Computer assisted therapy for auditory hallucinations: the AVATAR clinical trial

Tom Craig

On behalf of the AVATAR team.
Auditory Hallucinations: phenomenology

• In around 80% of people with schizophrenia
• Critical/hostile content is most common
• Male > Female voices
• Has characteristic of ‘ordinary’ utterances spoken by intentional entities with a purpose (e.g. to harm or shame the sufferer)

% AH content 800 voices in 150 AVATAR participants

- Abusive/critical to S
- Command
- Advice/information
- Ambiguous/repetitive
- Pleasant

% AH content
Working with voices

- Behavioural and coping focused
- Formulation-driven CT
- Modern developments

- Triggers ‘Humming & headphones’.
- Individualised Beliefs & appraisals
- Mindfulness & Compassion
- Personal History
- Relational approaches
Relational Therapies:

- Voice(s) are spoken by intentional entities
- These behave in response to how the person relates to them
- The entity ‘behind’ the voice has intention (eg. to influence, distress etc)

SO:

- The person can talk back and ultimately bring about a change in the content and force of the voice
Relational Therapies -
Dirk Corstens, Rufus May & Eleanor Longden
Mark Hayward et al

• Explores the relationship of the voice hearer and voice

• Aims to help voice hearer have a different perspective of what the voice is trying to communicate

• Make the relationship more ‘equal’ through helping the person take back control

• 3 chairs
• X sits in chair for the voice
• X speaks as the voice (verbatim)
• Therapist speaks with the voice
  • Who are you (name, age, sex etc)?
  • Why did you come into Xs life?
  • What do you want X to achieve?
  • How does X feel about you?
  • What would happen to X if you left?

• End session – X back to ‘his’ chair, reflects on what happened, therapist summarises. Homework.
AVATAR: a relational therapy
(Leff et al 2013)

- Software used to recreate the voice and image of the entity patient says is source of AH
- Pt and clinician in separate rooms interacting with computer
- Clinician can control whether he speaks as **himself** or as the voice using verbatim content
- Rx focus on reducing anxiety, gaining power and control over the AH experience

MP3 recording to take home
Assessment includes

• “Does it feel as though the voice(s) that you hear have their own character or personality?”

• “Do they remind you in any way of anyone you know or have known in your life?”

• “What do you think the voice is trying to tell you when it says these things/ [insert verbatim]? Does your voice communicate/ tell you things in any other ways?”

• “What other kinds of experiences or feelings, if any, accompany the voices?”

• “Can you tell me a bit about the main relationships you have with others at the moment?”

• “How did you get on with your parents/ siblings growing up? What about friends and people at school?”

• “Has there ever been any other kind of traumatic experience or situation that you have experienced in your life that we haven’t discussed up until this point?”

• “Do you think it is possible that there might be any connection between the difficult experience(s) you have just shared with me and the voices that you now hear?”

See Woods.......& Fernyhough (2015), Lancet Psychiatry
Creating an avatar......
Start with the voice (key)

Each ‘bubble’ is a different transform of the therapist’s speech
The sliders allow fine tuning of the selected starting bubble
Creating an avatar...... then the face

Starting screen shown but there are many further options that can be selected
Ends up with.......  

Participant view: lip-sync speech from the avatar  

Therapist view (note controls to switch between therapist and avatar voice)
## Therapy outline

<table>
<thead>
<tr>
<th>Session</th>
<th>Content</th>
<th>Aim</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Assessment &amp; creation of AVATAR</td>
<td>70% match to voice</td>
</tr>
<tr>
<td>1</td>
<td>Verbatim statements; titrate exposure;</td>
<td>Manage anxiety</td>
</tr>
<tr>
<td>2</td>
<td>Gradual increase in dialogue not just verbatim</td>
<td>Assertive rejection of A</td>
</tr>
<tr>
<td>3</td>
<td>Dialogue informed by formulation about the meaning of the voice in S’s life e.g. extent to which it echoes self perception, self esteem, past injustices, traumas etc</td>
<td>Reduce sense of voices as omnipotent entity, increase S’s confidence and resilience</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Ending</td>
<td>Appropriate to dialogue</td>
</tr>
</tbody>
</table>
Research

• Leff et al 2013
  • Promising pilot data (n=16)
    • Mean reduction PSYRATS-AH of 8.75 (p = 0.003)
    • Effect size 0.8

• Current Clinical Trial (n=150)
  • Pragmatic, 2 arm, observer-blind RCT
  • *persistent, troubling voices for ≥12 months despite medication*
  • Compares AVATAR therapy with supportive counselling
  • ‘Assessment at baseline, 12 & 24 weeks
  • Primary outcome PSYRATS-AH (Haddock et al., 1998) @ 12 weeks
Current Clinical Trial

- Referred n = 394
  - Unreachable 21
  - Do not meet criteria 46
  - Refuse screen 7
- Eligibility assessed n = 320
  - Do not meet criteria 121
  - Refuse participation 49
- Randomised n = 150
  - AVATAR n = 75
    - 12 w 57/68 84%
    - 24 w 45/57 79%
  - S. COUNSELLING N= 75
    - 12W 53/67 79%
    - 24 W 43/56 77%
Experiences so far

• Recruited to T&T
• It is not for everyone:
  • ~21% decline offer
• Therapy dropout (SC>AT)
• Reasons for stopping (AT)
  • Too frightening (n=2)
  • Travel/ time (n =3)
  • Not a good time (n=2)
  • Other (1)
• Adverse Events
  • None related to Rx
• Limitations - patients:
  • Multiple voices
  • Thought disorder/ cognition
• Limitations - therapists
  • Language
  • Accents
• Future
  • Trial results
  • Larger pragmatic trials
  • Mechanism studies
  • New software
AVATAR TEAM

Chief Investigator: Tom K J-Craig
Key Investigators: Julian Leff, Philippa Garety, Richard Emesley (statistician), Paul McCrone (health economics)

UCL Speech, Phonetics & AVATAR IT systems: Mark Huckvale, Geoffrey Williams

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Research Team: Mar Rus-Calafell (Research Coordinator), Jheanell Hall, Arune Keraite, Lorraine Omari-Asor