodology and preliminary results were also

presented at the 50th Annual British Association of Behavioural and Cognitive Psychotherapies conference in London, 2022.

Limitations

Some methodological limitations need to be stressed. Most of the group participants had taken part in a previous interview study by one of the authors, where participants shared what support, they would find helpful. Therefore, it could be argued that the intervention was tailored to these parents' needs, which might limit the findings' generalisability and transferability. Participants' duration of psychosis and length of time under the care of mental health services were not recorded prior to them starting the group. This would have determined how much pre-existing support participants had had prior to the group, which may have influenced their motivation and ability to engage.

The findings represent the voices of a small, predominantly white female PWP group. Only two participants in the study were of non-white ethnic backgrounds, and only two were fathers. Fathers have historically been under-represented in parenting interventions; thus, significant efforts must be made to include fathers in future work.

No psychosis-specific outcome measures were used. Given the relationship between parenting stress and psychotic symptoms, it could have been helpful to measure whether the intervention influenced the presence, frequency, and impact of symptoms of psychosis. Furthermore, given the centrality of mentalization in MMCAU, it would be interesting to have mentalising as a screen for future studies. Having such a screen could possibly help with recruitment. It may also help explain which individuals achieved greatest change between pre-post group scores on mentalized-based measures. Finally, with more time and resources, it would have been interesting to have heard from participants' children (where appropriate) to learn how satisfied they were with the parent-child relationship pre-and post-intervention.

This would have provided a second dimension to the relationship-satisfaction data and also given additional insight into parents' ability to mentalize with their children; a higher discrepancy between parent and child ratings within a dyad may have indicated lower mentalizing capacity.

Future Directions

Preliminary indications of this study are that diagnosis-specific and mentalization-centred group-based parenting interventions for PWP are acceptable and feasible and may also be clinically effective. Additional research is required to test the effectiveness of the intervention in a randomized controlled trial with a larger and more diverse sample of PWP.

CONCLUSION

There remains a dearth of studies which focus solely on the lived experiences of PWP and their parenting needs. The complexity and importance of the nature, content, and processing experiences of psychotic symptoms and their impact on parenting suggest that PWP benefit from diagnosis-specific and mentalization-centred parenting support. The social adversities, stigmatization, and isolation commonly endured by people living with psychosis also suggest that group interventions, particularly digital ones, are effective in normalizing experiences, forming peer relationships, and creating a safe context where learning can take place.

Me, My Child, and Us parenting intervention strongly support the value of diagnosis-specific interventions, group-based modality, and mentalization-centred parenting strategies for PWP. Our results suggest that offering My, My Child and Us group intervention could be an acceptable, feasible, clinically effective, and possibly cost-effective approach for services to target parenting needs of PWP. Additional research is required to test the effectiveness of

the intervention in a randomized controlled trial, with a larger and more diverse sample of PWP.

AUTHOR CONTRIBUTIONS

First author: Conceptualisation; data curation; formal analysis; investigation, methodology; writing – original draft. **Second author:** Conceptualization; methodology; supervision; writing – review and editing.

CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

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THEORY DRIVEN RESEARCH PROJECT

Brief Imagery-Based Metacognitive Intervention for Flashforwards in Psychosis: A fixed baseline case series

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Brief Imagery-Based Metacognitive Intervention for Flashforwards in Psychosis: A fixed baseline case series

ABSTRACT

Background and objectives: Distressing mental images are common experiences in people with psychosis. Imagery based interventions have been found to be effective in directly targeting properties of distressing mental images. Given the central role of metacognitive deficits in psychosis, it appears that metacognitive techniques with imagery properties could play a central role in managing distressing mental imagery. A brief imagery-based metacognitive intervention was developed to target the control mechanism of distressing mental images in people with persecutory delusions. A fixed baseline case series was designed to investigate whether the protocol was acceptable and feasible to be delivered in an NHS setting and to report change scores in symptom outcomes.

Methods: Eight participants who met criteria for a schizophrenia spectrum diagnosis who experienced distressing non-trauma related mental images completed a brief imagery-based metacognitive intervention which consisted of three phases; a baseline phase which comprised of an assessment, Psychoeducation and Microformulation, an intervention phase which included learning, developing and consolidating metacognitive techniques targeting the control mechanism of non-trauma related mental images and a follow-up phase which included gathering qualitative feedback about the intervention. Characteristics of the image were assessed throughout the case series. Symptoms of anxiety, depression, persecutory delusions, and schemas were assessed pre- and post- intervention.

Results: The metacognitive intervention was feasible, acceptable, and rated as highly satisfactory, successful, and useful. One participant dropped out at the baseline phase. No adverse events were reported throughout the intervention. Positive change scores were reported for anxiety, depression, persecutory delusions, and schemas. Tau-U analysis showed

positive trends and high effect sizes when comparing characteristics of distressing mental images at baseline compared to intervention and follow-up.

Conclusion: Our present findings suggest that it is acceptable and feasible to engage people with persecutory delusions in a brief imagery-based metacognitive intervention and that positive change can be achieved. Participants described positive symptomatic changes and high satisfaction levels with their experience of engaging with the intervention. However, the study is limited by a number of factors, including the small sample size and absence of a control group. Future studies are needed to replicate and clarify this finding.

Key words: *Mental images, flashforwards, persecutory delusions, metacognitive intervention***,** *novel intervention*

1. **INTRODUCTION**

Cognitive models of psychosis describe continua from anomalous experiences to positive symptoms involving social factors, pre-existing beliefs about self, others, and the world, maladaptive appraisals, and affective and cognitive disturbances such as thinking biases (Morrison, 2001; Bentall et al., 2007; Garety et al., 2007Freeman et al., 2002). Cognitive therapy conventionally focuses on working with negative automatic verbal thoughts, unhelpful assumptions, and core beliefs. It is, however, well known that thoughts can be verbal or visual, also known as mental images (Beck, 1979). Mental images refer to the stimulation or recreation of perceptual experience across different sensory modalities, which gives rise to the experience of "seeing with the mind's eye' or "hearing with the mind's ear" (Kosslyn, Ganis, & Thompson, 2001). Several studies have found that mental images compared to verbal thoughts, significantly amplify emotional effects and associated actions (Libby et al., 2007). Thus, working with mental imagery may have a more powerful impact on emotions compared to working with verbal thoughts.

Mental imagery

Mental images can be future-oriented, termed 'flashforwards' or related to past events, termed either memories or 'flashbacks' (Holmes et al., 2007, Engelhard et al., 2011). Mental images possess several sensory properties, such as being vivid, compelling, and sensory-detailed (Pearson et al., 2013). These properties allow them to create more complex and novel combinations of ideas compared to verbal thoughts.

Intrusive distressing mental images have been identified across anxiety disorders (Hirsch & Holmes, 2007), bipolar disorder (Steel et al., 2020; Di Simplicio et al., 2016) and psychosis (Schulze et al., 2013; Taylor et al., 2020). Studies have found that 73-74% of individuals with psychosis experience intrusive mental images (Morrison et al., 2002;

Schulze et al., 2013). Intrusive and uncontrollable images may signal psychopathology, play a ubiquitous role in the maintenance of psychosis, and thereby provide a target for alternative treatment techniques than simply language-based techniques.

Imagery interventions

Given the dual interference between imaginal and perceptual neurological processes (Baddley & Andrade, 2000), it makes sense to harness the same properties of imagery when working with mental images. Evidence for imagery-based techniques for psychotic symptoms is mounting (e.g., Ison et al., 2004; Taylor et al., 2019; Taylor et al., 2020; Clarke et al., 2022), and a breath of imagery techniques have been developed across mental health disorders, i.e., manipulating imagery to change beliefs about its significance, learning to discriminate between imagery and reality, transforming images, memories, and dreams, and creating new mental imagery (Ng et al., 2013).

Two recent case series studies, both with five participants with persecutory delusions, found that a brief six-session imagery-focused intervention (iMAPS) was acceptable and feasible to deliver and reported reductions in imagery distress, persecutory delusions, negative schematic beliefs, and mood (Taylor et al., 2020; Cairns et al., 2023).

Metacognitive interventions

Persecutory delusions are often accompanied by associated metacognitive beliefs, ideas, and interpretations (Harper & Timmons, 2019). Metacognitive beliefs in relation to controllability of a situation and controllability of thoughts (e.g., “I have no control of my thoughts ” or “I have no control of my mental images”) have been suggested to be a key component in the maintenance of psychotic phenomena such as persecutory delusions (Morrison et al., 1995; Fett et al., 2019: Freeman & Garety, 1999).

Metacognitive techniques focus on altering metacognitions or their functions, such as increasing cognitive flexibility, modifying cognitive beliefs, and decreasing dysfunctional coping strategies (Mortiz et al., 2022). This can be achieved by manipulating mental imagery properties and reinforcing that images are just images (Holmes et al., 2019), which consequently reduces the emotional power of images, changes how people relate to images and increases individuals' metacognitive beliefs about control in relation to psychotic experiences.

Given the link between mental imagery and persecutory delusions, metacognitive techniques concerned with imagery properties are of potential therapeutic value (Lysaker et al., 2018). There is a range of metacognitive techniques which focus on manipulating mental imagery properties, which reduces the emotional power of the image by changing how a person relates to the image (Holmes et al., 2019). Recently, a twelve-session imagery psychological intervention (Imagery Based Emotion Regulation (IBER)) has been developed for people with bipolar disorder, which aimed to use imagery techniques to target metacognitions and maladaptive mental imagery. A feasibility randomised controlled trial of IBER with 57 participants showed that recruitment and intervention retention were achievable for imagery-focused interventions for bipolar disorder (Steel et al., 2022).

To our knowledge, there are no studies that have investigated the acceptability and feasibility of imagery-based metacognitive therapy in flashforwards in psychosis.

1.1 Aims

The current study aims to add to growing literature on the use of imagery interventions for psychosis by specifically targeting their metacognitive mechanisms. We developed a brief novel imagery-based metacognitive intervention for flashforwards in persecutory delusions. The primary objective was to complete a case series to investigate the

acceptability and feasibility for its delivery in NHS settings. Case series design is recommended by the Medical Research Council for the initial stages of developing complex interventions (MRC, 2000). The secondary objective was to report change scores in outcome measures to help inform future research in this area. Given the nature of case series design, the study was not powered to fully assess treatment effectiveness.

We hypothesised that the intervention would: (1) be acceptable and feasible to deliver, (2) lead to improvements in measures of mental imagery characteristics (vividness, conviction, control, distress, and frequency), anxiety, depression, persecutory delusions, and schema beliefs and that (3) change will be maintained at one week follow up.

2. METHODS AND MATERIALS

2.1 Design

A mixed methods fixed baseline case series design was used (see Figure 1). Ethical approval was obtained from The North of Scotland Research Ethics Committee (REF: 22/NS/0084) and Health Research Authority (HRA; Appendix A). See Appendix C2 for a table of protocol items for the case series study.



Figure 1 Overview of study phases

2.2 Participants

Eight participants were recruited from Adult Mental Health Teams (AMHT) and Early Interventions in Psychosis services (EIS) from 45 patients screened for participation. Participants aged 18-65 who met the following criteria were included in the study: (1)

primary reported experiences of psychosis supplemented by diagnostic criteria for schizophrenia and schizoaffective disorder from the ICD-11, (2) identified a distressing flashforward image related to a persecutory delusion, (3) had sufficient understanding of English language and (4) had capacity to give consent were included in the study. Reasons for not participating were not meeting the inclusion criteria (*n*= 25), alcohol and substance misuse (*n*= 3), being non-contactable (*n*= 2), and not being interested in taking part in research (*n*= 3). See Table 1 for sample demographics.

Table 1

Sample Characteristics

Participant ID	Gender	Age	Ethnicity	Diagnosis	Therapy			Religion
					Waiting for therapy	In therapy	Completed therapy	
P1	Male	24	White British	First episode of psychosis			X	Christian
P2	Female	56	White British	First episode of psychosis		X		Church of England
P3	Female	23	White Irish	First episode of psychosis	X			New Spirituality
P4	Female	52	Black British	Schizoaffective Disorder	X			Muslim
P5	Female	20	Black British	First episode of psychosis	X			Christian
P6	Female	24	Moroccan	First episode of psychosis	X			Muslim
P7	Female	36	White British	First episode of psychosis		X		Non-religious
P8	Male	32	White British	First episode of psychosis			X	Spiritual/Witchcraft

2.3 Measures

2.3.1 Baseline measures

Five baseline measures were completed at assessment (week 1) and follow-up (week 6; see Appendix C3). Reliable change and clinically significant change based on differences in pre- and post- intervention scores were reported. See Table 2 for a summary of baseline measures used.

Table 2

Summary of baseline measures

Measure	Characteristics
General Anxiety Disorder-7 (GAD-7; Spitzer, Kroeke, Williams, & Lowe, 2006).	This is a 7-item self-report measure of generalised anxiety disorder (GAD). Items are rated on a 4-point scale from 0-3. It measures how often the respondent has been bothered by common signs and symptoms of GAD. Total scores range from 0-21; greater scores indicate higher severity.
Patient Health Questionnaire-9 (PHQ-9; Kroenke, Spitzer, & Williams, 2001).	The PHQ-9 is a 9-item self-report scale comprising signs and symptoms of low mood and depression. Respondents are asked to rate how often they have been bothered by the symptoms outlined using a scale from 0-3 (where 0 is not at all, 1 is several days, 2 is more than half the days, and 3 is nearly every day). The clinical cutoff point is 9 scores; higher scores indicate increased severity.
The Persecutory and Deservedness Scale (PaDS; Melo, Corocran, Shryane & Bentall, 2009).	This is a 10-item self-report measure of the severity of paranoid thinking and level of perceived deservedness for the persecution. Higher scores represent greater levels of persecutory and deservedness ideation. The PaDS demonstrates high validity and reliability

	and is validated for use in clinical samples (Melo et al., 2009).
Brief Core Schema Scales (BCSS; Fowler et al., 2006).	The BCSS is a 24-item self-report measure which assesses beliefs about self and others. Items are rated using a scale of 0-4 scale, which comprises four factors (negative self, positive self, negative others, and positive others), with a score given for each factor. The greater the total of the negative beliefs, the greater the negative beliefs and the larger the total of positive beliefs, the more positive beliefs one holds. Smith et al. (2006) concluded that the psychometric properties of the BCSS make it appropriate for use in this population.

Note. See Appendix C3 for copies of all baseline measures.

2.3.2 Primary outcome measures

Acceptability and feasibility were measured by attendance rates, safety in relation to experiences of adverse events, and qualitative feedback (see section 2.3.4).

2.3.3 Secondary outcome measures

In each session, participants completed an adapted version of the Mental Imagery in Psychosis Questionnaire (MIPQ; Holmes et al., 2016; Taylor et al., 2020). The MIPQ records characteristics of the image "to test if reductions in psychotic symptoms during therapy are mediated by reductions in levels of problematic imagery during treatment" (Taylor et al., 2018, p. 581).

Our version of the MIPQ included five visual analogue scales, which asked individuals to rate various characteristics of their target distressing image. The characteristics measured were as follows:

- Control Rating: On a scale from 0-100%, how much control do you have of the image?

- Distress Rating: On a scale from 0-100%, how distressing is the image?
- Frequency Rating: How often do you experience the image on a daily basis per week?
- Conviction Rating: On a scale from 0-100%, how real does the image feel?
- Vividness Rating: On a scale from 0-100%, how vivid is the image?

Visual analysis and Tau-U analysis were completed to evaluate pre- and post-intervention changes in MIPQ ratings.

2.3.4 Qualitative Measures

Qualitative feedback was gathered at follow-up session to assess acceptability and feasibility of the intervention (see Appendix C4). This measure included questions about acceptability, satisfaction, between-session use of techniques, demand, implementation, practically, adoption, integration, clinical impact, and improvement recommendations (see Appendix C4). The measure was developed based on previous exit interviews (e.g., IBER Trial (Steel et al., 2022), which were co-produced with experts by experience.

2.4 Intervention

The metacognitive intervention was based on a novel protocol (see Appendix C5). However, the Microformulation element was informed by Morrison's cognitive model of psychosis (2001). Treatment was delivered in a flexible manner to accommodate participants' idiosyncratic experiences and preferences. Patient-centred imagery-based metacognitive techniques were collaboratively developed and chosen to target appraisals about control of distressing mental images (e.g., "I have no control of them").

Two types of metacognitive techniques were offered, (a) manipulation of mental images (Holmes et al., 2019) and (b) attention training (Wells, 1990). For the first

technique, similar to standard imagery interventions, participants were asked to evoke the target image in great detail – ratings on emotional distress (using a scale from 0-100%) were taken. Participants were then asked to insert their chosen metacognitive technique and re-rate their emotional distress.

The first author delivered all sessions, which were closely supervised by the second author. Regular supervision took place to discuss the process of sessions and feasibility of the protocol.

2.5 Procedure

Participants were recruited via AMHT and EIS teams. All therapy sessions were completed online using Microsoft Teams. All sessions lasted between 40-60 minutes in duration.

Following receiving written consent, participants were invited for an initial assessment. This included completing baseline and secondary outcome measures and a brief assessment interview (see Appendix E). Participants received a £10 voucher for completing the assessment.

Following this, the four-week metacognitive intervention proceeded. Sessions took place on a weekly basis (see Table 3 for an overview of session content). Participants were asked to complete the adapted MIPQ questionnaire at the end of all four sessions.

Table 3

An overview of the metacognitive intervention

Session Number	Focus
Session 1	**Psychoeducation and Identifying Target Flashforward**

- Discuss verbal thoughts vs mental imagery in relation to emotions.
- Discuss brain activity and findings from neuroimaging studies.
- The brain cannot tell the difference between imagined events and real events – which explains the strong emotional reactions.
- Use examples to explain the difficulties and power of mental images vs real situations. This could include participants hearing real music vs imagining hearing music, participants seeing specific facial expressions such as an angry face vs imagining seeing an angry face and imagining taking a penalty vs actually taking a penalty.
- Explain that control over images can impact distress caused by the images.
- Using positive images to evoke happy and safe feelings.
- You can learn to change images, and the brain will react as if it is happening, even if it's not real, and mood can change.
- Identify target flashforward.

Session 2 **Microformulation (see Figure 2 for template)**

- Discuss the central role of control.

Session 3 **Metacognitive Techniques**

- <u>Examples of attention techniques</u>
  Attention training.
  Switching techniques

- <u>Examples of imagery manipulation techniques</u>
  Imagining popping the image like a balloon
  Imagining smashing the image like glass
  Imagining shrinking the image or blowing it up
  Imagining the image on a TV and switching channels
  Imagining the image being on the radio and turning down the volume/switching it off
  Imagining changing the color of the image
  Imagining the image looking funny
  Imagining putting the image in a bottle and throwing it into the sea

Session 4 **Ending**

- Recall/summarize and reflect on the learning.
- Plan how to continue to implement the techniques in the future and explore how to widen their application (e.g.,

	how to use them for other mental images).

Note. See Appendix C5 for a list of protocol items of whole case series study.

Participants were invited back for a one-week follow-up to complete baseline and secondary outcome measures. Participants also completed a qualitative feedback survey to share their experiences of the intervention (see Appendix D). At this stage, they were reimbursed an additional £15 voucher.

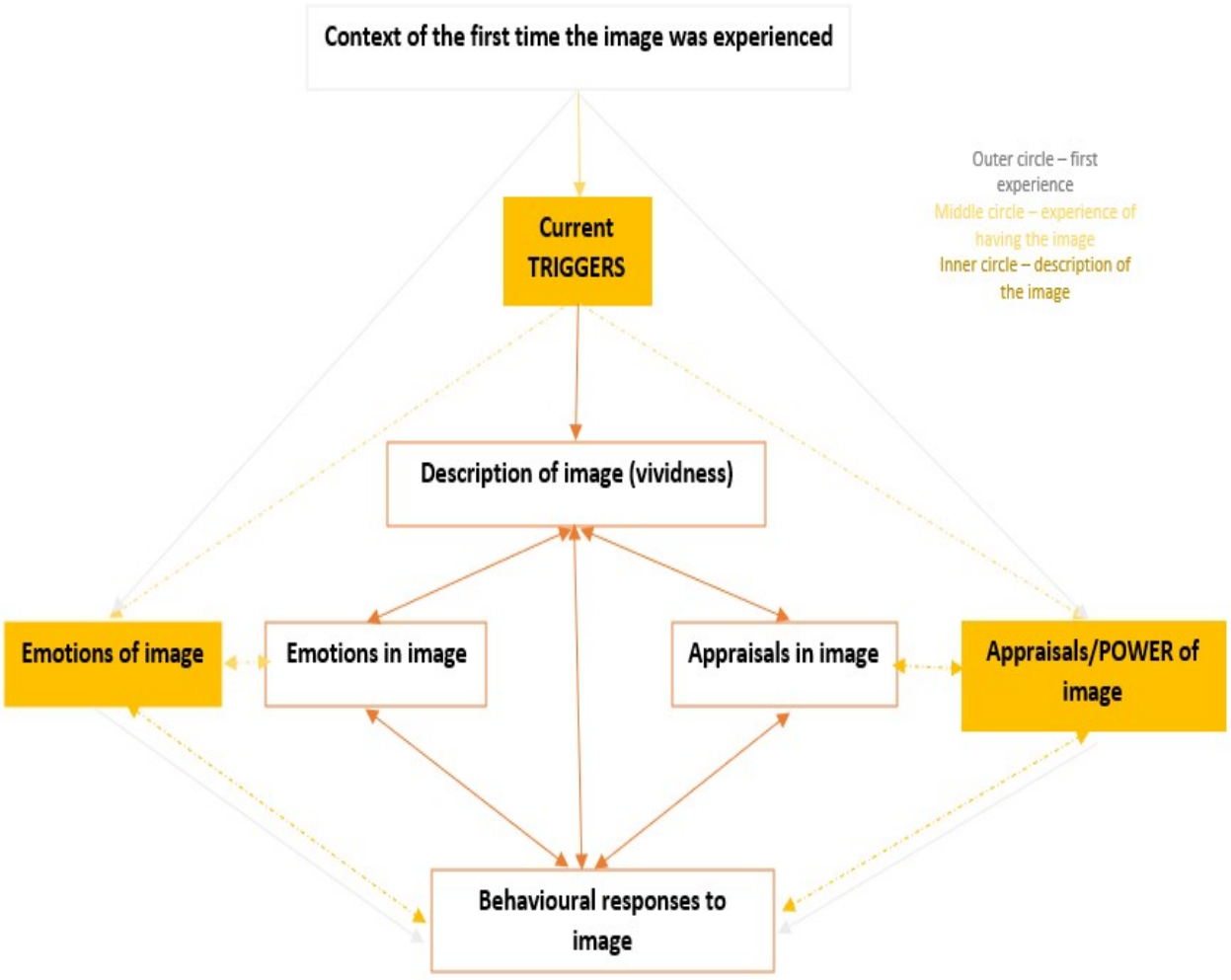


Figure 2 Microformulation for distressing non-trauma (flashforward) mental images.

2.6 Analysis

Feasibility and acceptability were evaluated though inspection of descriptive data and qualitative feedback.

To assess change in outcome measures scores, The Leeds Reliable Change Index Calculator (Morley & Dowzer, 2014) was used. It evaluated reliable (reliable change index; RCI) and clinically significant change (CSC; Jacobson & Traux, 1991) for all participants, across baseline measures.

The MIPQ questionnaire scores were monitored and analysed throughout all phases of the study. Visual analyses were conducted looking for change in central tendency, trend, and variability, relative to the magnitude of the intervention effect (Kazdin, 2011) across all participants who completed the intervention, for controllability- vividness- conviction- distress- and frequency of flashforwards. Due to risks of Type II errors and the limited aggression of generalisability about intervention effectiveness (Fingerhut et al., 2021) using visual analysis, additional Tau-U analysis was conducted using the Tau-U online calculator (Vannest, Parker, Gonen, & Adiguzel, 2016). Tau-u analyses non-overlap between study phases and provides trend control (Parker, Vannest, Davis, & Sauber, 2011).

Three comparisons were conducted: baseline vs intervention (to control for the effects of time and monitoring), intervention vs follow-up (to comprehensively evaluate post-intervention effects compared to preceding phases), and baseline and intervention vs follow-up (to comprehensively evaluate post-intervention effects compared to the preceding phases).

3 RESULTS

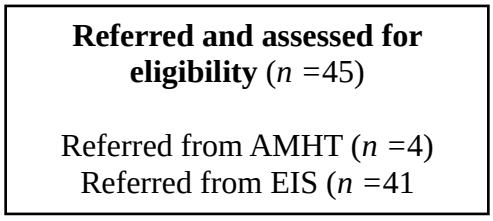
3.1 Primary outcomes

3.1.1 Descriptive Statistics

A summary of clinical and demographic information of the eight participants who entered the study is presented in Table 1. One participant (P1) dropped out at session

three due to difficulties committing to various health care appointments. One male and six female participants completed all phases of the study, with an age range of 20-56 (mean = 33.38; *SD* =13.78).

Four participants were waiting for psychology input, two had completed a course of therapy, and two had concurrent therapy (CBTp). A flowchart of participants in different phases of the study is illustrated in Figure 3.



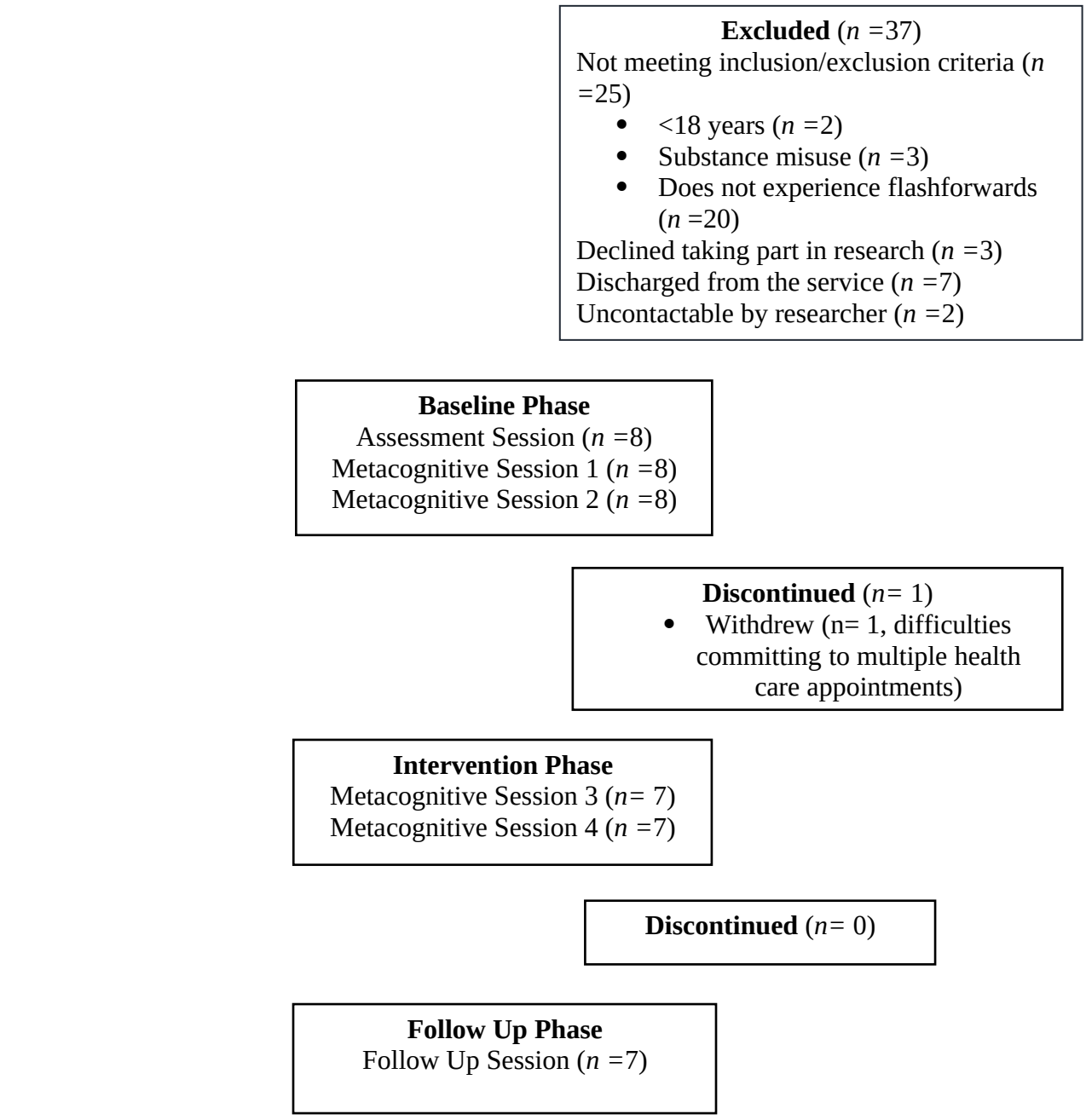


Figure 3 Overview of recruitment and participation

All participants experienced at least one recurring distressing flashforward. None were related to any past memories or traumatic events. Table 4 shows a descriptive

summary of participants' target flashfowards and examples of metacognitive techniques used during the intervention.

Table 4

Summary of target flashforwards

Participant ID	Flashforward	Examples of metacognitive techniques used
P1	Image of jumping off a bridge	NA
P2	Image of seeing herself as lonely, separate/distant from two sets of nuclear families.	Seeing the image as a photograph and ripping it apart. Seeing a tiger joining the party and communicating with young family members (in a humorous way).
P3	Image of seeing grandfather dead	Imagining joining angels who come to heal grandfather. Imagining filming it on the phone and the phone running out of battery.
P4	Image of finding mother dead	Imaging family playing a prank on them. Seeing the image as a movie and switching off the TV.
P5	Image of cutting herself	Imagining knives being rubberlike/jellylike which turn into worms.
P6	Image of having an angry outburst/ being violent with family members	Imagining the scenario as a scene on TV and switching off the TV. Imagining it as a TikTok video and scrolling it away on their phone.
P7	Image of the devil running into her house, trying to harm her.	Imaging being bigger and more powerful than the devil and having magical powers that evaporate the devil away. Imagining the devil as a spider and flicking it away.
P8	Image of getting attacked by a group of people when walking outside.	Imagining being powerful, expanding and becoming a giant and shrinking perpetrators. Seeing self-flying away from perpetrators.

3.1.2 Acceptability and Feasibility

Eight out of 45 participants screened took part in the study. Only three participants out of the 45 met criteria but declined to take part in the study, as they opted out of taking part in research. Overall, study adherence was good. Participants attended an average of 5.6 out of 6 sessions (7 participants attended all six sessions; see Appendix C6). There were some cancellations due to sickness and participants' educational commitments. However, all sessions took place one to two weeks apart.

Retention was high, with only one participant dropping out at baseline phase. There were no withdrawals during or after the intervention phase. All participants were able to engage in developing a Microformulation and developed and practised metacognitive techniques both in- and between- sessions. No risk or harm to self or others was reported by any of the participants throughout the study. No other adverse- or serious adverse events (e.g., hospitalisation, death) were reported.

3.2 Secondary Outcomes

3.2.1 Effectiveness: Reliable and Clinically Significant Change

A summary of mean data of eight participants for baseline measures is presented in Table 5. Reliable improvement, with a group standard error of difference of 4.27 (significant) for the GAD-7 measure, was found. GAD-7 scores were, on average, in the severe range (16.5 out of 21) at pre-intervention and dropped down to 9.4, indicative of mild severity at post-intervention. Three participants met clinically significant case criteria (CSC). Scores on the PHQ-9 for depression showed an improvement for four participants. Changes in scores indicated reliable change at 95% confidence level. . One participant met criteria for CSC.

Beliefs of persecution and deservedness, as measured by the two subscales on PaDS, showed a reduction in mean scores post-intervention vs pre-intervention. However, they did not demonstrate significant reliable change (RCI < 1.96). One case met criteria for CSC on the persecution subscale. Scores on all four subscales of the BCSS questionnaire (positive self, negative self, positive others, and negative others), neither showed reliable change nor clinical significance. However, three cases showed improvement in scores for the negative-self subscale. None of the participants scores deteriorated on any of the measures.

Table 5

Descriptive statistics of group baseline measures (*n* =8)

	Pre-Intervention		Post-Intervention		Standard Error of Difference at 95% confidence level	Reliable Change Indicated*	Cases meeting clinically significant change
	Mean	*SD*	Mean	*SD*			
GAD-7	16.5	4.75	9.4	4.24	4.27	Yes	3
PHQ-9	17.88	5.49	9.4	4.54	5.03	Yes	1
PaDS Persecution Subscale	2.26	0.97	1.5	0.90	1.08	No	1
PaDS Deservedness Subscale	1.48	1.17	0.7	0.83	1.30	No	0
BCSS Positive Self Subscale	8.75	4.86	8.71	4.46	3.72	No	0
BCSS Negative Self Subscale	8.88	3.83	5.71	2.29	3.94	No	0

BCSS Positive Others Subscale	9.63	6.19	9	4.46	3.72	No	0
BCSS Negative Others Subscale	12	7.15	12.14	6.80	6.15	No	0

Note. Lower mean scores indicate lower distress. See Appendix C7 for raw scores for each baseline measure per participant. *Reliable change is calculated as $RCI_{(.05)} = 1.96S_{Diff}$ and indicated when pre score minus post score is greater than the Standard Error of Difference score (Blampied, 2022).

3.2.2 Effectiveness: Target Flashforward Ratings

Descriptive analysis of study phase ratings for all MIPQ questions for the seven participants who completed all phases of the study is demonstrated in Table 6. Session-by-session ratings of the MIPQ questions were plotted using visual analysis graphs (see Appendix C8 for raw data per participant).

Table 6

Mean and Standard Deviations for pre-intervention (assessment), post-intervention (session 4), and follow-up (*n* =7)

	Pre-Intervention		Post-Intervention		Follow Up		*d*
	Mean	*SD*	Mean	*SD*	Mean	*SD*	
Control	7	18.89	79	20.90	87	10.69	4.2
Vividness	92	14.67	63	29.84	26	44.29	4.4
Conviction	90	22.36	23	20.58	9	14.63	3.6
Distress	99	3.78	27	29.13	13	25.63	2.75
Frequency	34	24.82	6	13.01	3	7.56	1.25

Note. Mean scores out of 100 for all scales. Higher scores are indicative of a better outcome for Control. Lower scores are indicative of better outcomes for the remaining scales. *Cohen's d*= change pre-follow up/pre *SD.*

As predicted, there appeared to be a positive linear trend between baseline-, intervention and follow-up for all participants on all MIPQ scales (see figures 4-8), except P7. P7's scores on vividness, conviction and distress remained static until the second intervention session. Minimal visual variability in baseline phase was seen for P8 for control (figure 5), P4 and P6 for distress (figure 6), P2, P4 and P8 for conviction ratings (figure 7), and P5 for frequency (figure 8).

Six participants (85.7%) showed a significant downward trend in vividness and reduction in central tendency of their flashforwards at follow-up compared to pre-intervention, except P7, whose scores remained at 100% throughout the study (Figure 4).

All participants experienced a change in trend and reduction in central tendency for control (Figure 5). This supported the prediction that the intervention will increase a sense of control post-intervention (mean = 79, *SD* = 20.90) compared to pre-intervention (mean = 7, *SD* = 18.89) and that this will be maintained at follow-up (mean = 87, SD = 10.69).

It was also predicted that there would be a decrease in level of distress post-intervention compared to pre-intervention and that this would be maintained at follow-up. A positive trend with a decline in rating for distress (Figure 6) was shown between all three phases: mean ratings at pre-intervention were 27 (*SD* = 29.13), post-intervention mean ratings were 99 (*SD* = 25.82) and mean follow-up ratings were 13 (*SD* =25.63). P2-P6 showed a prominent change in trend and reduction in central tendency, whereas P7's scores showed a gradual trend.

Similar positive trends were found for conviction (Figure 7) and frequency (Figure 8) for all seven participants, which supported our predictions. Conviction ratings declined from a mean of 90% at pre-intervention to mean of 9% at follow-up. Four participants

reported having 0% conviction, two participants remained 10% convinced, and P7 reported 40% conviction at follow-up. As a group, the majority (n= 6) reported not experiencing the target flashforwards at follow-up (0 images per week). However, P7 continued experiencing, on average, 20 target flashforwards per week (mean group frequency= 3).

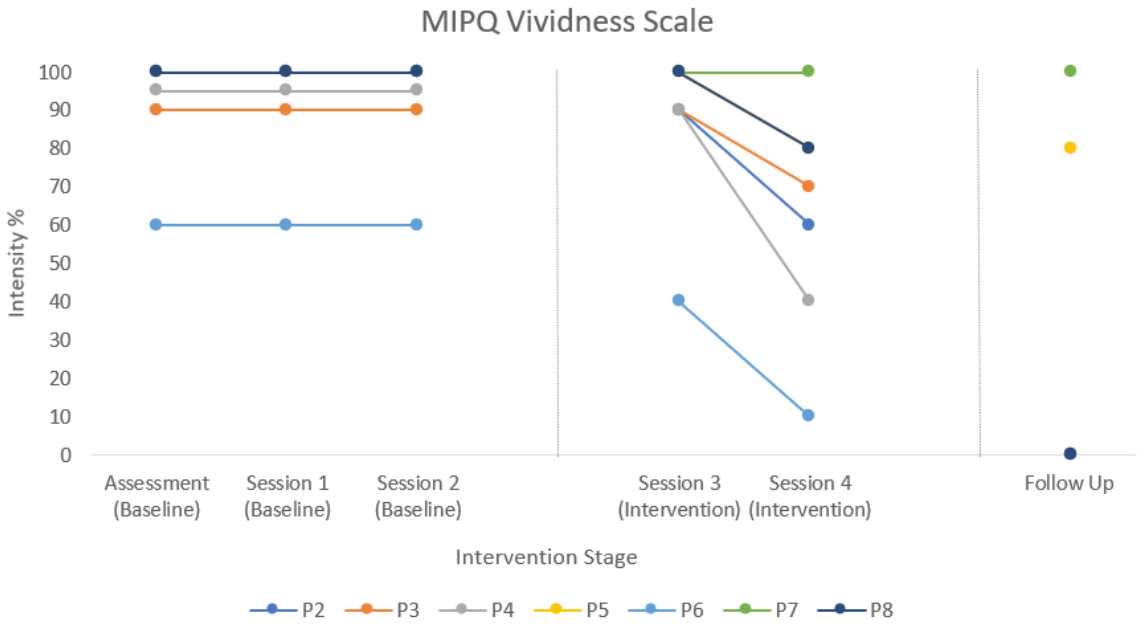


Figure 4. Visual analysis of MIPQ Vividness Scale. Dotted lines depict trends.

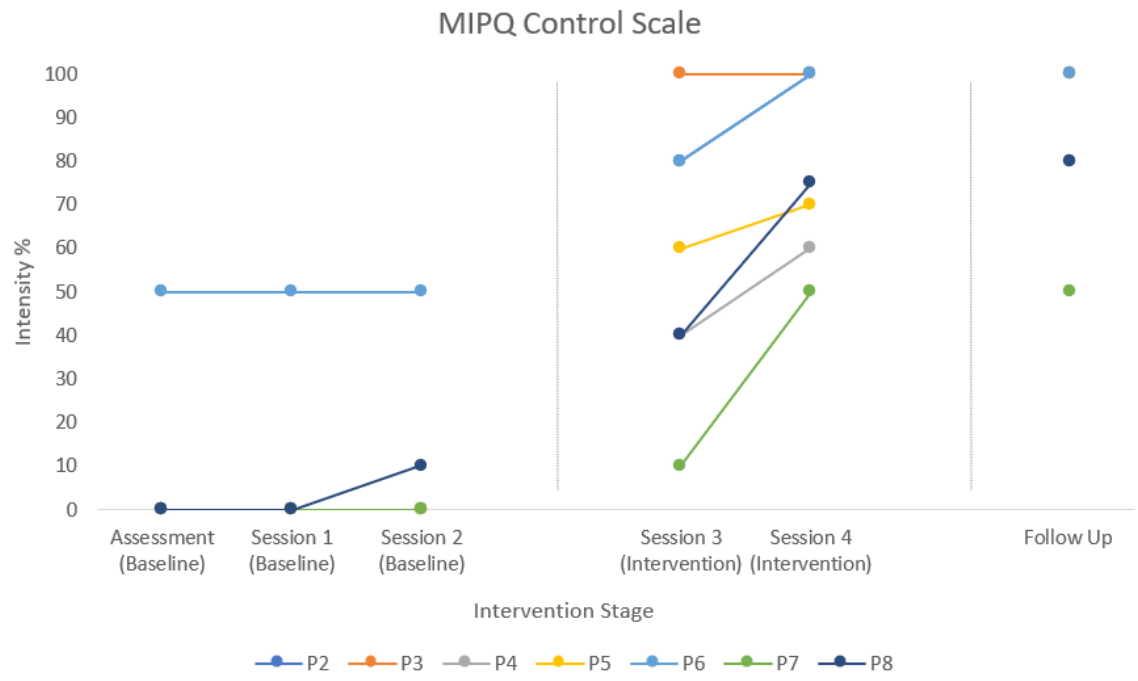


Figure 5. Visual analysis of MIPQ Control Scale. Dotted lines depict trends.

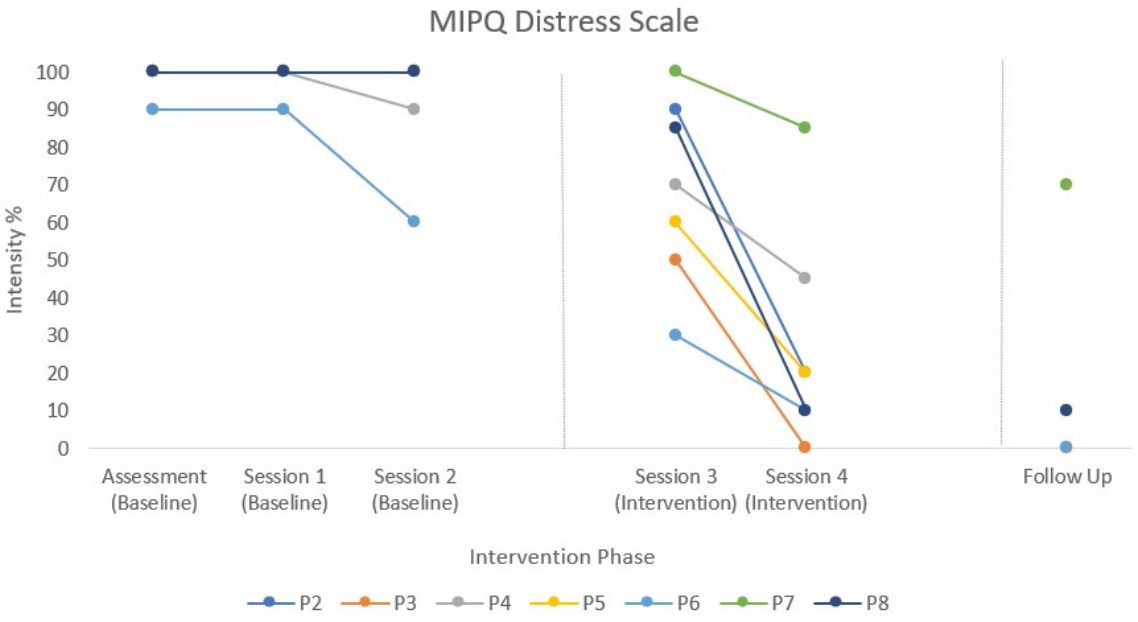


Figure 6. Visual analysis of MIPQ Distress Scale. Dotted lines depict trends.

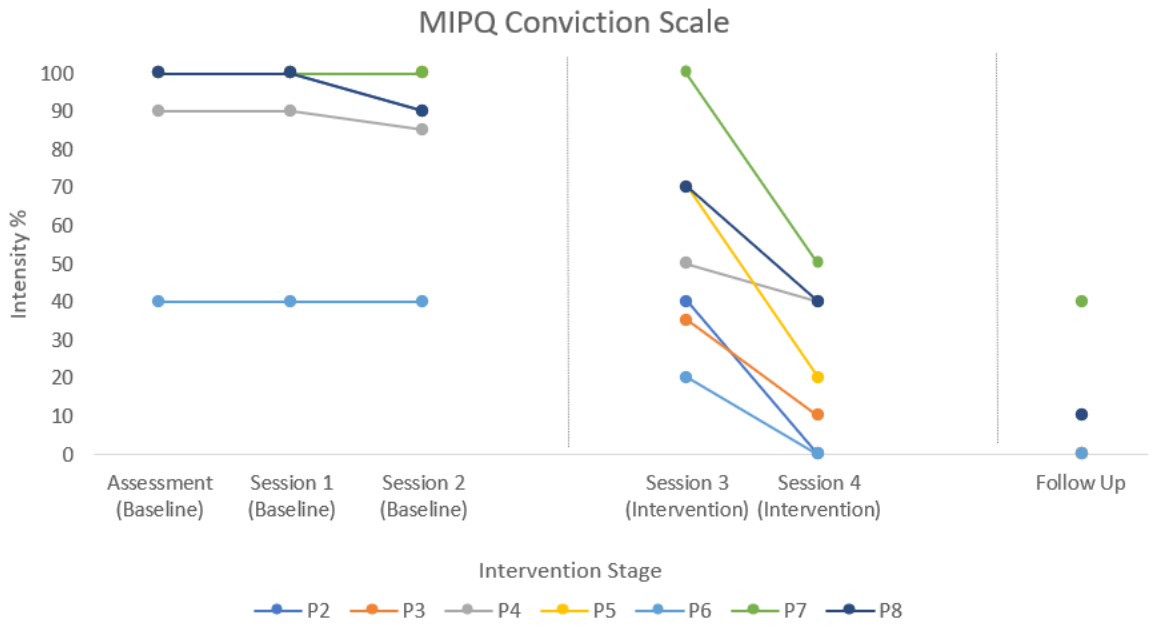


Figure 7. Visual Analysis of MIPQ Conviction Scale. Dotted lines depict trends.

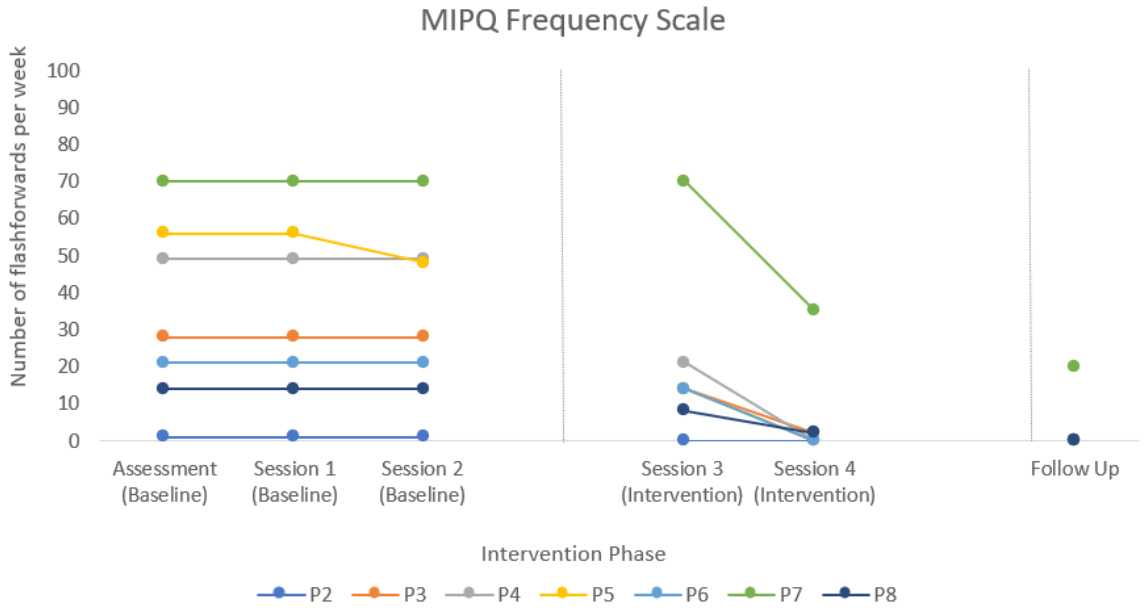


Figure 8. Visual Analysis for MIPQ Frequency Scale. Dotted lines depict trends.

3.2.2.1 Statistical analysis of secondary outcomes

No baseline trends were found for any of the participants, and no individual variability was found for any of the study phases (Table 7). Tau-U analysis generated a comparison of the weighted average of MIPQ score ratings across study phases (baseline-

intervention- and follow-up; Table 8). The highest effect size was consistently found when baseline and intervention were compared to follow-up , suggesting that post-intervention effects were significantly higher compared to preceding phases (A + B x C; Vividness (Tau = 0.70, Z = 3.71), Conviction (Tau = 0.90, Z = 4.76), Control, (Tau = 0.8, Z = 4.35), Distress (Tau = 0.90, Z = 4.76) and Frequency (Tau = 0.81, Z = 4.28). A particularly high effect size was found for Conviction and Distress.

Table 7

Comparison of MIPQ scores across study phases per participants

MIPQ Target	Participant	Phase Comparison	Tau-U	SD	Z	P	90% CI
Control	P2	A x B	1	3.46	1.73	.0833	0.050<>1
		B x C	0.5	1.63	0.61	.5403	-0.843<>1
	P3	A x B	1	3.46	1.73	.0833	0.050<>1
		B x C	0	1.63	0	1	-1<>1
	P4	A x B	1	3.46	1.73	.0833	0.050<>1
		B x C	1	1.63	1.22	.2207	-0.343<>1
	P5	A x B	1	3.46	1.73	.0833	0.050<>1
		B x C	0.5	1.63	0.61	.5403	-0.843<>1
	P6	A x B	1	3.46	1.73	.0833	0.050<>1
		B x C	0	1.63	0	1	-1<>1
	P7	A x B	1	3.46	1.73	.0833	0.050<>1
		B x C	1	1.63	1.22	.2207	-0.343<>1
	P8	A x B	1	3.46	1.73	.0833	0.050<>1
		B x C	1	1.63	1.22	.2207	-0.343<>1
Distress	P2	A x B	-1	3.46	-1.73	.0833	-1<>-0.050
		B x C	-1	1.63	-1.22	.2207	-1<>0.343
	P3	A x B	-1	3.46	-1.73	.0833	-1<>-0.050
		B x C	-0.5	1.63	-0.61	.5403	-1<>0.843
	P4	A x B	-1	3.46	-1.73	.0833	-1<>-0.050
		B x C	-1	1.63	-1.22	.2207	-1<>0.343
	P5	A x B	-1	3.46	-1.73	.0833	-1<>-0.050
		B x C	-1	1.63	-1.22	.2207	-1<>0.343
	P6	A x B	-1	3.46	-1.73	.0833	-1<>-0.050
		B x C	-1	1.63	-1.22	.2207	-1<>0.343
	P7	A x B	-0.5	3.46	-0.87	.3865	-1<>0.450
		B x C	-1	1.63	-1.22	.2207	-1<>0.343
	P8	A x B	-1	3.46	-1.73	.0833	-1<>-0.050
		B x C	-0.5	1.63	-0.61	.5403	-1<>0.843

Frequency	P2	A x B	-1	3.46	-1.73	.0833	-1<>-0.050
		B x C	0	1.63	0	1	-1<>1
	P3	A x B	-1	3.46	-1.73	.0833	-1<>-0.050
		B x C	-1	1.63	-1.22	.2207	-1<>0.343
	P4	A x B	-1	3.46	-1.73	.0833	-1<>-0.050
		B x C	-0.5	1.63	-0.61	.5403	-1<>0.843
	P5	A x B	-1	3.46	-1.73	.0833	-1<>-0.050
		B x C	-0.5	1.63	-0.61	.5403	-1<>0.843
	P6	A x B	-1	3.46	-1.73	.0833	-1<>-0.050
		B x C	-0.5	1.63	-0.61	.5403	-1<>0.843
	P7	A x B	-0.5	3.46	-0.87	.3865	-1<>0.450
		B x C	-1	1.63	-1.22	.2207	-1<>0.343
	P8	A x B	-1	3.46	-1.73	.0833	-1<>-0.050
		B x C	-1	1.63	-1.22	.2207	-1<>0.343
Convictio n	P2	A x B	-1	3.46	-1.73	.0833	-1<>-0.050
		B x C-	-0.5	1.63	-0.61	.5403	-1<>0.843
	P3	A x B	-1	3.46	-1.73	.0833	-1<>-0.050
		B x C	-1	1.63	-1.22	.2207	-1<>0.343
	P4	A x B	-1	3.46	-1.73	.0833	-1<>-0.050
		B x C	-1	1.63	-1.22	.2207	-1<>0.343
	P5	A x B	-1	3.46	-1.73	.0833	-1<>-0.050
		B x C	-1	1.63	-1.22	.2207	-1<>0.343
	P6	A x B	-1	3.46	-1.73	.0833	-1<>-0.050
		B x C	-0.5	1.63	-0.61	.5403	-1<>0.843
	P7	A x B	-0.5	3.46	-0.87	.3865	-1<>0.450
		B x C	-1	1.63	-1.22	.2207	-1<>0.343
	P8	A x B	-1	3.46	-1.73	.0833	-1<>-0.050
		B x C	-1	1.63	-1.22	.2207	-1<>0.343
Vividness	P2	A x B	-1	3.46	-1.73	.0833	-1<>-0.050
		B x C-	-1	1.63	-1.22	.2207	-1<>0.343
	P3	A x B	-0.5	3.46	-0.87	.3865	-1<>0.450
		B x C	-1	1.63	-1.22	.2207	-1<>0.343
	P4	A x B	-1	3.46	-1.73	.0833	-1<>-0.050
		B x C	-1	1.63	-1.22	.2207	-1<>0.343
	P5	A x B	-0.5	3.46	-0.87	.3865	-1<>-0.450
		B x C	-0.5	1.63	-0.61	.5403	-1<>0.843
	P6	A x B	-1	3.46	-1.73	.0833	-1<>-0.050
		B x C	-1	1.63	-1.22	.2207	-1<>0.343
	P7	A x B	0	3.46	0	1	-0.950<>0.950
		B x C	0	1.63	0	1	-1<>1
	P8	A x B	-0.5	3.46	-0.87	.3865	-1<>0.450
		B x C	-1	1.63	-0.22	.2207	-1<>0.343

Note. A = Baseline; B = Intervention; C = Follow Up phase

Significant trends were found when baseline and intervention were compared for all MIPQ questions (this comparison controlled for effects of time and monitoring), with the largest effect size for Control (Tau = 1, Z = 4.58) and a moderate effect size for Vividness (Tau = 0.64, Z = 2.95). The smallest effect size was consistently found when intervention was compared to follow-up, suggesting that change is maintained, and some additional change was achieved. Medium trend was found for Control (Tau = 0.57, Z = 1.85, p > 0.05), and the highest trend was found for Conviction (Tau = 0.90, Z = 2.78) and Distress (Tau = 0.86, Z = 2.78).

Table 8

Comparison of MIPQ scores weighed average ratings across the phases

MIPQ Target	Phase comparison	Tau	Z	P Value	CI 90%
Control	A x B	1	4.58	0	0.6410<>1
	B x C	0.57	1.85	0.0641	0.0638<>1
	A x B x C	0.82	4.35	0	0.5116<>1
Distress	A x B	-.93	-4.26	0	-1<>-0.5696
	B x C	-.86	-2.78	0.0055	-1<>-0.13495
	A x B x C	-.90	-4.76	0	-1<>-0.5881
Frequency	A x B	-.93	-4.26	0	-1<>-0.5696
	B x C	-.64	-2.08	0.0372	-1<>-0.1352
	A x B x C	-.81	-4.29	0	-1<>-0.4993
Conviction	A x B	0.93	-4.26	0	-1<>-0.5009
	B x C	0.86	-2.78	0.0055	-1<>-0.2523
	A x B x C	0.90	-4.76	0	-1<>-0.5286
Vividness	A x B	-0.64	-2.95	0.0032	-1<>-0.2839
	B x C	-0.79	-2.55	0.0109	-1<>-0.2781
	A x B x C	-0.70	-3.71	0.0002	-1<>-0.3912

Note. A = Baseline; B = Intervention; C = Follow Up phase

3.3 Qualitative Outcomes

Qualitative data from a feedback survey of ten questions at follow-up revealed good acceptability and feasibility with regard to the intervention (see Appendix C4).

3.3.1 Acceptability and Feasibility

Participants reported high satisfaction (95.71%) and high success rates (94.28%) with the intervention. All participants reported that they practised the intervention techniques between sessions and that they were likely to continue to use the techniques beyond the study. Furthermore, all participants reported being able to intervene and control their flashforwards which resulted in changes in vividness, conviction, distress, and frequency. Six participants stopped experiencing their target flashforward at follow-up.

3.3.2 Qualitative Feedback

One participant (P7) continued to experience their target flashforward at follow-up. However, the frequency had reduced from 70 to 20 times weekly. P7 reported feeling a drop in distress from 100% to 70% and an increase to feeling 50% in control of her mental images at follow-up compared to 0% control at baseline. P7 experienced visual hallucinations of similar content to her flashforward, which she reported made it hard for her to separate the two experiences. Although remained hopeful, stating that she had noticed a difference and believed that continuing to practise the techniques could create further change. A summary of participants' comments about perceived changes post-intervention is shown in Table 9.

Five participants recommended adding additional follow-up sessions, suggesting that this would allow more time to practice the techniques and consolidate learning.

Table 9

Summary of participants' comments about changes noticed following therapy

Participant ID	Comments
P2	"Even though I focused on one image, I was able to see that images are the same sort of thing and could apply the work we did with different images. I can now control them, and I don't have to let the thoughts and images have that much weight on me. I feel relieved and a sense of control. It's reassuring and nice".
P3	"I have learnt to manipulate my thoughts and mental images much more. Having the knowledge that this is something that I could even do, has really helped me feel less anxious and more in control".
P4	"I can now say to myself, 'It's an image, and it's not true, it's not real life'. I have been able to adapt the techniques to other images too, so I am hardly experiencing any images anymore".
P5	"I don't feel anxious about the images anymore. The image of cutting myself was the worst one, and I don't have it anymore. I have also been able to use the techniques with other images. I have logged it in the back of my mind, so I feel confident that I'll be able to deal with them when they pop up".
P6	"I never knew the impact these images could have. I also didn't know there was something that could be done about them. I have learnt a lot about the brain, and I feel like I understand my brain better, its less frightening. I now know that I have some control over my brain and that there are ways of changing what I see and think".
P7	"I still sometimes see the devil, but at least I know that sometimes it's just a worry in my mind and that worries can be visual. I feel like I can cope with the worries [mental images] better, not having them as often, which has helped me sleep better at night".
P8	"I feel like having something I can do about it and being able to manipulate the images is having a big positive affect on my mood. It used to really get me down and stop me from going out. I have been out on my own a few times and not constantly feel checking and rushing back home".

4 DISCUSSION

To our knowledge, this is the first case series study designed specifically to target the metacognitive control mechanism of flashforwards in a sample of patients with persecutory delusions. The primary objective was to assess the acceptability and feasibility of delivering a brief four-session imagery-based metacognitive intervention in people with persecutory delusions in NHS settings. The study also reports change scores in baseline- and secondary outcome measures to assess preliminary signs of effectiveness.

Seven out of eight participants completed all study phases. As with previous brief imagery interventions for psychosis (Morrison, 2004; Ison et al., 2004; Schultze, 2009; Taylor et al., 2020), our findings indicate that it is feasible to administer brief, maintenance formulation-driven, symptom-specific intervention in isolation. Ratings of intervention satisfaction were high. The intervention was acceptable, with only one participant dropping out early during the baseline phase; this is comparable to dropouts reported in similar brief imagery-based interventions for psychosis (Clarke et al., 2022; Taylor et al., 2020; Ison et al., 2014; Sheaves et al., 2015).

The case series highlights a number of areas of clinical interest. All participants reported positive changes following therapy (Table 9). The most common feedback was an increase in metacognitive control and reduction in distress, and general anxiety. Growing research has identified that recovery from psychosis consists of a wide range of maintenance factors of persecutory delusions, such as cognitive biases, worry and anxiety (Freeman et al., 2006), low mood and negative schematic beliefs (Smith et al., 2006) and intrusive mental imagery (Morrison, 2004)

Statistical analysis showed an increase in control and reduction in distress- frequency- conviction- and vividness of mental imagery, which was maintained at one week follow-up. Some non-statistical changes in MIPQ scores were noticeable at baseline phase for

some participants. This can be attributed to the impact of several uncontrolled factors (e.g., therapy stage, competing metacognitive beliefs such as religious beliefs, etc.)

Low control and high distress and conviction over internal experiences, such as mental images at baseline in our sample, suggest an inability to distinguish between internally and externally generated actions. This has parallels with delusions of control (Horne et al., 2022) and negative schematic beliefs, which may contribute to the maintenance of persecutory delusions. The findings add to existing evidence supporting the relationship between mental images and affect (e.g., Holmes et al., 2019). Images were experienced with a range of distressing emotions, including anxiety, fear, sadness, loneliness, and guilt. Interventions that help clients believe that they have control of flashforwards, such as manipulating imagery and shifting attention away from imagery, could be important for symptomatic control. This is something that is not routinely targeted in existing CBTp protocols.

One participant (P7) ended the study with the highest scores on all MIPQ questions. This was the only participant who continued to experience her target flashforward at the end of intervention. This may be because her target flashforward and visual hallucinations were alike in content. When working with P7, it was important to clearly distinguish the difference between her flashforward and visual hallucinations. Given the dual experience, her distress also remained high throughout the intervention, although did drop from 100% to 70%. This provides important clinical insight into the duality of hallucinations and flashforwards, suggesting that they may be separable but harder to treat. It is possible that there might be additional mechanisms maintaining both experiences. This needs further investigation.

Mean differences were observed for all baseline measures. Reliable and CSC were found for anxiety and depression. However, no reliable or clinical change was found for

scores on the schema questionnaire (BCSS) or for persecutory delusions (PaDS). Similarly, the six-sessions iMAPS study (Taylor et al., 2020) found changes in schematic beliefs using brief imagery interventions. However, these did not meet criteria for CSC. This may suggest that brief interventions may not be sufficient to obtain CSC on schema beliefs; this could be because of their long-lasting nature and therefore require careful assessment before intervention is attempted (Taylor et al., 2020b). Furthermore, alike our findings, the authors of the iMAPS study also commented on the limited evaluation of- and change in persecutory delusions in their study (Taylor et al., 2020). There are a number of plausible reasons for our findings. First, the intervention only targeted one flashforward. The majority of participants reported experiencing several flashforwards each. Second, the metacognitive technique did not focus on engaging with the content or personal meanings of flashforwards, which may have been linked to specific persecutory beliefs and potentially associated schematic beliefs. Third, participants scored highly on PaDS at baseline; the duration of the study may not have been sufficient to shift highly convinced rigid beliefs.

Some participants continued to experience the target flashforward at the end of intervention phase (Phase B) – however, the frequency had reduced for all participants. The vividness of images remained moderately high until they were no longer experienced. Similar findings were found in a recent case series study using imagery-based therapy for nightmares in individuals with psychosis. They found “changes in content of nightmares and changes in their response to the nightmare either in terms of reduced distress or increased ability to cope” but not in relation to frequency of nightmares (Sheaves et al., 2022). Descriptive analysis of our study indicated that there did not seem to be a relationship between vividness and distress. Scores in distress continued to drop when vividness remained high. This could indicate that alike unhelpful

thoughts, the presence of flashforwards are not linked to distress, but the belief about control of flashforwards is.

Previous studies suggest that impaired cognitive control plays a role in the maintenance of positive symptoms of psychosis (Horne et al., 2022), by targeting cognitive (imagery) control using imagery-based metacognitive techniques may represent a valuable clinical mechanism which directly overlaps symptomology with treatment modality. The metacognitive nature of this work allows a different level of process to be targeted in imagery work. Working with control compared to contents of images could potentially be less emotionally distressing and less time-consuming for clients and therapists.

5.1 Limitations

The study consisted of a small sample size and did not include a control group. Though the sample was small, and the majority were female participants, there was good diversity in relation to ethnicity, age, heterogeneity in psychotic presentations and religion. Given the sample size and nature of the study (non-powered or controlled), findings are tentative and should be considered with caution. However, the findings are encouraging and indicate that imagery-based metacognitive intervention in persecutory delusions can be helpful.

Second, the study was not blind; the same author conducted all phases of the case series with all study participants. Third, the PaDS was used to measure persecutory delusions. This is a measure which focuses on beliefs about persecution and deservedness – the mechanisms of the intervention did not directly overlap with the targets of the measure. Previous studies have used the PSYRATS. This could have been a better measure to use to get a better understanding of metacognitive beliefs and relationships

with delusions. Four, participants' experience with CBTp varied. It is unclear whether pre-existing knowledge and socialisation could have had an impact on the intervention. Lastly, a longer follow-up period would have warranted a better understanding of the long-term impact of the intervention.

5.2 Future Directions

The current study was intended as a first step in developing and assessing the acceptability and feasibility of a novel intervention for the treatment of flashforwards for those with persecutory delusions. The results suggest that further research in this area is warranted. Future work should involve developing a feasibility randomised controlled trial to assess the intervention's efficacy and detect whole group changes in flashforwards, persecutory delusions, and schemas.

CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

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EXECUTIVE SUMMARY

Brief Imagery Based Metacognitive Intervention for Flashforwards in Psychosis: A fixed baseline case series

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Brief Imagery Based Metacognitive Intervention for Flashforwards in Psychosis: A fixed baseline case series

Background

The cognitive model of persecutory delusions (Freeman, Garety, Kuipers, Fowler, & Bebbington, 2002) highlight a central theme of “anticipation of danger” for its maintenance. The model states that persecutory delusions are attributions conceptualized as threat beliefs. It is generally known that thoughts and beliefs can be experienced as verbal or imagery-based, also known as mental images (Beck, 1979). Mental images significantly amplify emotional effects and associated actions compared to verbal thoughts (Libby et al., 2007).

Mental images can either be future oriented (flashfowards) or related to the past (known as memories or flashbacks). Evidence for imagery-based therapy techniques have been mounting for a range of mental health disorders, and there is now growing evidence for its use in psychosis (Taylor et al., 2019; Clarke et al., 2022; Ison et al., 2004).

People with persecutory delusions endorse beliefs about their controllability of a situation and their thoughts (e.g., I have no control of my thoughts). These beliefs have

also been identified as key maintenance factors in persecutory delusions. There are a range of metacognitive techniques used in cognitive behavioural therapy, which target such thoughts – these techniques focus on altering metacognitive beliefs and their functions (Mortiz et al., 2019; Holmes et al., 2019).

To our knowledge there are no studies that have investigated the acceptability and feasibility of imagery-based metacognitive therapy in flashfowards in psychosis.

Aims

A brief novel imagery based metacognitive intervention for flashfowards in persecutory delusions was developed (see Figure 1).

The primary objective

- To complete a case series to investigate the feasibility and acceptability of the intervention for its delivery in NHS settings.

The secondary objective

- To assess preliminary signs of effectiveness of the intervention.



Figure 1. Case series phases.

Methods

We used a mixed methods fixed baseline case series design.

- Eight adult participants who reported experiences of psychosis supplemented by diagnostic criteria for schizophrenia and schizoaffective disorder completed the six-week case series study (see Figure 1).
- Pre and post measures were completed and weekly measures of the evaluation of characteristics of mental imagery were collected.

Key findings

Feasibility and Acceptability were evaluated through introspective of descriptive data and quantitative feedback collected at follow up.

- 11/13 eligible participants took part in the study (3 declined taking part and 2 were non-contactable).
- Retention was good. 7/8 participants completed the study (1 dropped out due to difficulties with committing with multiple health care appointments).
- Adherence was good. Participants attended on average 5.6/6 sessions.
- All sessions were 40-60mins in duration.
- 7/8 participants were ablet o engage and participate with metacognitive techniques within and between sessions.
- No risk, harm to self or other adverse life events were reported.
- A mean satisfaction rating of 95.71% for the intervention was reported.
- 100% of participants reported that they were likely to continue to use the techniques beyond the study.
- 100% of participants reported being able to intervene and control their flashfowards.
- Only 1/7 participants continued to experience their target flashforward image at follow-up.

- All participants reported that they would recommend the intervention others.

Effectiveness of the intervention was assessed using the reliable change index and calculating clinically significant change on baseline measures. Characteristics of mental imagery was evaluated using visual analysis (scatter diagrams) and Tau-U analysis.

- Reliable improvement was found for Generalized Anxiety (GAD-7). Three participants also met criteria for clinically significant change. Scores dropped from an average of 'severe' difficulties pre-intervention to 'mild' difficulties post-intervention.
- Reliable change was reported for depression, and four participants demonstrated clinically significant change.
- Reliable change was reported for symptoms of persecutory delusions on two sub-scales: persecution and deservedness. However, there was no clinically significant change.
- Four subscales of schemas were evaluated (negative-self, positive-self, negative-others, and positive-others). Reliable change was reported for all subscales but no clinical significance. However, three cases showed an improvement in scores for negative self-beliefs.
- Visual analysis showed positive trends for changes in mental imagery characteristics (vividness, controllability, conviction, distress, and frequency) between pre- and post-intervention and when compared to follow-up.
- Tau-U analysis generated a comparison of the weighted average of mental imagery characteristics score ratings across study phases (baseline, intervention, and follow-up). The highest effect size was consistently found when baseline and intervention were compared.

Implications and Recommendations

Implications

The results of the study suggest that the intervention is acceptable and feasible to be delivered in NHS settings. Preliminary signs of effectiveness were also reported.

Future directions

The results of our study indicate that future research in this area is warranted. Future work should involve developing a feasibility randomised controlled trail, followed by a robust controlled randomised controlled trial to assess the intervention's efficacy, and detect whole group changes in flashfowards, persecutory delusions, and schemas.

CONNECTING NARRATIVE

A connecting/reflective narrative referring to all three papers above

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CONNECTING NARRATIVE

A theme cutting across my projects was ‘Psychosis’. I was keen to complete projects focusing on identifying gaps in existing understanding of psychosis and aimed to develop models and interventions that could be beneficial in clinical settings. My projects can be read from three different levels of understanding a person: an individual level (TDRP), a family level (SIP) and socio-cultural level (CRL).

Critical Review of the Literature (CRL)

From a very young age I developed an interest in the intersectionality of science and religion. I grew up with immigrant parents who placed a lot of value in upholding Tamil culture and Hindu principles, whilst encouraging my sister and I to become ‘scientists’ of some sort. I have always been interested in wanting to understand ‘special’ religious experiences that not all devotees/followers of various religious practices experience (e.g., communicating with God).

My academic and clinical experiences of working with psychosis, had highlighted that religious delusions are a difficult symptom to treat and that they remain under-researched. Marrying my curiosity and identification of this gap, I started brainstorming ideas for my CRL.

It took me a while to find a supervisor and narrow down specific review questions. With the support of an external researcher, we were recommended to conduct a qualitative study using meta-ethnography. However, at this point, my supervisor left the course, and I was allocated a new supervisor.

No one in our research team (supervisor, second reviewer or I) had any experience of conducting a meta-ethnography. Guidelines on meta-ethnography allow for a lot of flexibility which proved to be helpful but also challenging at various stages of the study.

Furthermore, given the size of the team, lack of experience in conducting meta-ethnographies and limited diversity, I was concerned that the potential for diverse perspectives and reflexivity would be limited. However, with great support and guidance from my supervisor – this concern was put to rest.

I learnt an immense amount from this project, not just about the research topic and review questions but also about the process of conducting CRLs, meta-ethnographies in particular and the process of incorporating reflections and reflexivity in qualitative research.

Service Improvement Project (SIP)

My interest for working with parents, stems from my own cultural trauma. Tamil people suffered thirty plus years of genocide in Sri-Lanka, with war and injustice happening both before and after. The war in Sri-Lanka has had an immense traumatic impact on several generations of Tamils all over the world. Unfortunately, due to the mental health stigma in the community, not many Tamils seek help or support. During the Covid-19 pandemic, I heard about a painful amount of homicides in Tamil families, where it was reported that parents had sadly taken their children's lives and committed suicide themselves. Having spoken to some of the families loved ones, I came to understand that the parents they had been experiencing extreme stress and psychotic symptoms (e.g., religious delusions, paranoid thoughts about being sent back to Sri-Lanka, delusions about the Sri-Lankan army plotting to kill them etc.)

I was keen to think about developing an intervention to support parents with psychosis particularly focusing on parenting. The parenting element stood out to me, given the dual impact it can have (both a stressor and a recovery mechanism), and of course the

potential impact positive parental relationships can have across generations (parents' and children's wellbeing).

Having a supervisor who is an academic, a longstanding researcher, and a consultant clinical psychologist working with psychosis with an interest in parenting – was the perfect fit for me and my project. This project has genuinely been one of the most fulfilling professional tasks I have achieved in my life.

Using mentalizing (a modern lens in working with people with psychosis) and supporting a group of people often neglected by NHS parenting services, was very special. I felt like the group made an immediate difference to our participants, which was exactly what I had hoped for.

The conceptualizing phase of the project allowed me to learn so much about mentalizing, parenting, and psychosis. Both areas, mentalizing and parenting, receive very little attention on the DClinPsych course. I hope that studies like mine can help translate the need for its attention into training courses, research, and clinical practice.

Theory Driven Research Project (TDPR)

When planning a proposal for my TDPR I reflected on the growing interest in the comorbidity of psychosis and trauma/PTSD. I thought about why this may be and the direction in which the research is going. Whilst doing so, I noticed the sparce research on non-trauma related mental imager. Given my interest in understanding and working with positive symptoms of psychosis, I wanted to understand various ways in which people come to conclusions about internal experiences; what increases their conviction in beliefs and what influences them to act on intrusive thoughts about the future? I was particularly interested in wanting to conduct research about 'future orientation' rather than 'past orientation' (i.e., PTSD/Trauma).

I was lucky enough to work with two expert supervisors, who have already started generating research on non-trauma related mental images in severe mental illness, i.e., Bipolar Disorder and Psychosis.

Unlike my previous projects, this one focused on the individual. We developed a novel brief imagery-based metacognitive intervention for flashfowards in persecutory delusions. The intervention is short and easy to deliver, rather non-invasive and cost-effective. I wanted it to be something that could be delivered to people from all walks of life, and I feel proud that that was achieved. I feel extremely grateful towards my supervisors, who believed in my project, helped me shape it into a feasible study and supported me throughout all the stages of the study.

Ending

There were some challenges across my studies, particularly working through the methodology of my CRL and statistical analysis of my TDPR, both which none of my supervisors had previously conducted. Yet, the highlights – the amount I have learnt, and the outcomes of all studies have been very fulfilling and inspired me to want to conduct further research in the future.

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I would firstly like to thank all the patients who took part in my research projects. Their participation, stories and collaboration were invaluable for the completion of my thesis. As well, my experience of working with- and learning from them, has inspired me to continue to work within the field of psychosis.

I also want to express my sincere gratitude to my incredible supervisors, Dr Louise Johns, Professor Craig Steel, Dr Christopher Taylor, Dr Matthew Hotton and Dr Nicola Collett for their expertise, guidance, support, and time. I want to say a special thank you to Dr Louise Johns in particular, who supervised my service improvement project, my consultancy project, and my final year placement. She has been a constant source of support during my doctorate journey and a wonderful mentor and role model. I cannot express with words, the positive impact she has had on me. To all my supervisors, you have ignited my interest in developing as an evidence generating clinical psychologist and I hope to continue to work with you all in the future.

Most importantly, I cannot thank God enough for blessing me with my mother, father, and sister, who have always shown me unconditional love, endless support and continue to encourage me to follow my dreams. This thesis is dedicated to you.

APPENDICES

APPENDIX A – CRITICAL REVIEW OF THE LITERATURE

A1. TARGET JOURNAL: INSTRUCTIONS FOR AUTHORS

Manuscript Submission Guidelines:

How to submit your manuscript

Transcultural Psychiatry is hosted on Manuscript Central™, a web based online submission and peer review system - SAGETRACK. Please read the Manuscript Submission guidelines below, and then simply visit http://mc.manuscriptcentral.com/TC_PSYCH to login and submit your article online.

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Maximum article length:

Review Articles -- text: 5000-7000 words, abstract: 250, tables and figures: 5 (total).

Articles (original quantitative research -- text: 3500-5000 words, abstract: 250, tables and figures: 5 (total).

Articles (original qualitative or mixed-methods research) -- text: 5000- 7500, abstract: 250, tables and figures: 5 (total).

(Additional tables, figures or materials can be submitted in a separate file as supplemental data for posting online, subject to meeting the requirements stated in the :

Guidelines for Authors - Supplemental data on SJO

UK or US spellings are acceptable but must be consistent.

Section headings and subheadings should use a maximum of three levels.

Quotations over 40 words should be displayed, indented, in the text.

Notes and References should appear at the end of the text. References must be in American Psychological Association format.

Tables and figures should have short descriptive titles. Line diagrams should be supplied preferably as EPS or TIFF files, 800 dpi - b/w only. Photographs should be supplied as TIFF files, 300 dpi.

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Address correspondence to: L.J. Kirmayer, Editor-in-chief, Transcultural Psychiatry, Division of Social and Transcultural Psychiatry, McGill University, 1033 Pine Avenue West, Montréal, Québec, Canada H3A 1A1.

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A2. DATA RICHNESS RATING

Data Richness Scale for Sampling (Ames, 2015)

No.	Source	Scale (1 thin – 5 thick)
1	Degrees of hallucinatoriness and Christic visions	5
2	Deconstructing delusions: A qualitative study examining the relationship between religious beliefs and religious delusions	3.5
3	Expressive art therapy for psychosis: A multiple case study	3
4	If I didn't have my faith, I would have killed myself: spiritual coping in patients suffering from Schizophrenia	5
5	Bizarre Delusions: A qualitative study on Indian Schizophrenia patients	3
6	Function and meaning in religious delusions: a theoretical discussion from a case study	5
7	Revelation, delusion, or disillusion: subjective interpretation of religious and spiritual experiences in bipolar disorder	5
8	Hearing voices in different cultures: a social kindling hypothesis	5
9	Sweet Delight and Endless Night: A qualitative exploration of ordinary and extraordinary religious and spiritual experiences in bipolar disorder	5
10	The awful rowing toward God: interpretation of religious experiences in individuals with bipolar disorder	5
11	Narrative insight in psychosis: the relationship with spiritual and religious explanatory frameworks.	4
12	Maybe it's kind of normal to hear voices: the role of spirituality in making sense of voice-hearing.	5

13	Delusion formation as an inevitable consequence of a radical alteration in lived experience	4
14	Religious or spiritual experiences and bipolar disorder: a case study from the perspective of dialogical self-theory	5
15	A retrospective case study of the thematic content of psychotic experiences in a first-episode psychosis population	3
16	Delusions of possession and religious coping in schizophrenia: A qualitative study of four cases	4

A3. CASP RATINGS

CASP Checklist for all source papers

No.	Study	Aims	Methodology	Design	Recruitment	Data collection	Reflexivity	Ethical Issues	Data Analysis	Findings	Value of findings	Total
1	Wiebe, 2004, Canada	Yes	Yes	Yes	Can't Tell	Yes	No	No	Can't Tell	Yes	Yes	14
2	Drinnan & Lavender, 2006, UK	Yes	Yes	Can't Tell	Can't Tell	Yes	Yes	No	Yes	Yes	Yes	16
3	Handevik, Hestad, Lien, Teglbjaerg, Danbolt, 2013, Norway	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Can't Tell	Yes	Yes	19
4	Hustift, Hestad, Lien, Moller & Danbolt, 2013, Norway	Yes	Yes	Can't Tell	Yes	Yes	Can't Tell	Yes	Yes	Yes	Yes	18
5	De, Dhatia, Thomas, Prasad, Nagpal, Nimgaonkar, Deshpande, 2013, India	Yes	Yes	Can't Tell	Can't Tell	Yes	No	Yes	No	Yes	Yes	14

6	Saavedra, 2014, Spain	Yes	Yes	Yes	Yes	Yes	No	Can't Tell	Yes	Yes	Yes	17
7	Ouwehand, Wong, Boeije & Braam, 2014, Netherlands	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Can't Tell	19
8	Luhrmann, Padmavati, Tharoor & Osei, 2014, USA, India & Ghana	Can't Tell	Yes	Yes	Yes	Yes	No	Can't Tell	Can't Tell	Yes	Yes	15
9	Ouwehand, Murhert, Zock, Boeije & Braam, 2018, Netherlands	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Can't Tell	19
10	Owehand, Zock, Muthert, Boeije & Braam, 2019, Netherlands	Yes	Yes	Yes	Can't Tell	Can't Tell	Yes	Yes	Yes	Yes	Yes	18
11	Marriot,	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	20

	Thompson, Cockshutt & Rowse, 2019, UK											
12	Lewis, Sanderson, Gupta & Klein, 2020, UK	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	18
13	Gunn & Larkin, 2020, UK	Can't Tell	Yes	Yes	Can't Tell	Yes	Yes	Yes	Yes	Can't Tell	Can't Tell	16
14	Ouwehand, Zock & Muthert, 2020, Netherlands	Yes	Yes	Yes	Yes	Yes	No	Can't Tell	Yes	Can't Tell	Yes	16
15	Jones, Read & Wood, 2021, UK	Yes	Yes	Yes	Yes	Can't Tell	Can't Tell	Yes	Yes	Yes	Yes	18
16	Pietkiewics, Klosinska & Tomalski, 2021 Poland	Can't Tell	Yes	Yes	Yes	Yes	Can't Tell	Yes	Yes	Yes	Yes	18

APPENDIX B – SERVICE IMPROVEMENT PROJECT

B1. TARGET JOURNAL: INSTRUCTIONS FOR AUTHORS

PAPTRAP AUTHOR GUIDELINES

Sections

1. Submission
2. Aims and Scope
3. Manuscript Categories and Requirements
4. Preparing the Submission
5. Editorial Policies and Ethical Considerations
6. Author Licensing
7. Publication Process After Acceptance
8. Post Publication
9. Editorial Office Contact Details

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• theoretical and research development in the understanding of cognitive and emotional factors in psychological problems;
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• psychological therapies, including digital therapies, with a focus on understanding the processes which affect outcomes where mental health is concerned.

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We welcome submissions from mental health professionals and researchers from all relevant professional backgrounds both within the UK and internationally.

In addition to more traditional, empirical, clinical research we welcome the submission of

- systematic reviews following replicable protocols and established methods of synthesis
- qualitative and other research which applies rigorous methods
- high quality analogue studies where the findings have direct relevance to clinical models or practice.

Clinical or case studies will not normally be considered except where they illustrate particularly unusual forms of psychopathology or innovative forms of therapy and meet scientific criteria through appropriate use of single case experimental designs.

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- Qualitative papers: 6000 words
- Review papers: 6000 words
- Special Issue papers: 5000 words

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.

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For a limited time, the *Psychology and Psychotherapy: Theory, Research and Practice* are accepting brief-reports on the topic of Novel Coronavirus (COVID-19) in line with the journal's main aims and scope (outlined above). Brief reports should not exceed 2000 words and should have no more than two tables or figures. Abstracts can be either structured (according to standard journal guidance) or unstructured but should not exceed 200 words. Any papers that are over the word limits will be returned to the authors. Appendices are included in the word limit; however online supporting information is not included.

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- Abstract;
- Keywords;
- Data availability statement (see Data Sharing and Data Accessibility Policy);
- Acknowledgments.

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Keywords

Please provide appropriate keywords.

Acknowledgments

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- References;
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For help with submissions, please contact: Hannah Wakley, Associate Managing Editor (**papt@wiley.com**) or phone +44 (0) 116 252 9504.

B2. QUALITY IMPROVEMNET/CLINICAL AUDIT PROPOSAL FORM

Oxford Health NHS Foundation Trust

Quality Improvement/Clinical Audit Proposal Form

Please register your audit or service evaluation with your directorate Quality lead before you start your project who maintain a central database of all audit activity.

Title	**Supporting parents with psychosis with their parenting. A quality improvement project.**		
Directorate	Oxfordshire and South West Mental Health (Adult)	**Team / Ward / Unit**	Early Intervention in Psychosis Service and AMHTs in the Trust.
Name and Title of project lead(s)		Mrs Nithura Sivarajah (Trainee Clinical Psychologist), Dr. Louise Johns & Dr. Rebecca Knowles Bevis	
Contact telephone number		07484138704	
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Supervising Consultant / Service Manager		Debbie Walton (Head of Service)	
Proposed start date		01.09.2021	
Proposed finish date		21.10.2022	
This project is a: Service Improvement Project			
☒ First audit/ quality improvement		☐ Re-audit/ quality improvement If yes, date of last audit/ quality improvement _____	
What is the resource implication for carrying out project (estimate staff hours, designation, grade and cost)		Estimated staff hours/clinical hours for primary researcher (Nithura Sivarajah) = 12 hours, cost £0 Estimated consultation time with staff = 10 hours (10-15 minutes per care coordinator, band 6, across all the teams). Estimated supervision time = 40 hours, cost £0 (provided by supervisors during their time on the clinical psychology training course) The person conducting the project is a trainee clinical psychologist with a training level agreement enabling her to work within any team within Oxford Health NHS Trust. Her supervisor Dr Louise Johns is also psychology lead for	

	EIS.

Reason for audit or evaluation (tick all that are applicable)			
☒ National priority	☒ Trust priority	☐ Directorate priority	☐ CCG priority
☐ NICE guidance	☐ SIRI recommendation	☐ Other (please state)	

If NICE guidance, please state which guidelines:

_____

Background to Project

Stress vulnerability models (Wied & Jansen, 2002) and research on parents with psychosis suggest that stressful interpersonal environments and social difficulties (Reupert & Meyberry, 2007) can exacerbate psychotic symptoms and trigger relapse (Chien, Bressington, & Chan, 2018).

Parents with psychosis often encounter multiple challenges, such as high levels of parental stress (Kadish, 2015), attachment problems (Engur, 2017), low emotional support, poverty, and ambivalent communication (Reupert & Meyberry, 2007). Parents with severe mental illnesses (SMI) may also face increased stigmatization and risk of losing their children's custody (Seeman, 2012). Parents fear these consequences and might therefore be less likely to report parenting difficulties, unless asked in a sensitive and supportive way.

Impaired parent-child interaction is a significant risk factors for children's mental health problems (Boström & Grip, 2019). Children with parents with psychosis are more vulnerable to immediate and future difficulties than children of parents without SMI (Cogan, 2004; Strand & Boström, 2020). One third of children with parents with psychosis are at greater risk of developing SMI themselves (Reedzt et al., 2019). The developmental model of transgenerational transmission of psychopathology (Hosman, von Doesum, & van Santvoort, 2009) suggests that interventions should include both general parenting skills and disorder-specific targets that act as risk factors for transmission of mental health problems.

It is therefore essential to support parents with psychosis adequately with both their mental health and their parenting (Grusec & Davidov, 2010, Boström & Grip, 2019). Parents with psychosis can benefit from learning new skills such as mentalizing and reflective functioning (RF), which help them to understand and respond to their own and their children's mental states (Fonagy et al., 1991). RF can be increased with psychoeducation and teaching enhanced communication and behavioural skills.

After the immediate post-partum period, parenting support is not widely available (Gearing et al., 2012), and especially not support that is tailored to parents who are experiencing their own poor mental health. Some parenting programs such as the Triple P Parenting Program' (2008) are

available, although parents with psychosis are often excluded from mainstream parenting interventions. There are currently no evidence-based programs that meet the needs of parents with psychosis (Venkataraman et al., 2008; Strand, Boström & Grip, 2020).

Recently collected qualitative data in OHFT suggest that parents with psychosis who are under the care of EI and AMHT services would like to be offered a group-based parenting intervention that is disorder-specific (Radley et al., 2020). There is currently no service provision in OHFT that offers this type of intervention for parents of children above the age threshold for perinatal mental health services. Given the elevated risks and challenges for parents with psychosis and their children, interventions need to be carefully developed and evaluated to help community teams support parents with psychosis to increase parenting confidence (Vauth et al., 2007), strengthen parental responsiveness to their children's needs, and find adaptive ways to cope when their parenting roles become stressful (Strand & Rudolfsson, 2020).

Our objective is to develop and pilot an 8-session manualized group intervention for parents with psychosis. The intervention will support parents both in managing parenting-related stress levels and in enhancing parent-child relationships. The content of the intervention will be informed by data collected from previous qualitative interviews with parents with psychosis and with clinicians working in EIP and AMHT services in OHFT, talking to parents about what they would like from such a group, and topics covered in existing parenting programs (e.g., Emerging Minds, Beardlee's Family Intervention etc.).

The project will evaluate the intervention's acceptability and feasibility. We will investigate whether there are any indications of change in perceived parental competence, stress levels, and parent-child relationship satisfaction. The evaluation will also consider services' responses to the group. Recommendations will focus on the improvement of local services' support for parents with psychosis, if and how to embed the group into existing services, and next steps for development and evaluation of the intervention.

Standard(s) for audit or quality improvement

Relevant policies and guidelines:

- Allen G (2011). Early intervention: The next steps. London: Cabinet Office.
- Henshaw C (2011) Parents as patients: Supporting the needs of patients who are parents and their children. London, Royal College of Psychiatrists, CR164.
- SCIE (2011) Think child, think parent, think family: a guide to parental mental health and child welfare. Family & Children's Services Guide 30.
- Ofsted (2013) What about the children: Joint working between adult and children's services when parents or carers have mental ill health and/or drug and alcohol problems. London: Ofsted (Report No: 130066).
- Department of Health (2015) Future in Mind: Promoting, protecting and improving our children and young people's mental health and wellbeing.
- NHS Long Term Plan (2019)

Standards/ objectives:

1) The group-based intervention for parents with psychosis will be feasible to run and acceptable to parents. This will be assessed by:
    a. Number of clients referred to the group
    b. Number of clients who start the group
    c. Number of clients who complete the group
    d. Number of clients who attend each session
2) The group-based intervention for parents with psychosis will lead to self-reported changes on the following measures following the group:
    a. Parental Stress Scale
    b. Me as a Parent Scale
    c. CORE-10 (general wellbeing)
    d. Parent-Child Relationship Inventory

Qualitative feedback on the acceptability of the group will be collected, together with responses on a modified version of the Client Satisfaction Questionnaire.

Scope and Methodology for Project

Participants will be service users with affective or non-affective psychosis who are parents of children above the age of 2 and below the age of 18. Service users who provide care to their children will be included, although they do not need to be the primary caregiver. Parents who cannot communicate in English and those actively misusing substances will not be eligible for inclusion in this project. Some potential participants have already been identified in a recent qualitative study by Dr. Johns, and further participants will be recruited via care-coordinators from EIP and AMHT services within the Trust.

An 8-session group intervention will be developed, piloted and evaluated. Evidence-based psychological skills and techniques will be included in the intervention (psychoeducation, mentalization and reflective functioning skills, communication techniques, setting boundaries and dealing with conflict, CBT based parenting strategies, managing symptoms of psychosis), together with additional useful resources, self-care and support options).

Those who wish to participate will receive a leaflet explaining the project. Participants will complete the 8-session intervention, delivered by the trainee clinical psychologist with the assistance of an honorary assistant psychologist in EIS (Miss Radley). The modality of delivery will be determined by Trust-guidelines in relation to Covid-19 restrictions. If permitted and feasible, it will be delivered face-to-face, alternatively it will be delivered online using secure Microsoft Teams applications. At least one session will be co-facilitated by a person with relevant lived experience. If this is not possible, pre-recorded videos with this person will be shown in the group. The purpose of this will be to enhance the co-production of the intervention, increase engagement and normalize and destigmatise participants' experiences. Post-intervention, participants will be asked to complete an evaluation form to measure overall satisfaction with the intervention.

Changes following the group will be measured using pre- and post-intervention questionnaires (including the parental stress scale, Me as a parent Scale, CORE-10, and the Parent-Child Relationship Inventory). The trainee will analyse the changes descriptively by comparing individual differences on pre- and post-intervention scores. Pseudonymised patient data will be stored on Oxford Health OneDrive.

Following completion of the intervention and data collection and input, all the data will be fully anonymised. Results of the project will be shared with managers of all services involved in the project via team meetings and a summary report. The findings will also be presented to the Working With Families group, and other relevant stakeholders in the Trust and its partners.

How are you going to collect the data (tick all that are applicable)			
☐ Case notes (paper/ electronic)	☐ Observations	☒ Patient/ Staff Survey	☒ Other (Questionnaires)

Data Protection Act

Please tick to confirm "yes" you will comply with:

☒ All data collected will be anonymised ☒ No patient or staff identifiable data will be reported

Ethics Screening

Gather any information about a patient beyond that collected in routine patient care	☐ Yes ☒ No
Pose any risk for or burden on a patient beyond those of his/her routine patient care	☐ Yes ☒ No
Infringe on any patient's rights	☐ Yes ☒ No
Risk breaching any patient's confidentiality or privacy	☐ Yes ☒ No
Involve the use of any untested clinical or systems intervention	☐ Yes ☒ No
Do you intend to publish the findings?	☒ Yes ☐ No
Does National Data Opt Out need to be applied to the resulting data set prior to analysis?	☐ Yes ☒ No

Requested Support from the Quality and Audit Team (tick all that are applicable)	
☐ Design data collection tool	☐ Data collection
☐ Data analysis	☐ Report writing
☐ Power point presentation design	☒ None

Quality and Audit Team Contact Details	
Emma Lofthouse – Tel: 07500 784 326 Liz Cheal – Tel: 07900 657 607 (maternity leave	**Corporate Directorate (Quality & Audit Specialists)**

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CRIS.Admin@oxfordhealth.nhs.uk	**Clinical Record Interactive Search (CRIS) Team**

B3. QUALITATIVE FEEDBACK SURVEY

Me, My Child & Us Feedback Questionnaire

Getting feedback on your overall experience of the group is extremely important to us. Please complete the below questions to tell us about your experience of the Me, My Child & Us parenting group.

1. How did you find the parenting group?
   Satisfied
   Slightly Satisfied

Unsure
Slightly Dissatisfied
Dissatisfied

2. How did the group impact on you?
   Made things better
   Made things slightly better
   No change
   Made things slightly worse
   Made things worse

3. How did you find the in-between session calls?
   Very helpful
   Slightly helpful
   Unsure
   Slightly unhelpful
   Very unhelpful

4. How did you find the workbook?
   Very helpful
   Slightly helpful
   Unsure
   Slightly unhelpful
   Very unhelpful

5. Would you recommend the group to others?
   Definitely yes
   Possibly yes
   Unsure
   Possibly no
   Definitely no

6. The group would be improved if it were co-facilitated by a parent with lived experience of psychosis, e.g., a parent with psychosis delivered some of the material (like Nithura, Jessica and Louise did).
   Agree
   Slightly agree
   Unsure
   Slightly disagree
   Disagree

7. Was there enough focus on parenting skills and techniques (e.g., Attunement, mentalizing, communication, setting boundaries, STOPP and problem solving)?
   Not enough
   Just right
   Too much

8. Was there enough focus on managing psychosis?
   Not enough

Just right
Too much

9. Was there enough focus on the impact of psychosis on you and your children?
   Not enough
   Just right
   Too much

10. Was there enough time to talk about your experience of psychosis?
    Not enough
    Just right
    Too much

11. Were 8 sessions enough?
    Not enough
    Just right
    Too much

12. Was 90mins the right length of time for each session?
    Too short
    Just right
    Too long

13. Do you think you are likely to use the parenting skills and techniques?
    Definitely not
    Possibly not
    Unsure
    Possibly yes
    Definitely yes

14. Was there enough time to discuss in small groups/breakout rooms?
    Not enough
    Just right
    Too much

15. Was there enough time to discuss in the big group?
    Not enough
    Just right
    Too much

16. Was there enough information delivered by the facilitators in the sessions?
    Not enough
    Just right
    Too much

17. Were there enough videos?
    Not enough
    Just right
    Too much

18. Tell us about any changes you have noticed in yourself, your parenting skills or in your relationship with your child(ren)?

19. What improvement would you make to the group (is there anything you would change, add or remove)?

20. The early intervention service is available for up to three years. At what stage in an individual's care do you think this group should be delivered? E.g., within the first six months/the last year.

21. Given a choice would you have preferred the group to be online or in person?

22. Any other comments

B4. PHASES OF THE REFLECTIVE THEMATIC ANALYSIS FOR CONCEPTUALIZATION OF THE GROUP

Phases of the Reflexive Thematic Analysis

Phase	Description of the process
Familiarization	NS listened to the recording and read the textual data, making notes on first impressions, possible connections, and passages to be looked at more closely. Initial impressions and tricky passages were discussed with JR and LJ to share perspectives, adding depth and nuance to each transcript.

Generating Codes	NS inductively organized text passages with similar meaning and denoted them with labels, i.e., preliminary codes. These labels were discussed and refined with LJ resulting in diversified codes.
Constructing Themes	NS identified preliminary themes by using the codes as building blocks. Collaborative discussions with d LJ led to further identification of umbrella themes and possible titles as well as definitions.
Revising Themes	NS revised by themes by continually checking consistency with the data leading to renaming or letting go of conceptually weak or overlapping themes. The remaining themes were discussed with JR and LJ to consolidate their meaning.
Defining Themes	NS defined each theme delineating boundaries and central organizing concepts to clarify scope and essence of each theme. NS created thematic maps, which were discussed and reflected upon with LJ.
Producing the Report	NS revisited the research question, field notes, codes and themes checking for consistency with the data. A report was produced by NS and discussed and approved by the remaining authors.

B5. TEMPLATE USED TO GATHER FEEDBACK DURING CHECK IN CALLS

IN-BETWEEN SESSION CHECK IN PROMPT QUESTIONS

This call should take around 10-15minutes per participant per week.

Calls should be made after Wednesday, so participants have enough time to reflect on learning and have opportunities to attempt utilizing skills/interventions covered in sessions.

Start the call by thanking participants for their attendance and engagement.

Questions

- How did you find the session?
- Was there anything in particular that you liked/disliked?
- How did you find the workbook?
- Would you like to be the same breakout rooms throughout the intervention? Would you to be with the same facilitator or like for it to rotate?

- Was there anything you wrote down in your workbook that you wanted to ask or discuss today?
- Was there anything you wanted to ask or share in the group that you felt unable to do?

  (Ask if they would like to share it with you now)
- What could we do to increase your level of comfort in sessions?
- Have you managed to practice the homework?
    - If so, how is it going?
    - Have you faced any barriers?

  Explore any barriers to interacting, engaging, or attending sessions

B6. ATTENDANCE RECORD

Attendance record

Participant	Session Number	Attendance	In between session check in call

1	2,3,4,5,6,7,8	7/8 Sessions	8/8
2	1,2,3,4,5,6	6/8 Sessions	6/8
3	1,3,4,5,6,7,8	7/8 Sessions	8/8
4	1,2,3,4,5,6,7,8	8/8 Sessions	8/8
5	1,2	2/8 (Dropped Out)	2/8
6	1,2,3,4,5,6,7,8	8/8 Sessions	8/8
7	1,2,3,4,5,6,7,8	8/8 Sessions	8/8
8	1,2,3,4,5,6,7,8	8/8 Sessions	8/8
9	2,4,5,6,7,8	6/8 Sessions	8/8
10	1,3,	2/8 (Dropped Out)	3/8
11	2.3,5,6,7,8	6/8 Sessions	8/8
12	1,3,4,5,8	5/8 Sessions	6/8
13	2,3,4,5,6	5/8 Sessions	8/8

B7. RESULTS FROM QUALITATIVE FEEDBACK SURVEY

Results from Qualitative Feedback Survey (n= 12)

Feedback	**N**	**%**	
1. How did you find the parenting group?			
Satisfied	7	100	

2. How did the group impact on you?			
Made things better	5	71.43	
Made things slightly better	2	28.57	
3. How did you find the in-between session calls?			
Very helpful	7	100	
4. How did you find the workbook?			
Very helpful	7	100	
5. Would you recommend the group to others?			
Definitely yes	7	100	
6. The group would be improved if it were co-facilitated by a parent with lived experience of psychosis, e.g., a parent with psychosis delivered some of the material (like Nithura, Jess and Louise did).			
Agree	5	71.43	
Slightly agree	1	14.29	
Unsure	1	14.29	
7. Was there enough focus on parenting skills and techniques (e.g., attunement, mentalizing, communication, setting boundaries, STOPP and problem solving)?			
Just right	7	100	
8. Was there enough focus on managing psychosis?			
Just right	6	85.71	
Not enough	1	14.29	
9. Was there enough focus on the impact of psychosis on you and your children?			
Just right	7	100	
10. Was there enough time to talk about your experiences of psychosis?			
Just right	7	100	
11. Were 8 sessions enough?			
Just right	7	100	
12. Was 90 mins the right length of time for each session?			
Just right	7	100	
13. Do you think you are likely to use the parenting skills and techniques?			
Definitely yes	6	85.71	
Possibly yes	1	14.29	
14. Was there enough time for discussions in small groups/breakout rooms?			
Just right	7	100	
15. Was there enough time to discuss in the big group ?			
Just right	7	100	
16. Was there enough information delivered by the facilitators in the sessions?			
Just right	7	100	
17. Were there enough videos?			
Just right	6	85.71	
Not enough	1	14.29	

18. The early intervention service is available for up to three years. At what stage in an individual's care do you think this group should be delivered? E.g., within the first six months/the last year.			
After one year.	1	14.29	
First 6 months.	6	85.71	
19. Given a choice would you have preferred the group to be online or in person?			
Doesn't matter online or face to face	1	14.29	
I don't mind either.	1	14.29	
In person	1	14.29	
Online	4	57.14	
20. Tell us about any changes you have noticed in yourself, your parenting skills or in your relationship with your child(ren)?			
I am better at mentalizing and separating what is mine and what is my son's, not taking things too personally. I think I am better at being assertive and being less criticizing.	1	14.29	
I am much calmer in myself when I talk to my son. I don't jump to conclusions when he speaks or is quiet. I listen to my son more. We spend more time together now.	1	14.29	
I have become much more self-aware. I have gained confidence as a parent and am able to implement the techniques as and when required.	1	14.29	
I unfortunately missed the last few sessions, so I think I missed some of the practical bits. I still sometimes find it challenging, but I feel that I at least have more skills than I did before - I might have become a bit better at listening and understanding the challenging behaviors better.	1	14.29	
It's made me think about how I deal with my children more, more than just reacting. I am now using the techniques particularly mentalizing and Attunement. I don't do it all the time, but I am becoming better at it as I keep practicing. I feel like I understand my children better and its made me manage my own stress better.	1	14.29	
Pulling back, letting them speak more, I am slowing down my emotions, I take a deep breath. It helped me with my emotions. I listen more.	1	14.29	
Yes definitely, trying to be more understanding, mentalizing, thinking about how they are feeling, trying to match my reply to his needs, without jumping in, more caring and compassionate with my son.	1	14.29	
21. What improvements would you make to the group (is there anything you would change, add or remove)?			
The course was really well balanced. There was a good variety of material, the teaching, videos, discussions, homework, relaxation. I've never been to any groups before or even courses on psychosis, so it felt really empowering to know that I was not alone and to be able to share and hear about similar experiences. I wouldn't change anything. This probably wasn't the place, but if there were any similar groups on just focusing on and understanding psychosis, I would like to go to that.	1	14.29	
Even though I did not talk much, it would have been nice to hear more about people's stories of their psychosis.	1	14.29	

Ideally, it would be great to meet in person, although this does not have to be for all the sessions. Maybe there could be a blend of face to face and online.	1	14.29	
More techniques would have been good.	1	14.29	
NA	2	28.58	
Nothing.	1	14.29	
22. Any other comments:			
It was a really good course; I enjoyed the format. It was organized really well and I would love to be involved in anything else that you might do in the future. Thank you.	1	14.29	
Thank you for all your help	1	14.29	
Thank you for the group. It has helped me a lot.	1	14.29	
Thank you to all of you.	1	14.29	
NA	3	42.86	

B8. THEMES OF FEEDBACK RECEIVED DURING IN-BETWEEN SESSION CALLS AND FINAL GROUP DISCUSSION

Workbook

- The workbook is really helpful. I look at the slides during the session and then go over everything in the workbook afterwards.
- Like the large font and layout of the workbook.
- It was good to have the booklet to look at during the sessions.
- The workbook is brilliant, it helps me to remember the session content.

Digital Format

- Was feeling depressed, so kept my camera off during the session and break out room.

Psychosis

- Didn't know much about psychosis and the symptoms and found this helpful to cover.
- I find it helpful to talk about psychosis in the group.
- Everyone is at different stages with their psychosis, I am at the endpoint but its still good to reflect.

Group Format

- It was good to hear other people's comments, which I could relate to.
- It was good to break into smaller groups for discussions.
- Good to hear other people's experiences and what they were going through.
- It was nice to meet other people with similar mental health problems and the impact on parenting.
- The group has been run very well. I have enjoyed talking to different people in the breakout rooms.

Experiential Learning

- Found the videos very helpful.
- Role playing is good at getting the point across easily.
- Really enjoying the group, I like it being interactive, both in the big room and breakout rooms.
- The techniques are really helpful but can be hard to use when son is being stubborn.
- Parenting is stressful and can impact on mental health, it's good to have tools to stay well.

B9. LAY SUMMARY

ME, MY CHILD, AND US: A group-based parenting intervention for parents with lived experience of psychosis.

Research Study Summary

This is a summary of our study and its results. It will tell you what the study tried to learn, how it went about it and what we found.

What was the study about?
This study was aimed at piloting a brief novel parenting intervention for parents with lived experiences of psychosis. It is widely accepted that being a parent is an important part of one's identity and role. Being a parent can both add value and meaning to one's life, however it can also be a significant stressor. Previous research has shown that the dual demands of parenting and managing symptoms of psychosis can have an impact on parent-child relationships. However, there remains a lack of parenting interventions for parents with lived experience of psychosis. An eight-week mentalization-centred group-based intervention was developed, implemented, and evaluated. The researchers were interested in evaluating the acceptability, feasibility, and clinical effectiveness of the group.

What did we do?
The main researcher completed literature reviews, attended parenting-related training sessions, and interviewed field experts and parents with lived experience of psychosis to conceptualise the group. The learning was applied to the development of a comprehensive workbook which captured the entire group intervention. A set of Power Point Presentation slides with detailed notes was also developed for facilitators.

Parents with young children aged between 2-18 were then recruited from Early Intervention Services in Oxford and Buckinghamshire and invited to complete the eight-week group. All parents received a copy of the workbook prior to group. Parents were also supported in completing outcome measure pre- and post- the group. At the end of the group, parents were also invited to complete a feedback questionnaire to tell us about their experience of completing the group.

Data regarding attendance, engagement and scores from the pre- and post- group measures were analysed to evaluate acceptability, feasibility and efficacy of Me, My Child and Us.

What did we find?
Thirteen parents started the intervention, and eleven completed it. There was an overall attendance of 75%. All parents rated the group as satisfactory. There were positive changes in all outcome measures, which looked at overall parental wellbeing, parents stress levels, parent-child relationships satisfaction and mentalizing capacity.

Conclusions and next steps
The findings suggest that Me, My Child and Us, parenting group is an acceptable, feasible and clinically beneficial intervention that can be offered to parents with lived experience of psychosis.

The project plan was presented at the Trust Working with Families conference. It was also presented as part of a parenting symposium at the annual British Association for Behavioural and Cognitive Psychotherapies (BABCP) conference in London 2022. Similar information was also shared with the Oxford Recovery College, to explore how parents with experience of psychosis may access and participate in parenting groups at the Recovery College and Me, My Child, and Us parenting group.

The final results of the study will be shared with staff in the referring teams. We also aim to share the findings with the trust-wide Quality Improvement project Improving Working with

Families. Finally, from a research perspective, the study will be submitted for publication in a psychology journal.

B10. PARTICIPANT INFOMRATION SHEET

include open question and answer opportunities, sharing experiences (as much as you feel comfortable with), and peer support.

Towards the end of the 8 weeks, you will be asked to repeat the questionnaires you completed before the group. Finally, you will be asked to provide feedback on your experience of attending the group. The facilitators will be available to contact you between sessions to debrief and answer any questions you may have. Please note, that this will be an online group facilitated via Microsoft Teams.

What are the possible risks of taking part?

Whilst we do not anticipate that you will experience any distress, hearing other people's experiences and talking about your experiences of psychosis and parenting challenges can be an emotional process. Everyone in the group will be aware of keeping information confidential within the group. The facilitators will only break confidentiality if they are concerned about the safety of anyone in the group or their families. Throughout the group, you will be directed to a list of recourses which you can access, should you wish.

What are the possible benefits of taking part?

We hope that the group will benefit you in the following ways:

- Improved mental wellbeing
- Increased parental resilience
- Enhanced parent-child relationships
- Opportunities for peer support
- Signposting to relevant resources to help with maintaining gains and developing relevant support networks.

What will happen if I do not want to carry on with the group?

You are able to withdraw from the group at any point. We would still like to include any questionnaires you have completed as part of the evaluation of the group, but we would understand if you preferred to withdraw your questionnaire results too.

What will happen to my data?

All information about your involvement with the group will be kept in accordance with the Data Protection Act (1998) and GDPR.

Attendance at each group session will be recorded on your electronic clinical notes, as with any other appointment with a member of your treating team in the Trust. We will keep any personal data, e.g. email address or telephone number) in a secure file on an Oxford Health computer. Personal data will be stored for 3 months after the group has finished and then permanently deleted.

Other data about the group, such as questionnaire results, feedback forms, will be anonymised and stored for at 3 years after publication or public release of the results.

Evaluation of the group will form part of my doctoral course in Clinical Psychology, and a report will be submitted to the University of Oxford for marking. The findings of this study may also be submitted to a relevant journal or conference. A brief report of the findings will be sent to interested participants. You will not be identified within any of the publications, but anonymous quotes will be included, if you provide your consent for this.

Who has reviewed this study?

The setting up and evaluation of this parenting group has been reviewed and approved by the Directorate Quality Lead of Oxford Health NHS Foundation Trust.

I'm Interested! What's Next?

If you would like to participate, please tell your care coordinator or email Nithura.Sivarajah@oxfordhealth.nhs.uk to set up a telephone discussion.

Nithura Sivarajah

Trainee Clinical Psychologist

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B11. CONSENT FORM

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Tel: 07880 458628

Nithura Sivarajah, Trainee Clinical Psychologist

5	I understand who will have access my personal data, how the data will be stored and what will happen to the data after the group.	☐
6	I understand how the evaluation of the group will be written up and published.	☐
7	I understand how to raise a concern or make a complaint.	☐
8	I agree to take part in the group and its evaluation	☐

_____	dd / mm / yyyy	_____
Name of group participant	Date	Signature
_____	dd / mm / yyyy	_____
Name of person taking consent	Date	Signature

B12. REPORT SENT BACK TO THE QUALITY IMPROVEMENT/CLINICAL AUDIT TEAM AT OHFT

SUMMARY OF FINDINGS FROM ME, MY CHILD, AND US: A group-based parenting intervention for parents with lived experience of psychosis.

Background to project

Stress vulnerability models (Wied & Jansen, 2002) and research on parents with psychosis suggest that stressful interpersonal environments and social difficulties (Reupert & Meyberry, 2007) can exacerbate psychotic symptoms and trigger relapse (Chien, Bressington, & Chan, 2018).

Parents with psychosis often encounter multiple challenges, such as high levels of parental stress (Kadish, 2015), attachment problems (Engur, 2017), low emotional support, poverty, and ambivalent communication (Reupert & Meyberry, 2007). Parents with severe mental illnesses (SMI) may also face increased stigmatization and risk of losing their children's custody (Seeman, 2012). Parents fear these consequences and might therefore be less likely to report parenting difficulties, unless asked in a sensitive and supportive way.

Impaired parent-child interaction is a significant risk factors for children's mental health problems (Boström & Grip, 2019). Children with parents with psychosis are more vulnerable to immediate and future difficulties than children of parents without SMI (Cogan, 2004; Strand & Boström, 2020). One third of children with parents with psychosis are at greater risk of developing SMI themselves (Reedzt et al., 2019). The developmental model of transgenerational transmission of psychopathology (Hosman, von Doesum, & van Santvoort, 2009) suggests that interventions should include both general parenting skills and disorder-specific targets that act as risk factors for transmission of mental health problems.

It is therefore essential to support parents with psychosis adequately with both their mental health and their parenting (Grusec & Davidov, 2010, Boström & Grip, 2019). Parents with psychosis can benefit from learning new skills such as mentalizing and reflective functioning (RF), which help them to understand and respond to their own and their children's mental states (Fonagy et al., 1991). RF can be increased with psychoeducation and teaching enhanced communication and behavioural skills.

After the immediate post-partum period, parenting support is not widely available (Gearing et al., 2012), and especially not support that is tailored to parents who are experiencing their own poor mental health. Some parenting programs such as the Triple P Parenting Program' (2008) are available, although parents with psychosis are often excluded from mainstream parenting interventions. There are currently no evidence-based programs that meet the needs of parents with psychosis (Venkataraman et al., 2008; Strand, Boström & Grip, 2020).

Recently collected qualitative data in OHFT suggest that parents with psychosis who are under the care of EI and AMHT services would like to be offered a group-based parenting intervention that is disorder-specific (Radley et al., 2020). There is currently no service provision in OHFT that offers this type of intervention for parents of children above the age threshold for perinatal mental health services. Given the elevated risks and challenges for parents with psychosis and their children, interventions need to be carefully developed and

evaluated to help community teams support parents with psychosis to increase parenting confidence (Vauth et al., 2007), strengthen parental responsiveness to their children's needs, and find adaptive ways to cope when their parenting roles become stressful (Strand & Rudolfsson, 2020).

Our objective was to develop and pilot an 8-session manualized group intervention for parents with psychosis. The group would support parents both in managing parenting-related stress and enhancing parent-child relationships. The content of the group would be informed by literature reviews, evaluating existing parenting programs (e.g., Emerging Minds, Beardle's Family Intervention etc.), evaluating data collected from previous qualitative interviews with parents with psychosis, and discussions with field experts and experts by experience.

The project would evaluate the group's acceptability and feasibility and investigate whether there were any indications of change in perceived parental wellbeing, stress levels, and parent-child relationship satisfaction. The evaluation would also consider services' responses to the group. Recommendations will focus on the improvement of local services' support for parents with psychosis, if and how to embed the group into existing services, and next steps for development and evaluation of the intervention.

Aims and Objectives

The aim of the study was to pilot and ascertain the acceptability and feasibility of a co-produced eight-week mentalization-centred parenting group intervention for parents with lived experience of psychosis, and to investigate whether there was any impact on parents' stress levels, general mental health, and parent-child relationship.

Methods

A within-participant non-controlled pre-post design was employed. Mixed qualitative and qualitative methodology was used to generate knowledge concerning the acceptability, feasibility, and perceived change resulting from the intervention. Perceived change was analysed using pre-post- group data using the following outcome measures: Clinical outcomes in routine evaluation (CORE-10), Being a parent scale (BAPS), Child-Parent Relationship Scale, The parental reflective functioning questionnaire (PRFQ) and Parental stress scale. An overview of the study procedure is illustrated in the Figure 1.

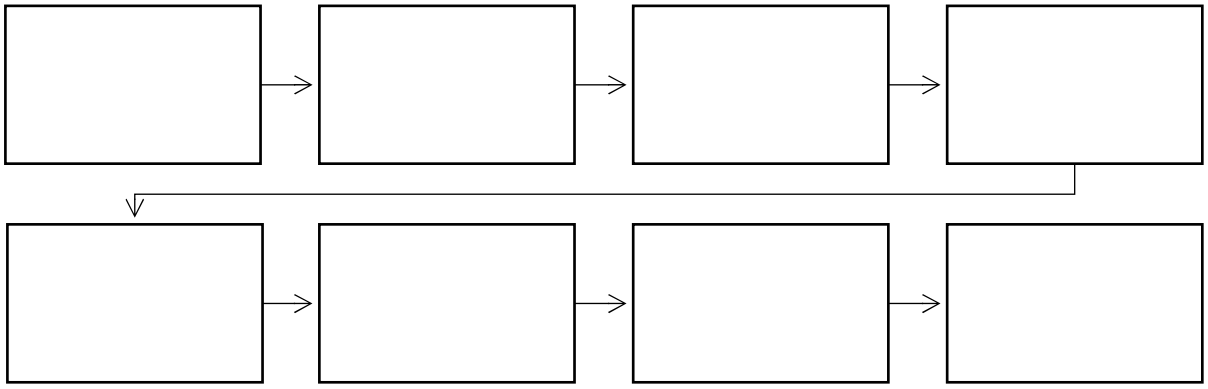


Figure 1. Overview of the study procedure.

Forty-one referrals were received, twenty-eight participants expressed an interest in the group. Fifteen were either unable to commit to the time of the intervention or unable to be contacted before the start of the group. Thirteen participants provided consent and took part in the intervention. Two participants dropped out after two sessions (one in the first group and one in the second). Two separate groups took place, one ran between January and March 2022, this group was facilitated on Monday mornings between 10.00am to 11.30am. The second group took place between October and December 2022, this group ran in the evenings between 18.00pm and 19.30pm. 8 participants took part in the first group and 5 took part in the second group.

The content of the group was framed using principles of mentalization as informed by the conceptualization phase of the study. The format of the sessions followed principles of Cognitive Behavioural Therapy. Contents of the group included didactic psychoeducation elements, video clips, experiential exercises, groups discussions, self-reflective exercises, and homework settings. All sessions ended with a 3-minute relaxation or guided meditation exercise. All participants were followed up by one of the group facilitators in-between each session. This took place to gather feedback on the session as well as provide participants with idiosyncratic support for any personal experiences related to the course content.

Results

Quantitative data from eleven out of thirteen participants were analysed. Data from the two participants who dropped out were omitted. Paired t-tests and Wilcoxon Signed-Rank Tests were used to analyse the pre- and post-intervention scores of the twelve participants who completed the intervention. There were statistically significant improvements on all outcome measures following the group. Table 1 summarises changes in mean scores following the intervention.

Table 1

Mean scores before and after Intervention (n=11).

Outcome	Pre-test Mean (SE)	Post-test Mean (SE)	Post-Pre Mean	Post/ Pre Change %	t-value	Paired t-test p-value	Wilcoxon Signed-Rank Test p-value
CORE-10 (psychological distress scores)	14.09	2.82 (1.5	-11.2	-80.00	4.70	0.00	0.001

	(2.97)	3)	7			1	
Being a Parent Scale							
Satisfaction Scale	31.09 (1.95)	45.27 (2.63)	14.18	45.61	-7.05	<.0001	0.001
Efficacy Scale	28.00 (2.05)	38.45 (0.99)	10.45	37.34	-6.52	<.0001	0.001
Child-Parent Relationship Scale							
Conflicts Scores	34.27 (3.48)	16.55 (1.20)	-17.73	-51.72	6.56	<.0001	0.001
Positive aspects of relationship (closeness)	39.55 (1.73)	45.82 (1.01)	6.27	15.86	-4.28	0.002	0.002
Dependence Scores	10.18 (0.69)	8.91 (0.49)	-1.27	-12.50	2.01	0.072	0.1055
The parental reflective functioning scale							
Pre-Mentalizing Modes	2.94 (0.42)	1.09 (0.08)	-1.85	-62.89	4.38	0.001	0.001

Twelve participants provided qualitative feedback. All participants rated being *satisfied* with the parenting group. Ten rated that the intervention had *made things better*, with the remaining two rating it as having *made things slightly better*. All 12 participants rated the between-session calls and the workbook as *very helpful*. All participants rated *definitely yes* when asked if they would recommend the group to others. When asked, “Do you think you are likely to use the parenting skills and techniques?”, 11 rated *definitely yes*, and the remaining parent rated, *possibly yes.* The full qualitative feedback is given in Appendix D. Table 7 below summarises the ratings and qualitative results. Parents shared that they had become better at mentalizing, become a better listener, felt calmer in themselves, and gained confidence as a parent.

Conclusions

There remains a dearth of studies which focus solely on parents with psychosis and their parenting needs. This study had a specific focus on parenting in the context of a diagnosis of psychosis. The complexity and importance of the nature, content, and processing (e.g., information-, emotion- and facial expression processing) experiences of psychotic experiences and their impact on parenting, suggest that parents with psychosis benefit from diagnosis-specific and mentalization-centred parenting support. The social adversities, stigmatization, and isolation commonly endured by people living with psychosis also suggest that group-interventions and particularly digital-groups are effective in normalising experiences, forming peer relationships, and creating a safe context within which to learn new skills.

Me, My Child, and Us parenting intervention offers strong support to the value of diagnosis-specific interventions, group-based modality, and mentalization-centred parenting strategies for parents with psychosis. Our results, suggest that offering My, My Child and Us group intervention could be an acceptable, feasible, clinically effective, and possibly cost-effective approach for services to target parenting needs of parents with lived experience of psychosis.

However, some methodological limitations need to be stressed. Most of the participants in the groups had taken part in a previous interview study by one of the authors (JR), where participants shared what support, they would find helpful. It could, therefore, possibly be argued that the intervention was tailored to these parents' needs, which might limit the findings' transferability to other secondary care settings. Participants' duration of psychosis and length of time under the care of mental health services were not recorded prior to them starting the group. This would have determined how much pre-existing support participants had had prior to the group, which may have influenced their motivation and ability to engage.

The findings represent the voices of a small, predominantly white, and female group of parents with lived experience of psychosis. Only two participants who completed the group were of non-white ethnic backgrounds and only two were fathers. Fathers have historically been under-represented in parenting interventions, and it is important that significant efforts are made to include fathers in future work.

No psychosis-specific outcome measures were used. Given the relationship between parenting stress and psychotic symptoms it could have been helpful to measure whether the intervention had an influence on the presence, frequency, and impact of symptoms of psychosis. Finally, with more time and resources, it would have been interesting to have heard from the children (where appropriate) to learn how satisfied they were with the parent-child relationship pre- and post- intervention. This would have provided a second dimension to the relationship-satisfaction data and would also have given additional insight into parents' ability to mentalize with their children; a higher discrepancy between ratings given by the parent and the child within a dyad may have indicated lower mentalizing capacity.

Preliminary indications of this study are that diagnosis-specific and mentalization-centred group-based parenting interventions for parents with lived experience of psychosis, is not only acceptable and feasible but may also be clinically effective. Next steps will involve planning how it can be delivered in the Trust, with appropriate governance and ongoing evaluation. Additional research is required to test the intervention in a randomized controlled trial, with a larger and more diverse sample of parents with lived experience of psychosis.

APPENDIX C – THEORY DRIVEN RESEARCH PROJECT

C1. TARGET JOURNAL: INSTRUCTIONS FOR AUTHORS

Guide for Authors

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- Submission
- Additional
- Acknowledgements, declaration of interest, and role of funding organizations
- Artwork

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Types of Contributions

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References

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State the objectives of the work and provide an adequate background, avoiding a detailed literature survey or a summary of the results.

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Collate acknowledgements, declaration of interest, and role of funding organizations in a separate section at the end of the article before the references and do not, therefore, include

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Formatting of funding sources

List funding sources in this standard way to facilitate compliance to funder's requirements:

Funding: This work was supported by the National Institutes of Health [grant numbers xxxx, yyyy]; the Bill & Melinda Gates Foundation, Seattle, WA [grant number zzzz]; and the United States Institutes of Peace [grant number aaaa].

It is not necessary to include detailed descriptions on the program or type of grants and awards. When funding is from a block grant or other resources available to a university, college, or other research institution, submit the name of the institute or organization that provided the funding.

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This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

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List: references should be arranged first alphabetically and then further sorted chronologically if necessary. More than one reference from the same author(s) in the same year must be identified by the letters 'a', 'b', 'c', etc., placed after the year of publication.

Examples:
Reference to a journal publication:
Van der Geer, J., Hanraads, J. A. J., & Lupton, R. A. (2010). The art of writing a scientific article. *Journal of Scientific Communications, 163,* 51–59. https://doi.org/10.1016/j.sc.2010.00372.
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Van der Geer, J., Hanraads, J. A. J., & Lupton, R. A. (2018). The art of writing a scientific article. *Heliyon, 19,* Article e00205. https://doi.org/10.1016/j.heliyon.2018.e00205.
Reference to a book:
Strunk, W., Jr., & White, E. B. (2000). *The elements of style* (4th ed.). Longman (Chapter 4).
Reference to a chapter in an edited book:
Mettam, G. R., & Adams, L. B. (2009). How to prepare an electronic version of your article. In B. S. Jones, & R. Z. Smith (Eds.), *Introduction to the electronic age* (pp. 281–304). E-Publishing Inc.
Reference to a website:
Powertech Systems. (2015). *Lithium-ion vs lead-acid cost analysis*. Retrieved from http://www.powertechsystems.eu/home/tech-corner/lithium-ion-vs-lead-acid-cost-analysis/. Accessed January 6, 2016
Reference to a dataset:
[dataset] Oguro, M., Imahiro, S., Saito, S., & Nakashizuka, T. (2015). *Mortality data for Japanese oak wilt disease and surrounding forest compositions*. Mendeley Data, v1. https://doi.org/10.17632/xwj98nb39r.1.
Reference to a conference paper or poster presentation:
Engle, E.K., Cash, T.F., & Jarry, J.L. (2009, November). *The Body Image Behaviours Inventory-3: Development and validation of the Body Image Compulsive Actions and Body Image Avoidance Scales*. Poster session presentation at the meeting of the Association for Behavioural and Cognitive Therapies, New York, NY.
Reference to software:
Coon, E., Berndt, M., Jan, A., Svyatsky, D., Atchley, A., Kikinzon, E., Harp, D., Manzini, G., Shelef, E., Lipnikov, K., Garimella, R., Xu, C., Moulton, D., Karra, S., Painter, S., Jafarov, E., & Molins, S. (2020, March 25). *Advanced Terrestrial Simulator (ATS) v0.88 (Version 0.88)*. Zenodo. https://doi.org/10.5281/zenodo.3727209.

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C2. ETHICS APPROVAL LETTERS

North of Scotland Research Ethics Committee (1)
Summerfield House
2 Eday Road
Aberdeen
AB15 6RE

Telephone: 01224 558458
Email: gram.nosres@nhs.scot

NHS Grampian

30 September 2022

Professor Craig Steel
Academic Director of DClinPsych Oxford University
Oxford Health Foundation Trust
Warneford Hospital
Headington
Oxford
OX37JX

Dear Professor Steel

Study title:	**A case series on a brief metacognitive intervention for non-trauma related mental images.**
REC reference:	**22/NS/0084**
Amendment number:	**Substantial Amendment 1**
Amendment date:	**21 September 2022**
IRAS project ID:	**306129**

Ethical opinion

The members of the Sub-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 [306129_Substantial Amendment 1_21Sep2022_Locked21Sep22_111659.pdf]	Substantial Amendment 1	21 September 2022
Research protocol or project proposal [Protocol - Tracked Changes]	3	14 April 2022
Research protocol or project proposal [Protocol - Clean Copy]	3	14 April 2022

Membership of the Sub-Committee

The members of the Sub-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

Ymchwil Iechyd a Gofal Cymru
Health and Care Research Wales

NHS
Health Research Authority

Professor Craig Steel
Academic Director of DClinPsych Oxford University
Oxford Health Foundation Trust
Warneford Hospital
Headington
Oxford
OX37JX

Email: approvals@hra.nhs.uk
HCRW.approvals@wales.nhs.uk

12 August 2022

Dear Professor Craig Steel

HRA and Health and Care Research Wales (HCRW) Approval Letter

Study title:	**A case series on a brief metacognitive intervention for non-trauma related mental images.**
IRAS project ID:	**306129**
REC reference:	**22/NS/0084**
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.

List of Documents

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

Document	*Version*	*Date*
IRAS Application Form [IRAS Form received 27/05/2022]	306129/1565259/37/397	27 May 2022
Letter from sponsor [Sponsorship Letter]		20 May 2022
Other [Approval letter from university]		04 June 2021
Other [Validated GAD7 Questionnaire]		
Other [Validated PHQ9 Questionnaire]		
Other [Validated BCSS Questionnaire]		
Other [Validated PaDS Questionnaire]		
Other [Academic Supervisor CV - Dr Chris Taylor]		01 June 2022
Other [Research Poster]	V2	04 July 2022
Other [Summary of REC Changes (response to Provisional Opinion)]	V1	02 August 2022
Other [PIS Support Services Document]	V1	09 June 2022
Other [Outline of follow up session]	V1	08 April 2022
Participant consent form [Consent Form]	V3	04 July 2022
Participant consent form	V2	09 June 2022
Participant information and informed consent form [Updated PIS/ICF]	v4	02 August 2022
Participant information sheet (PIS)	V2	09 June 2022
Research protocol or project proposal [Protocol]	V1	05 December 2021
Summary CV for Chief Investigator (CI) [Prof Craig Steel - April 2022]		
Summary CV for student [Mrs Nithura Sivarajah]		22 September 2021
Summary CV for supervisor (student research) [Dr Nicola Collett - June 2022]		
Summary, synopsis or diagram (flowchart) of protocol in non technical language [Summary of intervention plan]	V1	08 April 2022
Validated questionnaire [All questionnaires in MS Forms format]	V1	15 June 2022

IRAS project ID	306129

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 no	The single participating NHS	This is a single	No external study	The Chief	The sponsor has confirmed that

Oxford Health
NHS Foundation Trust

Professor Andrea Cipriani
Associate Director of Research & Development
Warneford Hospital
Warneford Lane
Oxford
OX3 7JX
Email: research@oxfordhealth.nhs.uk

11/10/2022

Confirmation of Capacity and Capability

Re: A case series of a brief metacognitive intervention for non-trauma mental imagery
Research and Development Reference: 16081
IRAS Reference: 306129
Research Ethics Committee Reference: 22/NS/0084
Sponsor: Oxford Health NHS Foundation Trust

Dear Craig Steel,

On behalf of Oxford Health NHS Foundation Trust, I am pleased to confirm Trust Capacity and Capability for the above research as outlined in the application received.

The study is not supported by a Research Delivery Team.

The study team members are as follows: Nithura Sivarajah.

Approved Documents

Protocol Version 3 dated 14/04/2022 is recognised as the most current to date.

The documents approved for use at this Trust are as listed in the following approval documents:
Health Research Authority Letter dated: 12/08/2022
Research Ethics Full Approval Letter dated: 10/08/2022

Any subsequent, relevant amendments are additionally included to date.

Metrics and Recruitment

First participant target date: 02/11/2022
Recruitment target figure: 9
Recruitment target date: 24/02/2023
Anticipated study end date: 24/04/2023

To comply with national research performance requirements the Trust will monitor and publish recruitment for your study:

1. Performance of the recruitment of the first participant.
2. Recruiting planned participants to time and target.

NHS
Oxford Health
NHS Foundation Trust

Reporting recruitment via Siteline

As confirmed during the study set-up study accruals will be recorded via Siteline. It was agreed that **Nithura Sivarajah** will update the records at least one a month and no later than 7th of each month (e.g. by 7th August upload accruals for July etc.)

Should you feel at any time that you will be unable to realistically achieve your contracted recruitment target, please get in touch with the Research Team on research@oxfordhealth.nhs.uk as soon as possible.

Conditions of Approval

The following conditions apply to this approval:

a) The study is conducted in compliance with all the relevant legislation and the relevant OHFT policies.
b) All staff working on the study have the appropriate training and experience and have responsibilities formally delegated to them.
c) Should you plan to leave your position in OHFT, you will notify RD immediately of your plans, to enable discussions around the future of study conduct.
d) The Trust expects the named Principal Investigator to allocate regular support time to the study; this must be agreed with the research team prior to the study commencing. This may be reviewed by RD at any time.
e) All relevant documents will be maintained and will be sent to research@oxfordhealth.nhs.uk, to facilitate compliance checks, formal audits and regulatory inspections.
f) You will notify RD via the email above of any protocol amendments.
g) You will promptly inform RD via the email above of the end of the study.
h) You will respond in timely manner to RD periodic checks email.

I wish you every success with the study.

Yours sincerely,



Professor Andrea Cipriani
Associate Director of Research Development

C3. BASELINE MEASURES

Generalised Anxiety Disorder-7

Over the <u>last 2 weeks</u>, how often have you been bothered by the following problems? *(Use " " to indicate your answer"*	Not at all	Several days	More than half the days	Nearly every day
1. Feeling nervous, anxious or on edge	0	1	2	3
2. Not being able to stop or control worrying	0	1	2	3
3. Worrying too much about different things	0	1	2	3
4. Trouble relaxing	0	1	2	3
5. Being so restless that it is hard to sit still	0	1	2	3
6. Becoming easily annoyed or irritable	0	1	2	3
7. Feeling afraid as if something awful might happen	0	1	2	3

Patient Health Questionnaire-9

Over the <u>last 2 weeks</u>, how often have you been bothered by any of the following problems? *(Use "✔" to indicate your answer"*	**Not at all**	**Several days**	**More than half the days**	**Nearly every day**
1. Little interest or pleasure in doing things	0	1	2	3
2. Feeling down, depressed, or hopelessness	0	1	2	3
3. Trouble falling or staying asleep, or sleeping too much	0	1	2	3
4. Feeling tired or having little energy	0	1	2	3
5. Poor appetite or overeating	0	1	2	3
6. Feeling bad about yourself — or that you are a failure or have let yourself or your family down	0	1	2	3
7. Trouble concentrating on things, such as reading the newspaper or watching television	0	1	2	3
8. Moving or speaking so slowly that other people could have noticed? Or the opposite — being so fidgety or restless that you have been moving .around a lot more than usual	0	1	2	3
9. Thoughts that you would be better off dead or of hurting yourself in some way	0	1	2	3

Persecution and Deservedness Scale

The 10-item persecution and deservedness scale

Please read each of the following statements carefully and indicate the extent to which they are true or false by circling a number on the scale

1. There are times when I worry that others might be plotting against me.	*Certainly false*	*Possibly false*	*Unsure*	*Possibly true*	*Certainly true*
	0	1	2	3	4
If you've answered 2 or above to the last question, please answer to the following question:					
1.1 Do you feel like you deserve others to plot against you?	*Not at all*	*Possibly not*	*Unsure*	Possibly	*Very much*
	0	1	2	3	4
2. I often find it hard to think of anything other than the negative ideas others have about me.	*Certainly false*	*Possibly false*	*Unsure*	*Possibly true*	*Certainly true*
	0	1	2	3	4
If you've answered 2 or above to the last question, please answer to the following question:					
2.1 Do you feel like you deserve people to have negative ideas about you?	*Not at all*	*Possibly not*	*Unsure*	Possibly	*Very much*
	0	1	2	3	4
3. My friends/others often tell me to relax and stop worrying about being deceived or harmed.	*Certainly false*	*Possibly false*	*Unsure*	*Possibly true*	*Certainly true*
	0	1	2	3	4
If you've answered 2 or above to the last question, please answer to the following question:					
3.1 Do you feel like you deserve being deceived or harmed?	*Not at all*	*Possibly not*	*Unsure*	Possibly	*Very much*
	0	1	2	3	4
4. Every time I meet someone for the first time, I'm afraid they've already heard bad things about me.	*Certainly false*	*Possibly false*	*Unsure*	*Possibly true*	*Certainly true*
	0	1	2	3	4
If you've answered 2 or above to the last question, please answer to the following question:					
4.1 Do you feel like you deserve to have people hearing bad things about you?	*Not at all*	*Possibly not*	*Unsure*	Possibly	*Very much*
	0	1	2	3	4

5. I'm often suspicious of other people's intentions towards me	*Certainly false*	*Possibly false*	*Unsure*	*Possibly true*	*Certainly true*
	0	1	2	3	4
If you've answered 2 or above to the last question, please answer to the following question					
5.1 Do you feel like you deserve people having bad intentions towards you?	*Not at all*	*Possibly not*	*Unsure*	Possibly	*Very much*
	0	1	2	3	4
6. Sometimes, I just know that people are talking critically about me.	*Certainly false*	*Possibly false*	*Unsure*	*Possibly true*	*Certainly true*
	0	1	2	3	4
If you've answered 2 or above to the last question, please answer to the following question:					
6.1 Do you feel like you deserve people to talk critically about you?	*Not at all*	*Possibly not*	*Unsure*	Possibly	*Very much*
	0	1	2	3	4
7. There are people who think of me as a bad person.	*Certainly false*	*Possibly false*	*Unsure*	*Possibly true*	*Certainly true*
	0	1	2	3	4
If you've answered 2 or above to the last question, please answer to the following question:					
7.1 Do you feel like you deserve people to think of you as a bad person?	*Not at all*	*Possibly not*	*Unsure*	Possibly	*Very much*
	0	1	2	3	4
8. People will almost certainly lie to me.	*Certainly false*	*Possibly false*	*Unsure*	*Possibly true*	*Certainly true*
	0	1	2	3	4
If you've answered 2 or above to the last question, please answer to the following question:					
8.1 Do you feel like you deserve people to lie to you?	*Not at all*	*Possibly not*	*Unsure*	Possibly	*Very much*
	0	1	2	3	4
9. I believe that some people want to hurt me deliberately.	*Certainly false*	*Possibly false*	*Unsure*	*Possibly true*	*Certainly true*
	0	1	2	3	4
If you've answered 2 or above to the last question, please answer to the following question:					
9.1 Do you feel like you deserve people to hurt you deliberately?	*Not at all*	*Possibly not*	*Unsure*	Possibly	*Very much*
	0	1	2	3	4
10. You should only trust yourself.	*Certainly false*	*Possibly false*	*Unsure*	*Possibly true*	*Certainly true*
	0	1	2	3	4
If you've answered 2 or above to the last question, please answer to the following question:					
10.1 Do you feel like you deserve to have no one you can trust?	*Not at all*	*Possibly not*	*Unsure*	Possibly	*Very much*
	0	1	2	3	4

Brief Core Schema Scale

The Brief Core Schema Scales: beliefs about self and others

This questionnaire lists beliefs that people can hold about themselves and other people. Please indicate whether you hold each belief (NO or YES). If you hold the belief then please indicate how strongly you hold it by circling a number (1–4). Try to judge the beliefs on how you have generally, over time, viewed yourself and others. Do not spend too long on each belief. There are no right or wrong answers and the first response to each belief is often the most accurate.

				Believe it slightly	Believe it moderately	Believe it very much	Believe it totally
MYSELF							
I am unloved	NO	YES	→	1	2	3	4
I am worthless	NO	YES	→	1	2	3	4
I am weak	NO	YES	→	1	2	3	4
I am vulnerable	NO	YES	→	1	2	3	4
I am bad	NO	YES	→	1	2	3	4
I am a failure	NO	YES	→	1	2	3	4
I am respected	NO	YES	→	1	2	3	4
I am valuable	NO	YES	→	1	2	3	4
I am talented	NO	YES	→	1	2	3	4
I am successful	NO	YES	→	1	2	3	4
I am good	NO	YES	→	1	2	3	4
I am interesting	NO	YES	→	1	2	3	4
OTHER PEOPLE							
Other people are hostile	NO	YES	→	1	2	3	4
Other people are harsh	NO	YES	→	1	2	3	4
Other people are unforgiving	NO	YES	→	1	2	3	4
Other people are bad	NO	YES	→	1	2	3	4
Other people are devious	NO	YES	→	1	2	3	4
Other people are nasty	NO	YES	→	1	2	3	4
Other people are fair	NO	YES	→	1	2	3	4
Other people are good	NO	YES	→	1	2	3	4
Other people are trustworthy	NO	YES	→	1	2	3	4
Other people are accepting	NO	YES	→	1	2	3	4
Other people are supportive	NO	YES	→	1	2	3	4
Other people are truthful	NO	YES	→	1	2	3	4

C4. FEEDBACK SURVEY AND RESPONSES

Responses from Qualitative Feedback Survey

Questions	**Responses**
Opening:	
I'd like to start by asking you, in general, how you found the metacognitive intervention for distressing mental images.	*I found it enlightening. It's a new approach I hadn't come across. It's very appealing.* *I was initially a bit sceptical, wondering what difference four sessions could make – but it's given me a whole different understanding of how the brain works; the power of thinking something is real and what the brain takes from that.* *I found it comfortable to do it over MS Teams. I am usually a face-to-face person, but it was really good on teams.* *I am very satisfied with it. I think it's actually exceeded my expectation.* *It's been very beneficial because I wasn't aware of the impact that visual images have and the power of visual imagery over emotions.* *It's been really worthwhile. I noticed a change where I could say to myself, "It's an image, and it's not true. You are thinking about an image; it's not real life". That's new because of the intervention.* *I liked that techniques were suggested but that I could adapt them to my situation, like crumbling the photo or taking it to my uncles' bonfire; they were*

	appropriate to me, they were personalised and felt appropriate to the distress. *The rationale at each session was very clear, everything was explained in bite sizes, and the illustration [Microformulation] was really clear and a reflection of my own experience, which I found helpful to see and understand. It gave me the confidence to engage in the following sessions.*
Acceptability:	
On a scale of 0-100%, how satisfied were you with the intervention?	*Mean = 95.71 (SD = 11.33)*
Do you feel that the techniques were appropriate to address your distress? *(1 = yes, 2 = unsure, 3 = no)*	*Yes = 100%* *Unsure = 0%* *No = 0%*
Were you able to understand the rationale for the intervention? *(1 = yes, 2 = unsure, 3 = no)*	*Yes = 100%* *Unsure = 0%* *No = 0%*
Demand:	
Did you use the techniques beyond the sessions? *(1 = yes, 2 = no)*	*Yes = 100%* *No = 0%*
Did the intervention meet your expectations? *(1 = not at all, 2 = slightly, 3 = unsure, 4 = moderately, 5 = totally)*	*Not at all = 0%* *Slightly = 0%* *Unsure = 0%* *Moderately = 28.5%* *Totally = 71.5%*
How likely are you to continue to use the techniques in the future? *(1 = definitely unlikely, 2 = possibly unlikely, 3 = unsure, 4 = possibly likely, 5 = definitely likely)*	*Definitely unlikely = 0%* *Possibly unlikely = 0%* *Unsure = 0%* *Possibly likely = 28.5%* *Definitely likely = 71.5%*
Would you recommend the intervention to others? *(1 = yes, 2 = no)*	*Yes = 100%* *No = 0%*
Implementation:	
On a scale of 0-100%, how successful did you perceive the intervention to be?	*Mean = 94.28 (SD = 11.33)*
What affected your ability to use the techniques/engage in the intervention?	*Having a clear understanding of the rationale and practising how to do it with a neutral image*

	first helped. *Closing my eyes when doing the techniques.* *Being able to talk about images and situations in a new way and having someone understand how scary it can be.* *Having a reinforcement each week of how the four sessions will pan out.* *Practising the techniques in the session before doing it on my own for homework.*
Practicality:	
What was positive or negative about your experience of this therapy?	*Positives* *I liked that it was short and concise. It was straight to the point.* *The flexibility with booking appointments.* *I liked that it was on MS Teams. I could do the sessions from the comfort of my house.* *Being able to learn about mental images before doing the techniques gave me more confidence to face the images. This was hard because I had always avoided them.* *Negatives* *It would have been good to have more sessions for the follow-up to be able to practise it a bit more and come back with questions if any new problems or difficulties come up.*

Adaptation:	
Have you previously sought support for distressing mental images? *1 = yes, 2 = no*	*Yes = 14.28%* *No = 85.72%*
How was this different?	*(1 person) We just mentioned it but did not do any treatment for it.*
How was this intervention better or worse?	*NA*
Integration:	
Would you consider the learning to be useful and sustainable? (1 = not at all, 2 = slightly, 3 = unsure, 4 = moderately, 5 = totally)	*Not at all = 0%* *Slightly = 0%* *Unsure = 0%* *Moderately = 14.28%* *Totally = 82.72%*
Clinical impact:	
Did you notice any differences in yourself during the time and after ending the intervention?	*I felt more confident about facing the images and knew that I had more control over them, which made me feel less anxious.* *I used to get really depressed by the image, but as I saw it less and knew that it wasn't real, I felt more in control and less depressed. I also had some suicidal thoughts, which completely stopped.* *I didn't have the image as much, which made me feel less anxious during the week.* *I felt less anxious, and I started leaving the house more often.* *I noticed that I was sleeping better. My mind wasn't as occupied with it.* *I started spending more time with my family. I used to avoid them before because of the image.*

	Even though I focused on one image, I was able to see that images are the same sort of thing and could apply the work we did with different images. I can now control them, and I don't have to let the thoughts and images have that much weight on me. I feel relieved and a sense of control. It's reassuring and nice. *I have learnt to manipulate my thoughts and mental images much more. Having the knowledge that this is something that I could even do, has really helped me feel less anxious and more in control.* *I can now say to myself, "It's an image, and it's not true. It's not real life". I have been able to adapt the techniques to other images too, so I am hardly experiencing any images any more.* *I don't feel anxious about the images anymore. The image of cutting myself was the worst one, and I don't have it anymore. I have also been able to use the techniques with other images. I have logged it in the back of my mind, so I feel confident that I'll be able to deal with them when they pop up.* *I never knew the impact these images could have. I also didn't know there was something that could be done about them. I have learnt a lot about the brain, and I feel like I understand my brain*

	better, its less frightening. I now know that I have some control over my brain and that there are ways of changing what I see and think. *I still sometimes see the devil, but at least I know that sometimes it's just a worry in my mind and that worries can be visual. I feel like I can cope with the worries [mental images] better, not having them as often, which has helped me sleep better at night.* *I feel like having something I can do about it and being able to manipulate the images is having a big positive effect on my mood. It used to really get me down and stop me from going out. I have been out on my own a few times and do not constantly feel checking and rushing back home.*
What did you learn from this therapy?	*I learn about how the brain works and how to control my mental images.* *I now know how powerful mental images can be and how powerful my mind can be in controlling them.* *I learnt new techniques to focus my attention away from my images and manipulate them so they have less power over me.* *I've learnt that everything I see in my mind is not a true picture of reality and that I*

	can change the pictures in my mind using these techniques. *Even though I have many different images, I can use the same techniques for them all. What's happening in the image doesn't really matter. This makes me feel reassured.* *There are things to help with mental images. You just have to keep practising them.* *I have a lot of control over what happens in my mind.*
Improvements:	
Have you got any suggestions for improvements?	*At least one more follow-up session.* *A longer gap between the final session and the follow-up session.*
What would have made it more feasible to engage with?	*No suggestions given.*

C5. STUDY PROTOCOL

METACOGNITIVE INTERVENTION

ASSESSMENT & QUESTIONNAIRES

The aims of this session are:

(1) To explain the aims of the intervention

(2) To complete baseline questionnaires

(3) To give a brief description of what mental images are and what the 4-week intervention will entail.

(4) To identify the image that will be worked on throughout the intervention

SESSION ONE – PSYCHOEDUCATION & ENGAGEMENT

The aims of this session are:

(1) To gain a good understanding of what distressing mental images are and why imagery-based interventions are useful.

Checklist for Psychoeducation

- √ Experiencing mental images evokes stronger emotions than experiencing verbal thoughts.
- √ Neuroimaging studies have shown that imagining scenarios activate similar brain areas as actually experiencing scenarios. There is very little difference in brain activity.
- √ The brain cannot tell the difference between imagined events and real events – which explains the strong emotional reactions.
- √ Use examples to explain examples of images vs real situations. This could include participants hearing real music vs imagining hearing music, participants seeing specific facial expressions such as an angry face vs imagining seeing an angry face and imagining taking a penalty vs actually taking a penalty.
- √ Explain that control over images can impact the distress caused by the images.
- √ Using positive images to evoke happy and safe feelings.
- √ You can learn to change images, and the brain will react as if it is happening, even if it's not real, and mood can change.

(2) To collaboratively identify an image to work on and get a full description of the image

- *What is it?*
- *How frequently do you experience the image?*
- *When did you first experience the image?*

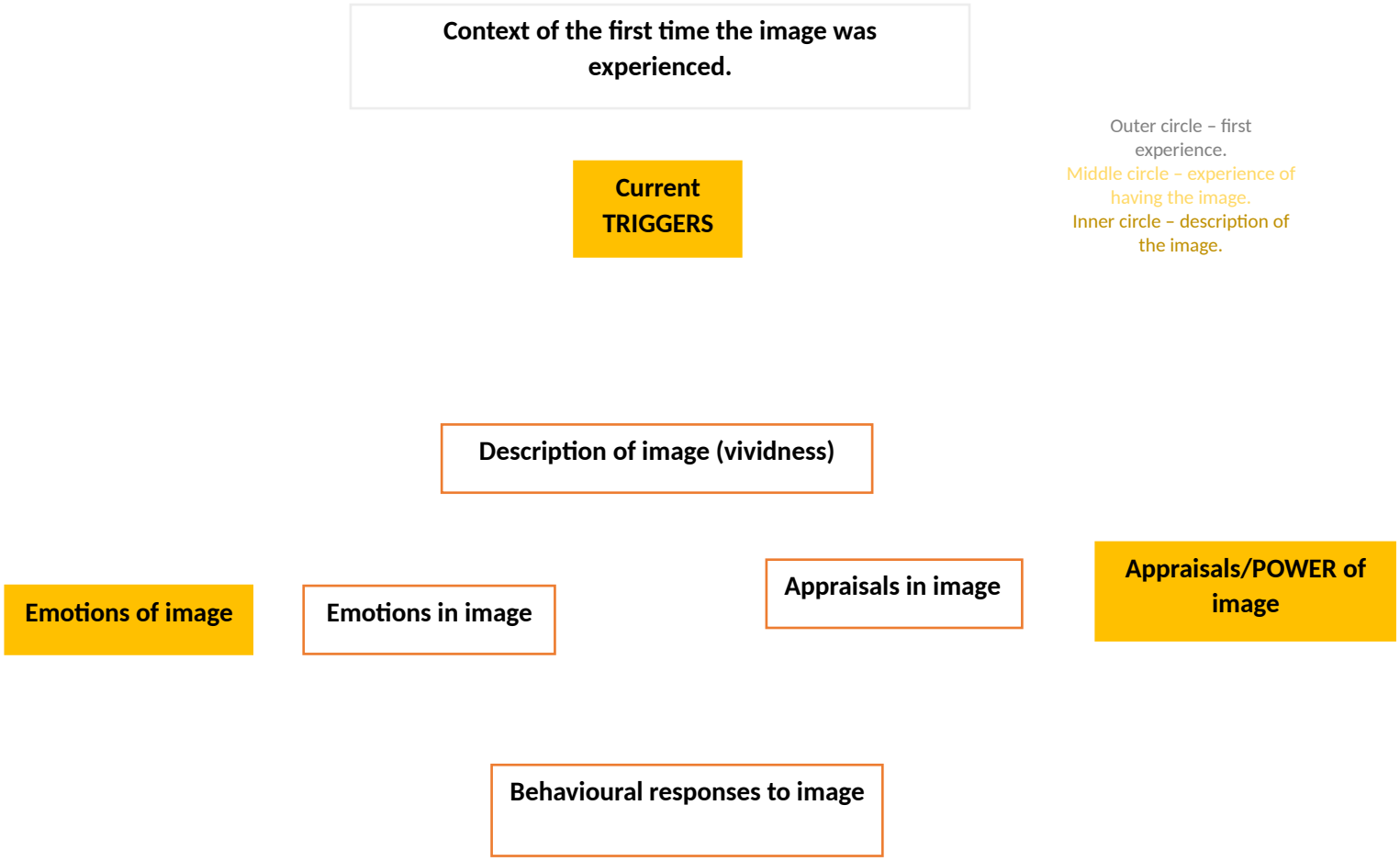
- *What does it mean to you that you have this image?*
- *How do you make sense of it? What does the image mean to you?*
- *When you have the image, what impact does it have on you?*
- *What emotions does the image evoke in you? How does it make you feel?*
- *What other senses does the image have? (e.g., what can you see, hear, touch, taste, or smell?)*
- *Do you have any thoughts that accompany the image?*
- *Does it have an impact on your body when you have the image?*
- *How vivid/real is the image (on a scale from 0-100)?*
- *Is it a still photo or a moving video?*
- *What angel/perspective do you see it from?*
- *Is it related to any past events that you have experienced in life?*
- *How much power do you have over the image?*
- *What do you think controls it? What is its source?*
- *What would you like to call the image?*

SESSION 2 – MICROFORMULATION

The aims of this session are:

(1) To develop a shared formulation of the chosen mental image by focusing on its content and mapping it out in detail. The formulation should provide a clear understanding of what the image is, why it persists and how it affects the participant's mood.

(2) To have a clear understanding of how the 'POWER of image' impacts the maintenance cycle.



Only do the outer grey/outer parts of formulation if the participant can recall their first experience of the mental imagery.

SESSION 3 – METACOGNITIVE INTERVENTION

The aims of this session are:

(1) To explain how metacognitive techniques work

(2) Choose metacognitive techniques to apply and apply them

Examples of attention techniques
attention training

Examples of imagery property techniques
imagine popping the image like a balloon
imagine smashing the image like glass
imagine shrinking the image or blowing it up
imagine the image on a TV and switching channels
imagine the image being on the radio and turning down the volume/switching it off
imagine changing the colour of the image
imagine the image looking funny

imagine putting the image in a bottle and throwing it into the sea

SESSION 4 – BLUEPRINT

The aims of this session are:

1. To recall/summarise and reflect on the learning

2. To plan how to continue to implement the techniques in the future and explore how to widen their application (e.g., how to use them for other mental images).

- *What's your understanding of what maintains mental images?*
- *What impact can mental images have on your mood?*
- *How did you learn to change your distressing images?*
- *What did you do to change the images/What techniques did you learn in therapy?*
- *How can you continue to apply these techniques in the future?*
- *What might come in the way of applying them in the future?*
- *How could you problem-solve the barriers?*
- *Could you apply these techniques to other mental images? If so, what are they?*

FOLLOW UP SESSION

The aims of this session are:

1. To complete the baseline measures

2. To gather qualitative feedback about the acceptability of the intervention (see Appendix D)

PROTOCOL ITEMS OF CASE SERIES STUDY

Protocol items of the case series study

	Enrolment	Baseline	Intervention	Follow up
Recruitment				
Eligibility Screen	x			
Informed Consent	X			
Outcome measures				
Baseline measures		X		X
- GAD7		X		X
- PHQ9		X		X
- PaDS		X		X
- BCSS		X		X
Primary outcome measures				
- Recruitment rates	X			X
- Attendance	X	X	X	X
- Out-of-session use			X	X

of metacognitive techniques			
- Qualitative Feedback			X
Secondary Outcome measures			
- MIPQ Questionnaire	X	X	X
Metacognitive Intervention			
- Session 1 (Psychoeducation)	X		
- Session 2 (Microformulation)	X		
- Session 3 (Metacognitive Techniques)		X	
- Session 4 (Ending)		X	
Follow Up			
- Qualitative Feedback			X

C6. ATTENDANCE REPORT

Attendance Report

ID	Assessment (Baseline)	Baseline Session 1	Baseline Session 2	Intervention Session 3	Intervention Session 4	Follow Up
P1	Yes	Yes	Yes	Dropped Out	Dropped Out	Dropped Out
P2	Yes	Yes	Yes	Yes	Yes	Yes
P3	Yes	Yes	Yes	Yes	Yes	Yes
P4	Yes	Yes	Yes	Yes	Yes	Yes
P5	Yes	Yes	Yes	Yes	Yes	Yes
P6	Yes	Yes	Yes	Yes	Yes	Yes
P7	Yes	Yes	Yes	Yes	Yes	Yes
P8	Yes	Yes	Yes	Yes	Yes	Yes

C7. RAW DATA OF BASELINE MEASURES

GAD7 Scores					
	Pre Intervention	Post Intervention	RCI	Cases improved	Cases meeting CSC
P1	7				
P2	15	4			
P3	21	14			
P4	17	10			
P5	19	6			
P6	13	6			
P7	19	15			
P8	21	11			
Mean	***16.5***	***9.4***	***4.27***	***6***	***3***

PHQ9 Scores					
	Pre Intervention	Post Intervention	RCI	Cases Improved	Cases meeting CSC
P1	10				
P2	12	4			
P3	16	11			
P4	21	13			
P5	25	10			
P6	15	11			
P7	24	19			
P8	20	14			
Mean	***17.88***	***11.7***	***5.05***	***4***	***1***

PaDS Scores Persecution Subscale					
	Pre Intervention	Post Intervention	RCI	Cases improved	Cases meeting CSC
P1	1.8				
P2	2.4	1.4			
P3	3.5	2.2			
P4	1.8	1.4			
P5	1	0.3			
P6	1.2	0.6			
P7	2.9	1.8			
P8	3.5	2.9			
Mean	***2.26***	***1.5***	***1.08***	***1***	***1***

PaDS Scores Deservedness Subscale					
	Pre Intervention	Post Intervention	RCI	Cases improved	Cases meeting CSC
P1	1.9				

P2	0	0			
P3	2.7	0.9			
P4	0.9	0.2			
P5	0.3	0.3			
P6	0.6	0.1			
P7	2.3	0.7			
P8	3.1	2.4			
Mean	***1.48***	***0.7***	***1.30***	***1***	***0***

BCSS Positive Self Subscale					
	Pre Intervention	Post Intervention	RCI	Cases Improved	Cases meeting CSC
P1	13				
P2	16	16			
P3	12	12			
P4	10	11			
P5	2	5			
P6	5	5			
P7	4	4			
P8	8	8			
Mean	**8.75**	**8.71**	**6.17**	**0**	**0**

BCSS Negative Self Subscale					
	Pre Intervention	Post Intervention	RCI	Cases Improved	Cases meeting CSC
P1	5				
P2	10	5			
P3	7	4			
P4	15	5			
P5	3	3			
P6	9	7			
P7	10	10			
P8	12	6			
Mean	**8.88**	**5.71**	**4.25**	**3**	**0**

BCSS Positive Others Subscale					
	Pre Intervention	Post Intervention	RCI	Cases Improved	Cases meeting CSC
P1	20				
P2	16	16			

P3	12	12			
P4	10	11			
P5	2	5			
P6	5	5			
P7	4	4			
P8	8	8			
Mean	**9.63**	**9**	**6.86**	**0**	**0**

BCSS Negative Others Subscale					
	Pre Intervention	Post Intervention	RCI	Cases Improved	Cases meeting CSC
P1	2				
P2	12	9			
P3	18	18			
P4	4	4			
P5	13	13			
P6	9	9			
P7	24	24			
P8	14	8			
Mean	**12**	**12.14**	**7.15**	**0**	**0**

C8. MIPQ SESSION-BY-SESSION RAW DATA

	Vividness						
	P2	P3	P4	P5	P6	P7	P8
Assessment (Baseline)	100	90	95	100	60	100	100
Session 1 (Baseline)	100	90	95	100	60	100	100

Session 2 (Baseline)	100	90	95	100	60	100	100
Session 3 (Intervention)	90	90	90	100	40	100	100
Session 4 (Intervention)	60	70	40	80	10	100	80
Follow Up	0	0	0	80	0	100	0

	Conviction						
	P2	P3	P4	P5	P6	P7	P8
Assessment (Baseline)	100	100	90	100	40	100	100
Session 1 (Baseline)	100	100	90	100	40	100	100
Session 2 (Baseline)	90	100	85	100	40	100	90
Session 3 (Intervention)	40	35	50	70	20	100	70
Session 4 (Intervention)	0	10	40	20	0	50	40
Follow Up	0	0	10	0	0	40	10

	Control						
	P2	P3	P4	P5	P6	P7	P8
Assessment (Baseline)	0	0	0	0	50	0	0
Session 1 (Baseline)	0	0	0	0	50	0	0
Session 2 (Baseline)	0	0	0	0	50	0	10
Session 3 (Intervention)	80	100	40	60	80	10	40
Session 4 (Intervention)	100	100	60	70	100	50	75
Follow Up	100	100	80	100	100	50	80

	Distress						
	P2	P3	P4	P5	P6	P7	P8
Assessment (Baseline)	100	100	100	100	90	100	100
Session 1 (Baseline)	100	100	100	100	90	100	100
Session 2 (Intervention)	100	100	90	100	60	100	100
Session 3 (Intervention)	90	50	70	60	30	100	85
Session 4 (Intervention)	20	0	45	20	10	85	10
Follow Up	0	0	10	0	0	70	10

	Frequency						
	P2	P3	P4	P5	P6	P7	P8
Assessment (Baseline)	1	28	49	56	21	70	14
Session 1 (Baseline)	1	28	49	56	21	70	14
Session 2 (Baseline)	1	28	49	48	21	70	14
Session 3 (Intervention)	0	14	21	14	14	70	8
Session 4 (Intervention)	0	2	0	0	0	35	2
Follow Up	0	0	0	0	0	20	0