Treating Psychotic Symptoms using Trauma-Focused Psychological Therapies: Opportunities and Challenges

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Centre for Mental Health

Swinburne University of Technology

The Voices Clinic is a specialist psychology treatment and research clinic for people who hear voices or have similar experiences.

Based at Swinburne University, Melbourne Australia

Angela was a 25 year old woman with a diagnosis of schizophrenia. She frequently heard voices (auditory hallucinations) that were frequent, critical, threatening, and commanding.

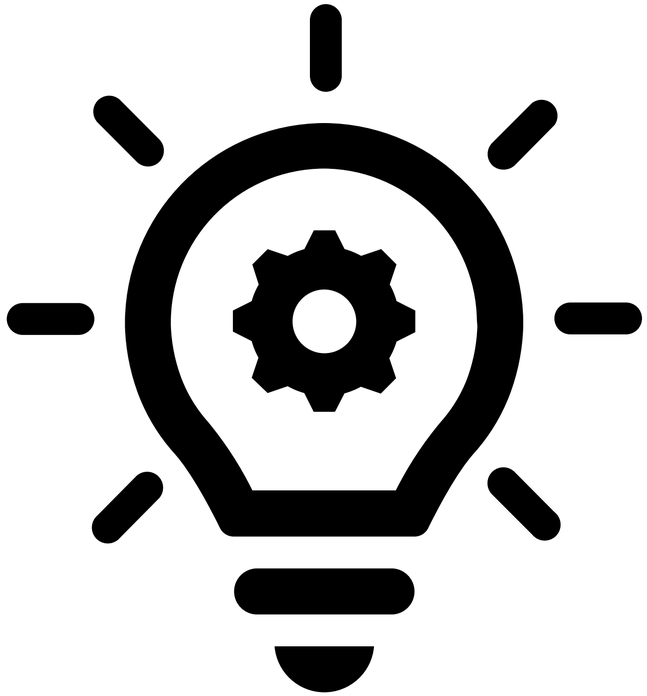
“You’re disgusting”

“You’re filth”

“Keep your mouth shut”

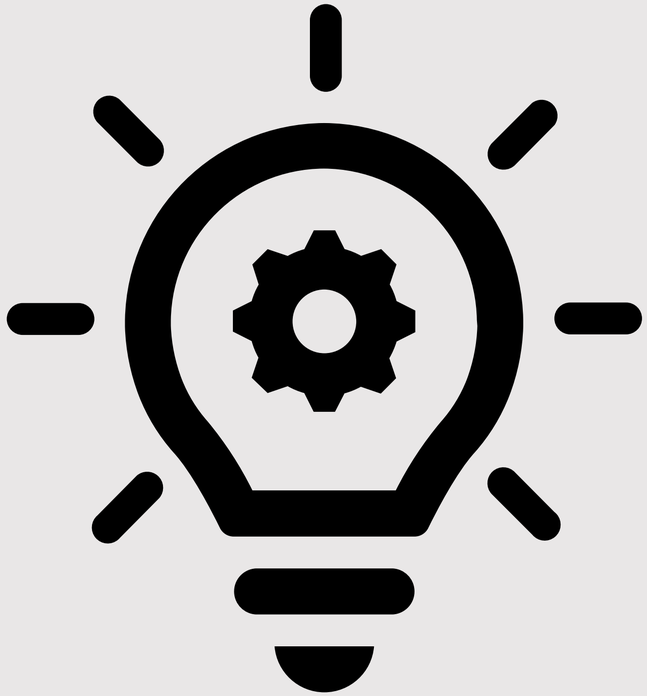
”I can have you killed”

She was terrified, depressed, and hopeless



Are some voices a type of trauma memory intrusion, similar to those experienced in PTSD?

Can we use the effective psychological treatments we have for PTSD to treat some voices?



Are some voices a type of trauma memory intrusion, similar to those experienced in PTSD?

Traumatic and adverse experiences are common in people with psychotic disorders

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High prevalence of childhood trauma in p
spectrum and affective

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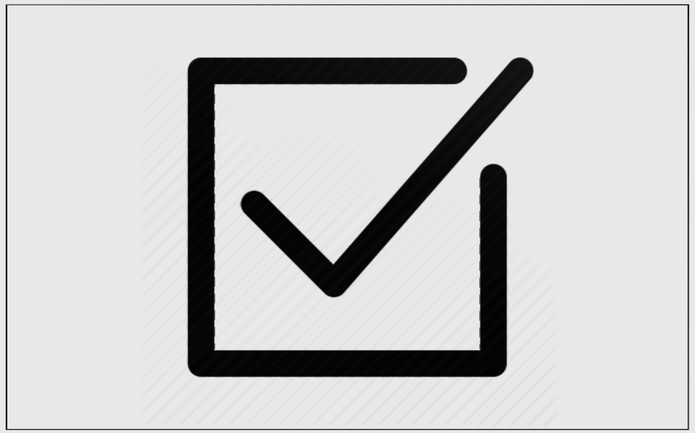
Abstract

Objective: Childhood trauma (CT) is a major risk factor for various psychiatric disorders. We
catchment area–based sample of schizophrenia spectrum and affective disorder (including b
psychotic features) and to explore potential differences in types of CT between the diagnosti
Method: Three hundred five patients were recruited consecutively from psychiatric units at 3
with Structured Clinical Interview for *Diagnostic and Statistical Manual of Mental Disorders,*
were assessed with Childhood Trauma Questionnaire.
Results: Eighty-two percent of the patients had experienced one or more CT events, the most f
neglect. The schizophrenia spectrum group reported significantly more physical abuse and phys
Conclusion: A high prevalence of CT in patients with severe mental disorder was detected. This
this issue when we treat such patients. The mechanisms behind these differences are unclear. Fur
associations between CT and the clinical picture of the disorder.

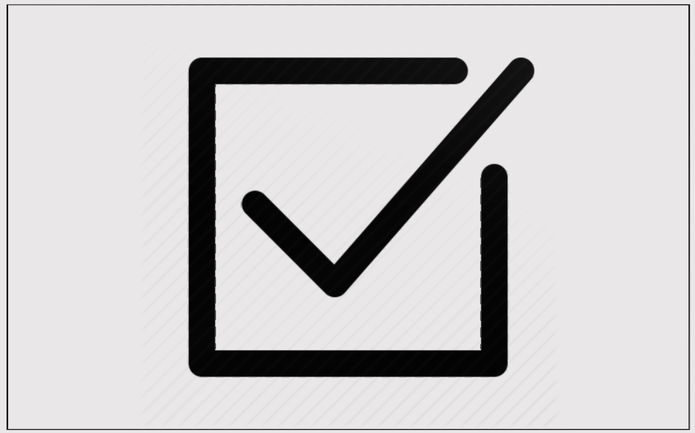
85% of those with schizophrenia spectrum disorders reported childhood trauma.

There is mounting evidence that traumatic life events play a causal role in psychotic experiences.



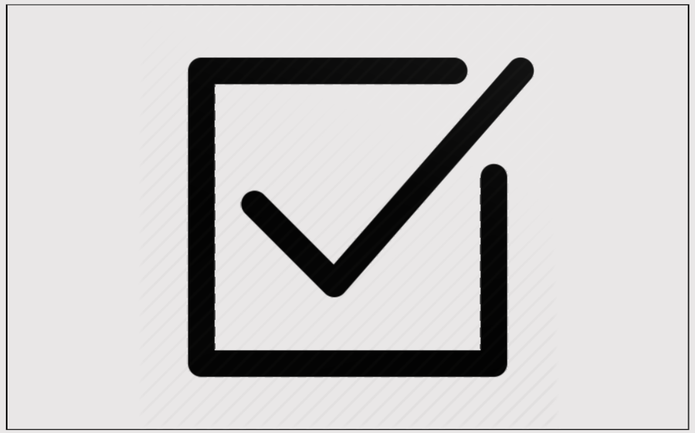
Strength and consistency of association

Varese et al., 2012



Dose-response effect

Shevlin et al., 2008



Temporal ordering and reversal of effect

Kelleher et al., 2013

Several ‘families’ of posttraumatic psychological processes are implicated in the link between trauma and psychosis.

Williams et al., 2018

Posttraumatic sequelae

- Dissociation
- **PTSD symptoms**

Affective dysfunction/ dysregulation

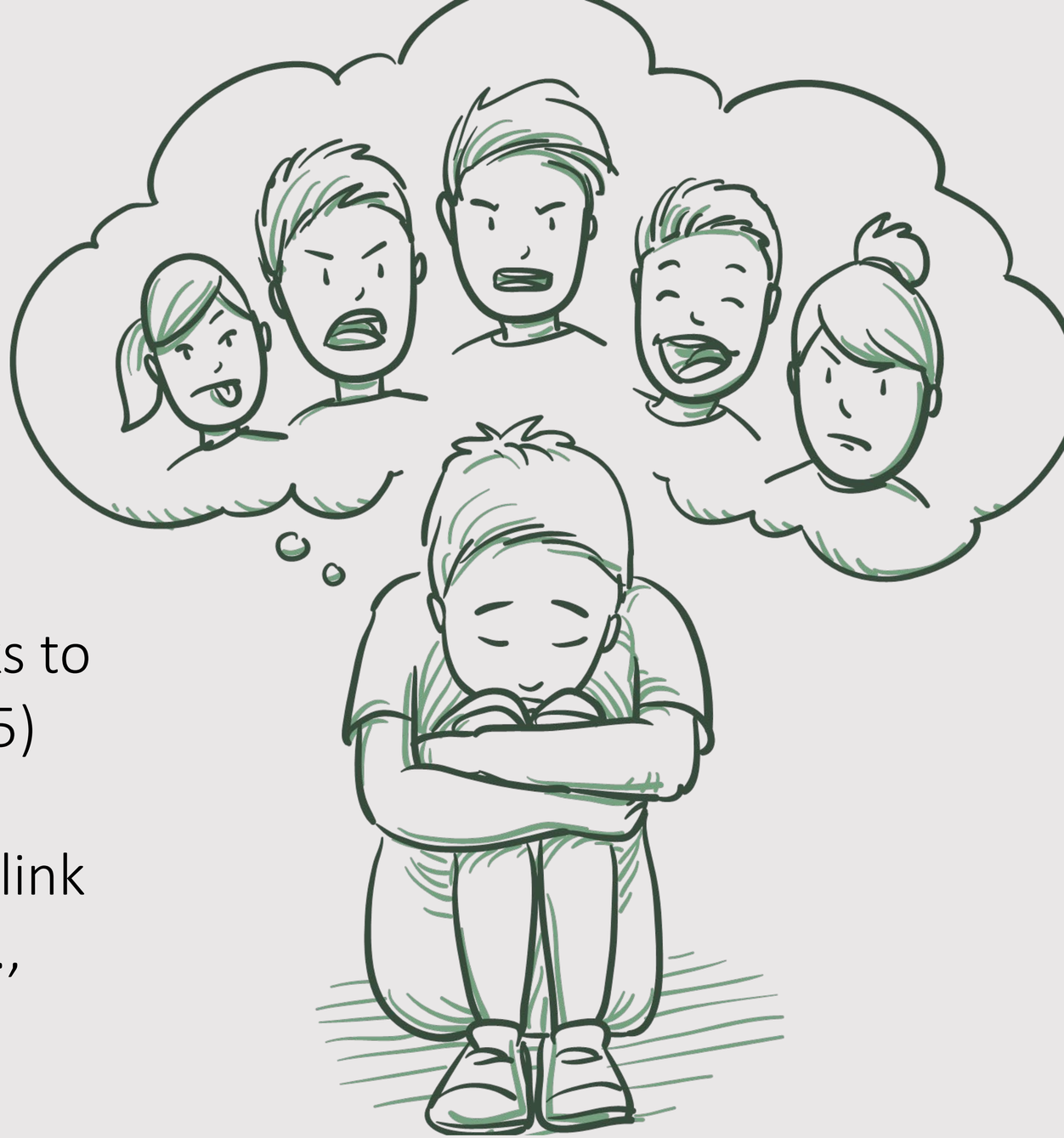
- Attachment
- Depression and anxiety
- Emotion dysregulation

Cognitive factors

- Self esteem
- Self concept clarity
- Social defeat
- Negative schema

Are some voices a type of trauma memory intrusion?

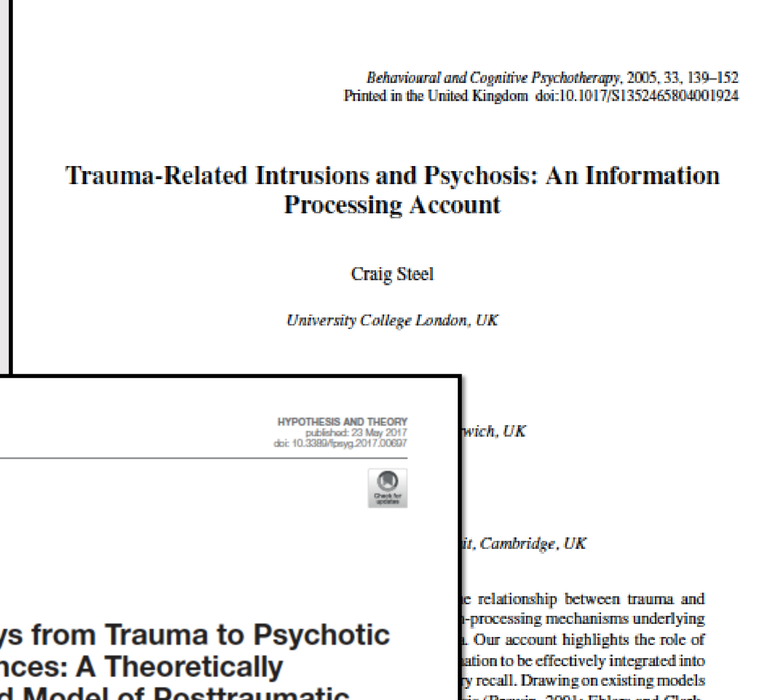
- Phenomenological similarities between voices and trauma memory intrusions
- Voice content has direct or thematic links to trauma for about 50% (Hardy et. al, 2005)
- Trauma memory intrusions mediate the link between trauma and voices (Peach et al., 2018)



Key theoretical models

- Shifts in information processing during traumatic events leads to vivid, fragmented, predominantly perceptual, and decontextualised memories
- This process is more severe in people with psychosis (difficulties in spatial and temporal integration)
- Trauma memory intrusions occur without autonoetic recollection, so are experienced as voices

Hardy, 2017; Steel et al., 2005

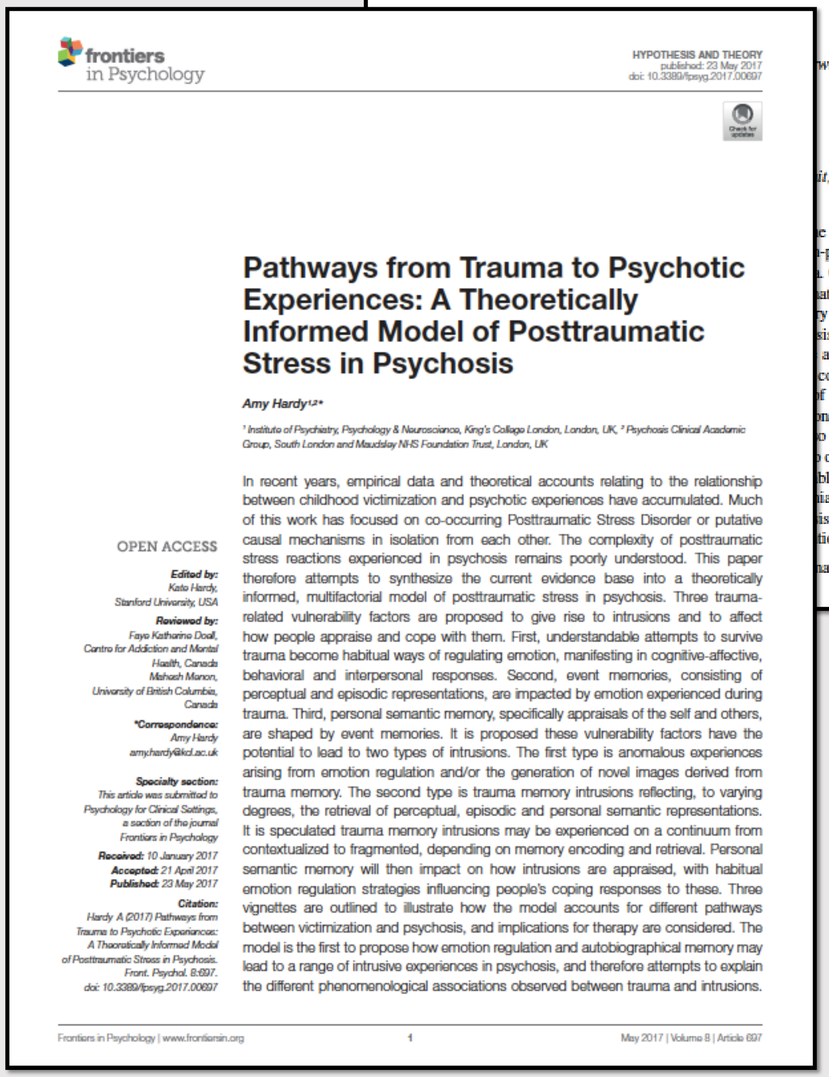


Behavioural and Cognitive Psychotherapy, 2005, 33, 139–152
Printed in the United Kingdom doi:10.1017/S1352465804001924

Trauma-Related Intrusions and Psychosis: An Information Processing Account

Craig Steel

University College London, UK



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Pathways from Trauma to Psychotic Experiences: A Theoretically Informed Model of Posttraumatic Stress in Psychosis

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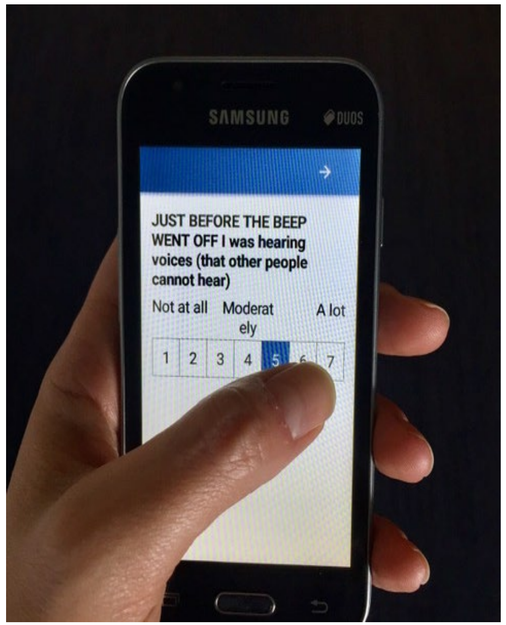
In recent years, empirical data and theoretical accounts relating to the relationship between childhood victimization and psychotic experiences have accumulated. Much of this work has focused on co-occurring Posttraumatic Stress Disorder or putative causal mechanisms in isolation from each other. The complexity of posttraumatic stress reactions experienced in psychosis remains poorly understood. This paper therefore attempts to synthesize the current evidence base into a theoretically informed, multifactorial model of posttraumatic stress in psychosis. Three trauma-related vulnerability factors are proposed to give rise to intrusions and to affect how people appraise and cope with them. First, understandable attempts to survive trauma become habitual ways of regulating emotion, manifesting in cognitive-affective, behavioral and interpersonal responses. Second, event memories, consisting of perceptual and episodic representations, are impacted by emotion experienced during trauma. Third, personal semantic memory, specifically appraisals of the self and others, are shaped by event memories. It is proposed these vulnerability factors have the potential to lead to two types of intrusions. The first type is anomalous experiences arising from emotion regulation and/or the generation of novel images derived from trauma memory. The second type is trauma memory intrusions reflecting, to varying degrees, the retrieval of perceptual, episodic and personal semantic representations. It is speculated trauma memory intrusions may be experienced on a continuum from contextualized to fragmented, depending on memory encoding and retrieval. Personal semantic memory will then impact on how intrusions are appraised, with habitual emotion regulation strategies influencing people's coping responses to these. Three vignettes are outlined to illustrate how the model accounts for different pathways between victimization and psychosis, and implications for therapy are considered. The model is the first to propose how emotion regulation and autobiographical memory may lead to a range of intrusive experiences in psychosis, and therefore attempts to explain the different phenomenological associations observed between trauma and intrusions.

The moment-to-moment association between posttraumatic stress symptoms and voices in the flow of daily life: An ecological momentary assessment study.

28 people (18-75 yrs) with frequent and persistent voices and a history of traumatic events.



6 days of EMA

- MovisensXS app
- Training in use of app
- 10 ax per day, pseudo-random between 10am and 8pm

EMA items

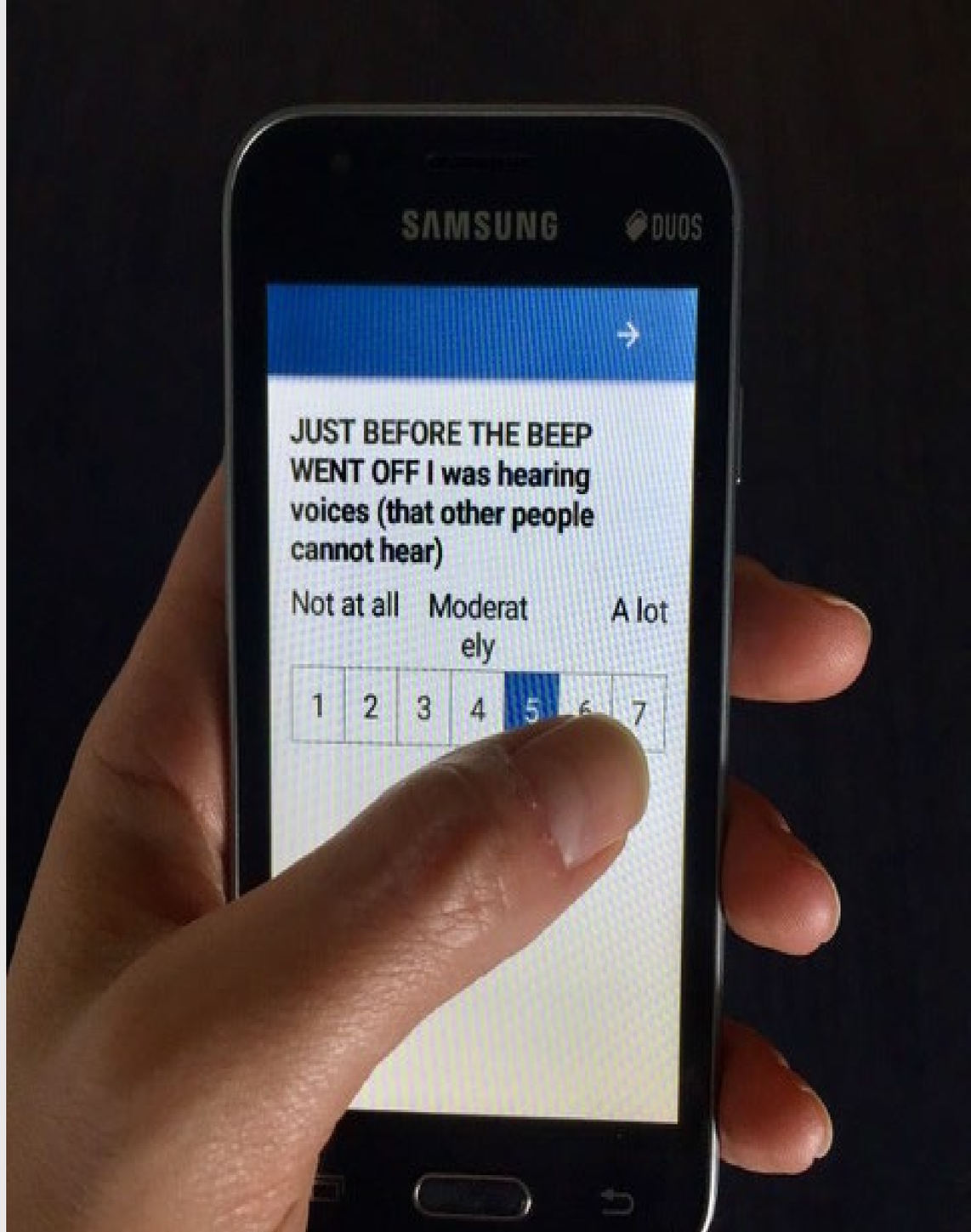
1.Just before the beep went off I was hearing voices (that other people cannot hear)

Thinking about the traumatic or stressful event(s) we identified as related to your voices…

2. **Since the last beep**, memories of the event(s) came into my head when I did not want them to.

3. **Since the last beep** I have tried hard to avoid thinking about or being reminded of the event (s).

4. **Since the last beep** I have been constantly alert, on edge, irritable, or jumpy.



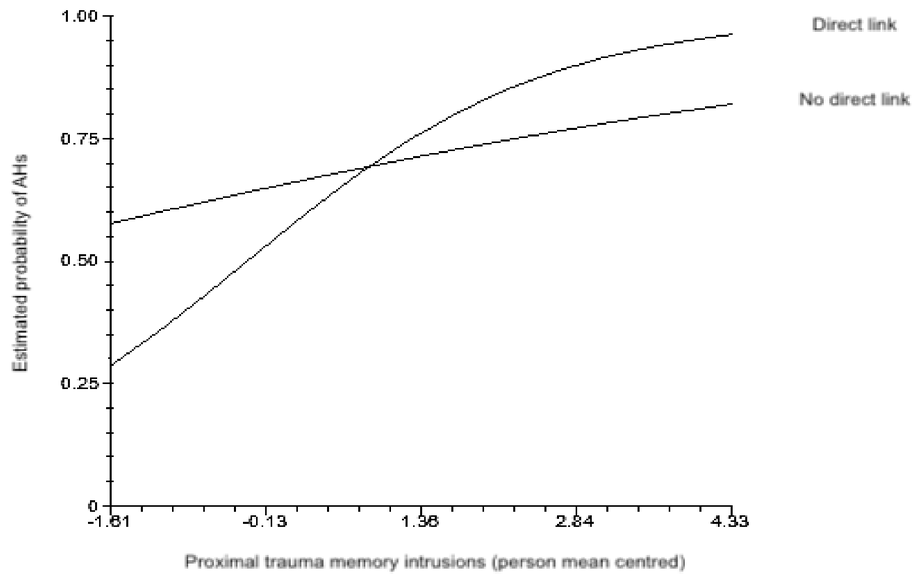
Our findings…

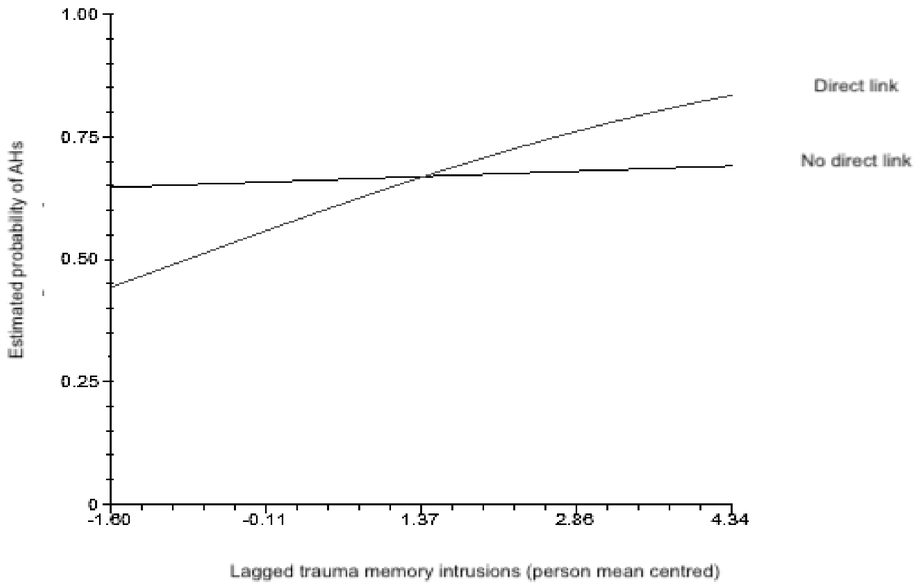
- EMA data collected at 1680 time points, completed at 1190 (29.17% missing)
- **Trauma memory intrusions within the same hour were a significant predictor of voices**. A one point increase in trauma memory intrusions increased likelihood of voices by **43%.**
- Avoidance and hyperarousal within the same hour were not significant predictors.
- No significant predictors of voices when looking at the previous timepoint (60-120 minutes prior)

Are trauma memory intrusions more relevant for some people than others?

Those with a direct voice-trauma content link had a significantly stronger relationship between trauma memory intrusions and voices.

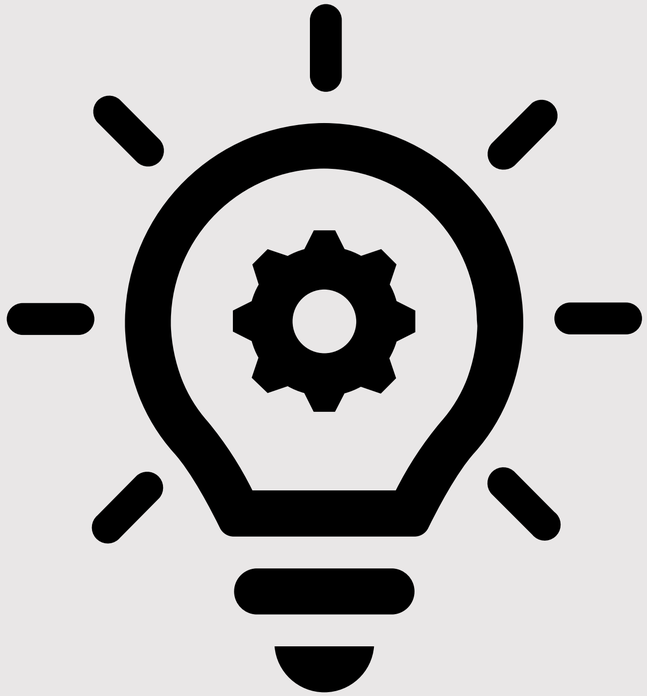
Figure 1. The link between AH content and the index trauma memory as a moderator of the relationship between proximal and lagged trauma memory intrusions and AHs.





Note: posttraumatic avoidance and hyper arousal set to equal the mean value for each person.

Trauma memory intrusions play a momentary role in some voices (perhaps particularly those that have a direct content link with traumatic events)



Can we use the effective psychological treatments we have for PTSD to treat some voices?

Trauma-focused therapies

E.g. Prolonged exposure, EMDR, trauma-focused CBT. All share common components and aims:

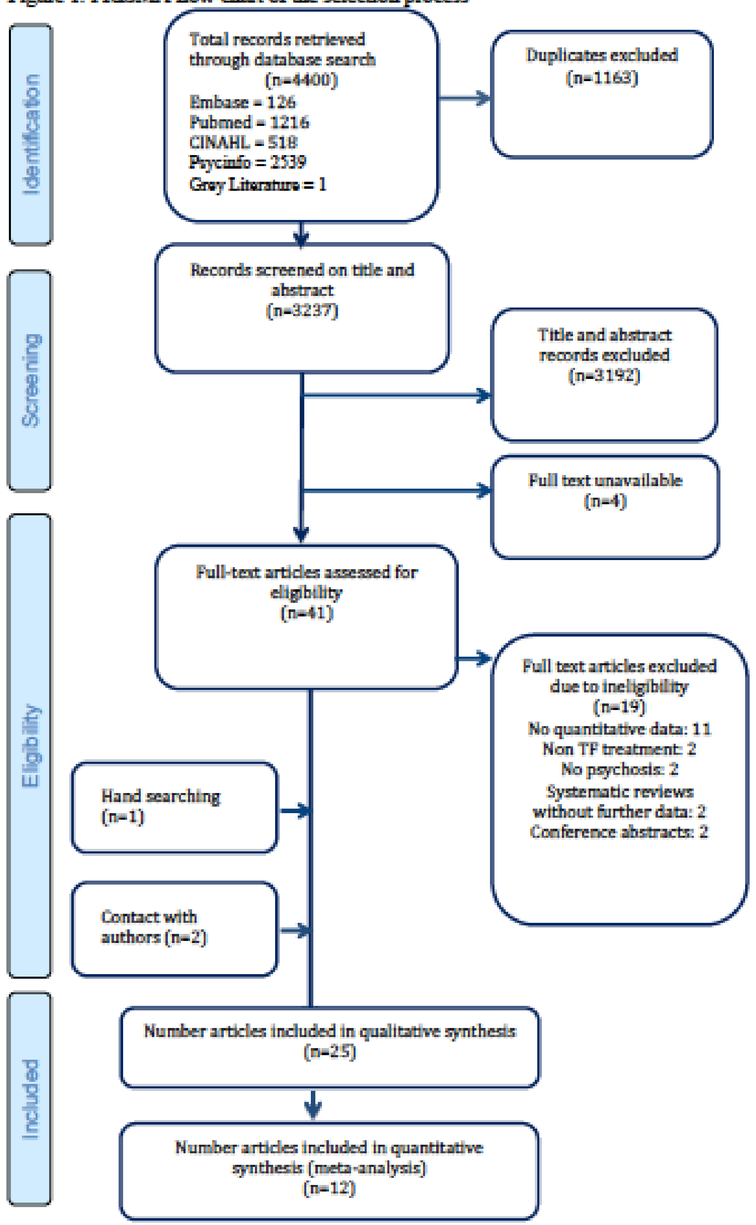
- Psychoeducation
- Coping skills and emotion regulation strategies
- Imaginal exposure
- Cognitive restructuring/ meaning making
- A focus on memory processes – creation of a coherent trauma narrative and reorganisation of memory functions

A meta-analysis of the secondary effects of trauma-focused therapies for PTSD on symptoms of psychosis

- There is now a growing evidence base for the use of trauma-focused therapies (PE, EMDR, TF-CBT) for treating PTSD in people with psychosis.
- But, there had not been any synthesis of the impact of these therapies on psychotic symptoms
- This provided an opportunity to get an initial idea of the potential of trauma-focused therapies as a treatment for psychotic symptoms

Population	Diagnosis of a psychotic disorder or the presence of psychotic symptoms
Intervention	Trauma-focused treatments with an evidence base for PTSD (EMDR, prolonged exposure, TF-CT, TF-CBT, CPT)
Comparison	Controlled or uncontrolled studies
Outcomes	**Primary:** Positive symptoms, negative symptoms, hallucinations, delusions **Secondary:** PTSD, depression, anxiety

Figure 1. PRISMA flow chart of the selection process



Analysis	Outcome	Time point	N	g	95% CI	p
Controlled, between group	Positive Symptoms	Post-treatment	5	0.31	[0.55, 0.06]	0.014
		Follow-up	5	0.18	[0.42, -0.06]	0.148
	Negative Symptoms	Post-treatment	4	-0.08	[-0.46, 0.61]	0.774
		Follow-up	4	0.12	[0.43, 0.18]	0.434
	Delusions	Post-treatment	2	0.37	[0.87, -0.12]	0.139
		Follow-up	2	0.38	[0.67, 0.10]	0.008
	Hallucinations	Post-treatment	2	0.14	[0.82, -0.54]	0.692
		Follow-up	2	-0.06	[0.29, -0.42]	0.724
	PTSD	Post- treatment	4	0.21	[0.70, -0.27]	0.388
		Follow-up	5	0.31	[0.62, 0.00]	0.049

- Small, significant effect on aggregate positive symptoms at post treatment, but not significant at follow-up
- Small, significant effect on delusions at follow-up
- No significant effect on negative symptoms or voices
- Effects of PTSD only significant at follow-up and of a small magnitude

There is a need for treatment trials that target traumatic memories that may be specifically related to psychotic symptoms

- Some promising effects of TF-treatments on positive symptoms of psychosis (but not maintained at follow-up) and on delusions specifically.
- Studies predominantly aimed at treating PTSD, meaning that TF work was focused on index traumas for PTSD.
- Only two studies with data available for voices.

Contents lists available at ScienceDirect

Schizophrenia Research

journal homepage: www.elsevier.com/locate/schres

Do trauma-focussed psychological interventions have an effect on psychotic symptoms? A systematic review and meta-analysis

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ABSTRACT

There is growing recognition of the relationship between trauma, posttraumatic stress disorder (PTSD) and psychosis. There may be overlaps in causal mechanisms involved in the development of PTSD and psychosis following traumatic or adverse events. Trauma-focussed treatments found to be effective in treating PTSD may therefore represent a new direction in the psychological treatment of psychosis. This systematic review examined the literature on trauma-focussed treatments conducted with people with schizophrenia spectrum or psychotic disorders to determine effects on psychotic symptoms. Secondary outcomes were symptoms of PTSD, depression and anxiety. Twenty-five studies were included in the review, with 12 being included in the meta-analysis. Trauma-focussed treatments had a small, significant effect ($g = 0.31$, CI [0.55, 0.06]) on positive symptoms immediately post-treatment, but the significance and magnitude of this effect was not maintained at follow-up ($g = 0.18$, CI [0.42, −0.06]). Trauma-focussed treatments also had a small effect on delusions at both post-treatment ($g = 0.37$, CI [0.87, −0.12]) and follow-up ($g = 0.38$, CI [0.67, 0.10]), but this only reached significance at follow-up. Effects on hallucinations and negative symptoms were small and non-significant. Effects on PTSD symptoms were also small (post-treatment $g = 0.21$, CI [0.70, −0.27], follow up $g = 0.31$, CI [0.62, 0.00]) and only met significance at follow-up. No significant effects were found on symptoms of depression and anxiety. Results show promising effects of trauma-focussed treatments for the positive symptoms of psychosis, however further studies developing and evaluating trauma-focussed treatments for trauma-related psychotic symptoms are needed.

The Recall Study

- To assess the feasibility, acceptability and potential effects of trauma-focused imaginal exposure for trauma-related voices.
- An initial exploration of mechanisms of change; trauma-memory intrusions, the nature of the trauma memory, and posttraumatic cognitions

The Recall study

- A single arm proof of concept case series (n=15) of a 6-session imaginal exposure intervention.
- Participants had: frequent and persistent voices, a history of traumatic events, made some links between trauma and voices, and were interested in a TF therapy.

Assessments:

Baseline, post treatment and 1-month follow-up

Feasibility /acceptability
- Uptake
- Retention
- CSQ

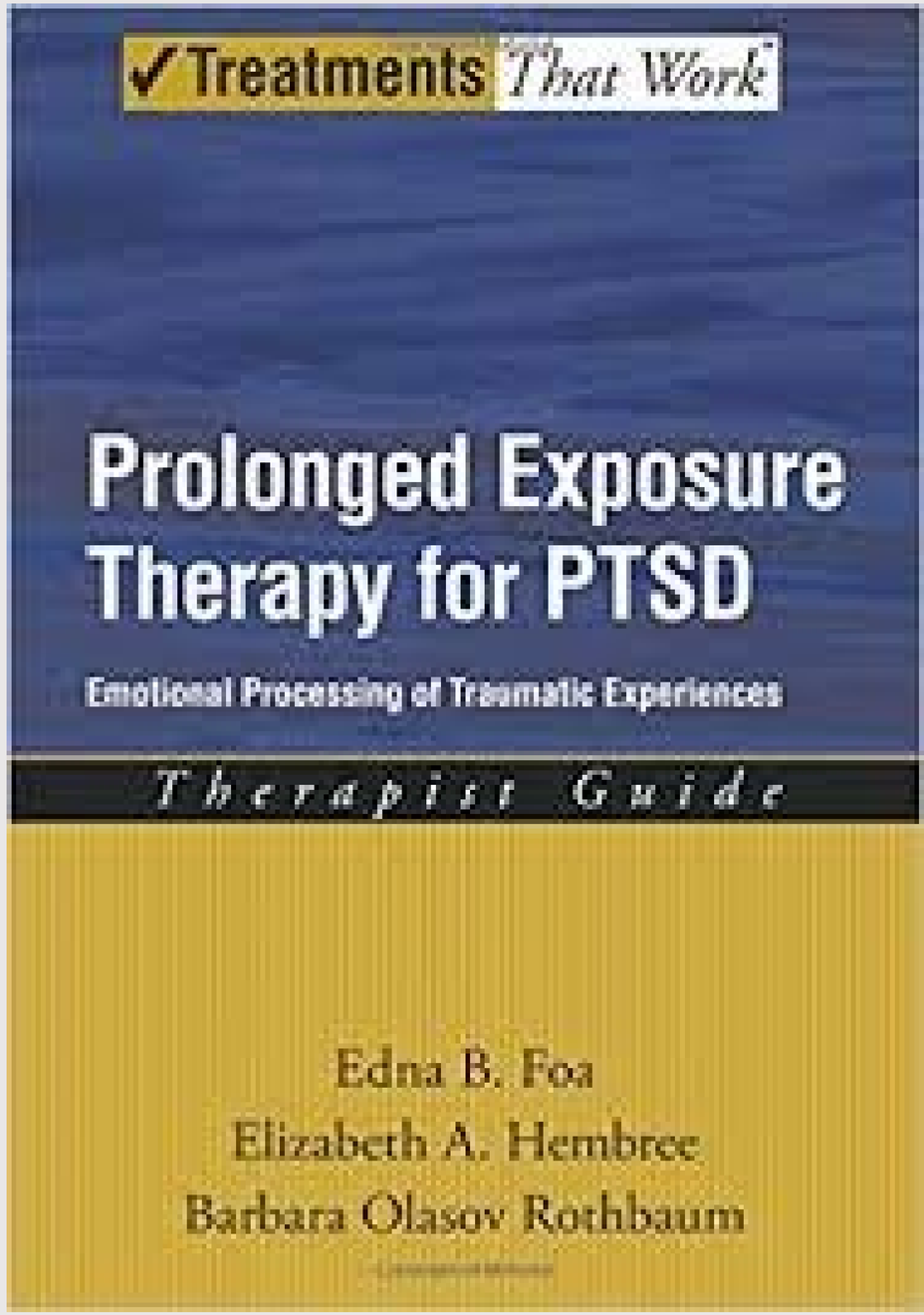
Effectiveness
- PSYRATS-AHS

Mechanisms of change
- CAPS-5
- TMQ
- PTCI

- Frequency and distress (0-10) for voices and trauma memory intrusions rated each session

Imaginal Exposure

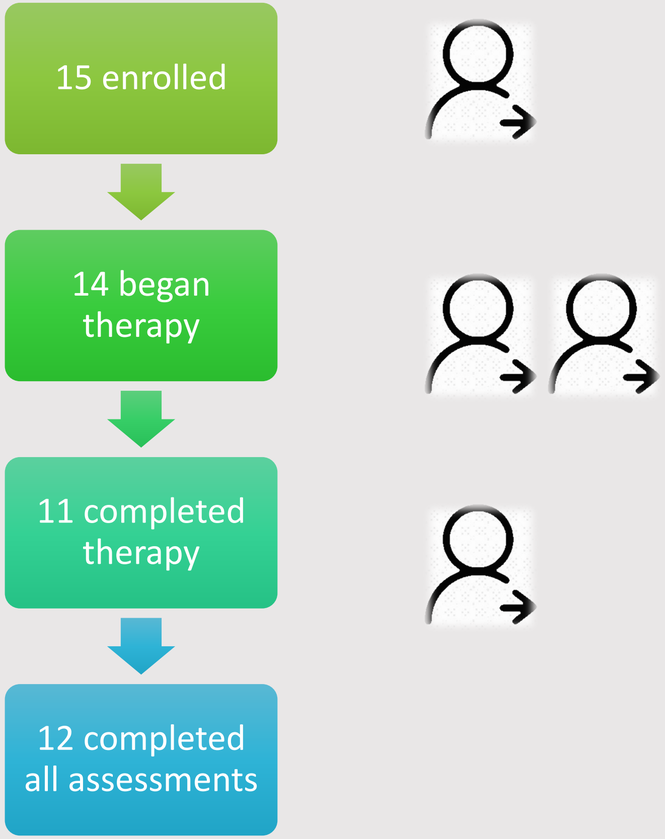
- 6 weekly 90-minute sessions
- Based on imaginal exposure in Foa's PE manual.
- First session included exploration of trauma-voice links.
- Memories targeted were those recognised as having a link with voices.



Results: Feasibility/ Acceptability

- Low referral rates into the study
- Low uptake from those screened (42% of those screened did not want to do the therapy when it was explained to them)

Retention in the therapy:

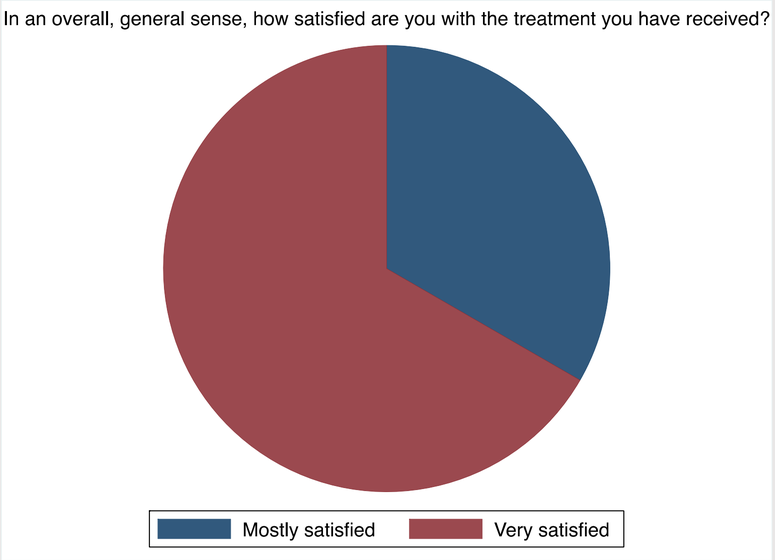


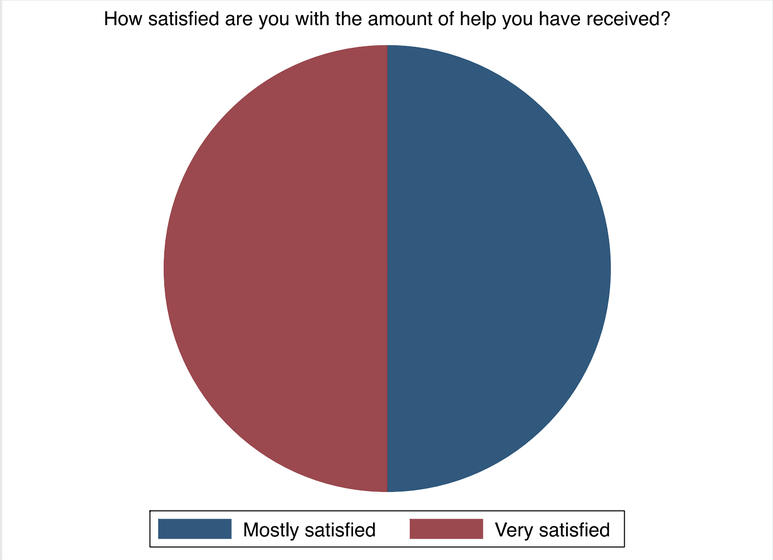
Did not attend first session and lost contact

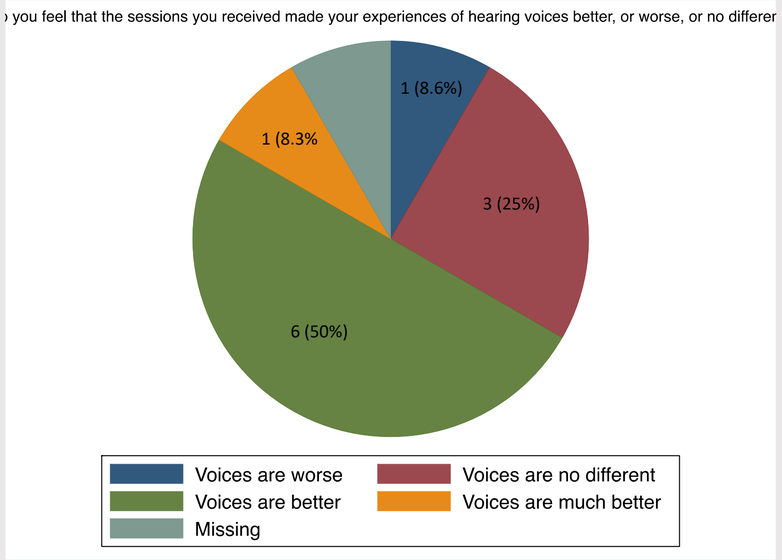
Ceased therapy due to distress and symptom exacerbation

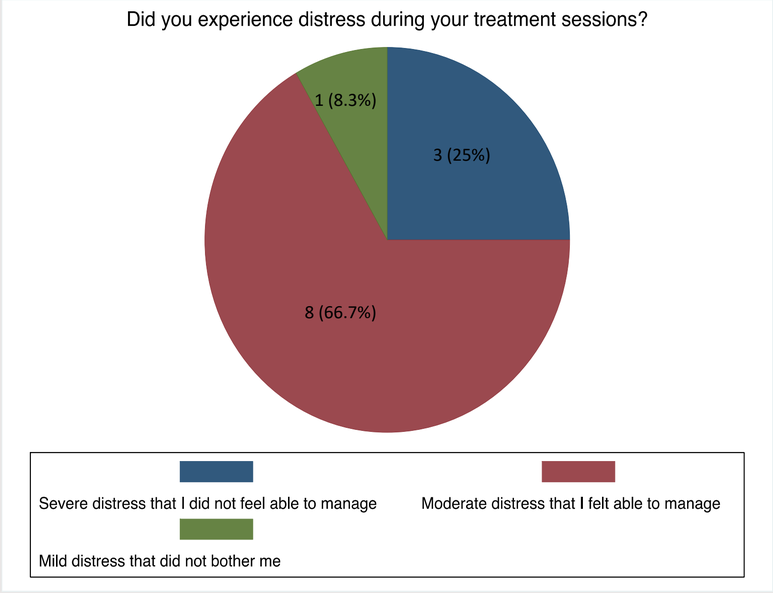
Ceased therapy due to mental health inpatient admission (not deemed related to the study)

Results: Satisfaction and distress





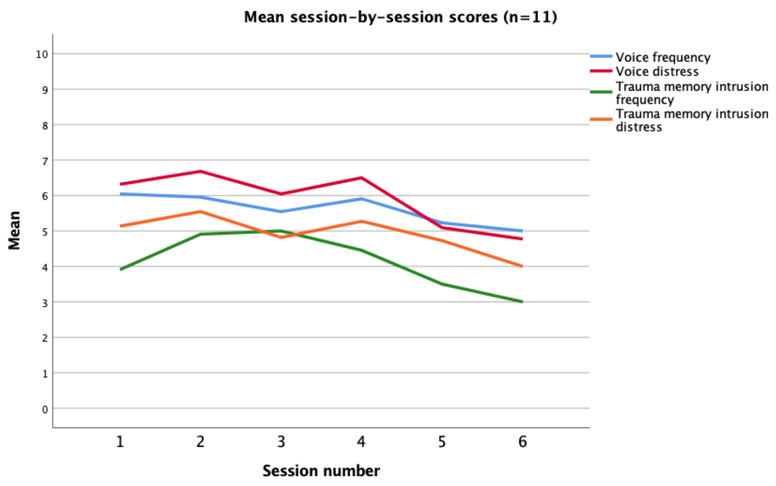


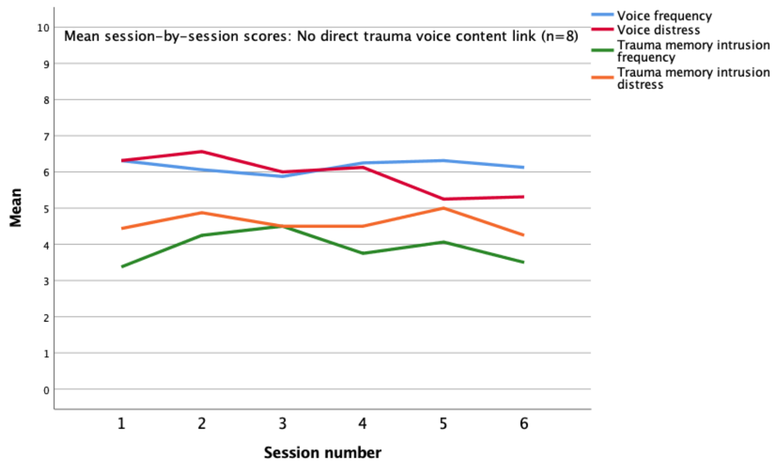


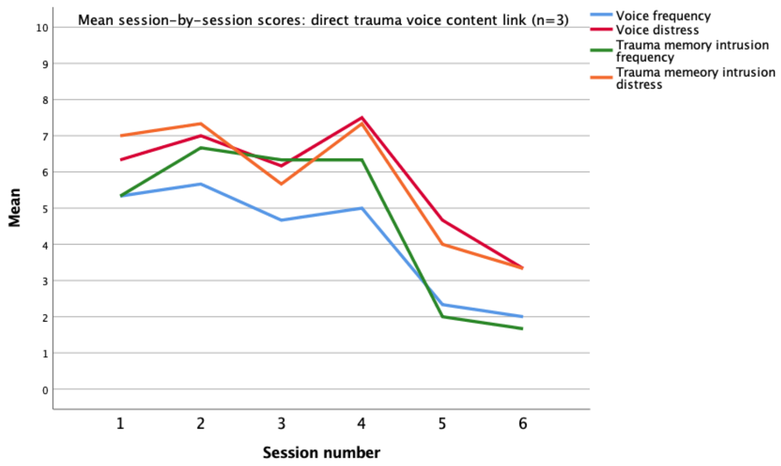
Results: Effectiveness and mechanisms of change

Outcome	Baseline		Post		Follow-up		Mean difference baseline-post (95% CI)	Mean difference baseline-follow-up (95% CI)	ES
	M	SD	M	SD	M	SD			
PSYRATS-AHS	29.58	7.96	26.08	11.04	21.08	12.94	-3.50 (-10.59, 3.59)	-8.50 (-17.31, 0.31)	0.99
CAPS-5	26.75	14.89	15.17	11.38	11.92	10.54	-11.58 (-22.20, -0.96)	-14.83 (-25.97, -3.70)	0.93
TMQ intrusiveness	2.48	1.04	1.66	1.15	1.29	0.92	-0.82 (-1.47, -0.18)	-1.19 (-1.78, -0.59)	1.06
TMQ disorganisation	1.32	1.12	1.42	1.08	1.40	1.29	0.10 (-1.01, 0.81)	0.08 (-1.11, 0.94)	0.07
PTCI	136.33	36.20	114.75	45.72	107.83	50.89	-21.58 (-43.79, 0.62)	-28.50 (-54.87, -2.13)	0.73

Results: Mean session-by-session scores







- Brief imaginal exposure generally acceptable, but distress and temporary symptom exacerbation common and unacceptable for some.
- Low referral and uptake suggest feasibility issues in use of standalone, brief trauma-focused exposure intervention.
- Potentially large effects on voices, but individual response highly variable.
- Therapy did reduce PTSD symptoms and intrusiveness of trauma memory.

Where are we now?

- Trauma memory intrusions may play a role in some people's voices (particularly those who show direct content links)
- Trauma-focused therapies show promise in treating trauma-related psychotic symptoms

Important questions.. and some initial thoughts

- What influences the acceptability and tolerability of trauma-focused therapies for psychotic experiences?
- Who is most likely to benefit?

✓ Direct content link between voices and trauma
✓ Comorbid intrusions
✓ Subjective sense of safety
X Persecutory understanding of voices
X Not in a position to tolerate symptom exacerbation

- Is imaginal exposure the best treatment (Imagery rescripting – Paulik et al. 2019; phase-based TF-CBTp approach Keen et al., 2017)

Clinical Psychologist

APS Australian Psychological Society

ORIGINAL ARTICLE

A tale of two outcomes: Remission and exacerbation in the use of trauma-focused imaginal exposure for trauma-related voice-hearing. Key learnings to guide future practice

Rachel M. Brand, Amy Hardy, Sarah Bendall, Neil Thomas

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Abstract

Objective

Many people who hear voices (also termed auditory-verbal hallucinations) have experienced traumatic or adverse life events. There is growing evidence that, for a number of people, these events are an important contributing factor to voice-hearing experiences. Psychological mechanisms implicated in the trauma-voice-hearing relationship overlap with those involved in posttraumatic stress disorder, giving a strong

periscope lab
experience | recovery | intervention

Cognitive Neuropsychiatry

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Thank you for listening.

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Table 2. Participant demographics (n = 15)

Age, m (SD)	43.79 (8.64)
Gender, n (%)	
Female	9 (60.00)
Male	5 (33.34)
Other	1 (6.67)
Ethnicity, n (%)	
Caucasian	13 (86.67)
Hispanic	1 (6.67)
Other	1 (6.67)
Highest level of education, n (%)	
Primary	1 (6.67)
Secondary	2 (13.33)
Tertiary	12 (80.00)
Index traumatic event type, n (%)	
Childhood sexual abuse	3 (20.00)
Childhood physical abuse	2 (13.34)
Childhood emotional abuse	4 (26.67)
Adulthood sexual abuse	5 (33.33)
Bullying	1 (6.67)
Workplace accident	1 (6.67)
Witnessing death of family member	1 (6.67)
Military trauma	1 (6.67)
Content link between AH and index trauma, n (%)	
Direct and thematic	3 (20.00)
Thematic	7 (46.67)
No link[$]	5 (33.33)
Primary diagnosis (MINI 7.02), n (%)	
Schizophrenia spectrum disorder	10 (66.67)
Mood disorder with psychotic features	4 (26.67)
Borderline personality disorder	1 (7.67)
Comorbid PTSD (CAPS 5), n (%)	6 (40.00)
Comorbid BPD (SCID 5), n (%)	3 (20.00)
Number of years had AH, m (SD)	19.17 (10.67)
Taking anti-psychotic medication, n (%)	
Yes	11 (73.00)
No	3 (20.00)
Missing	1 (6.67)