# Computer assisted therapy for auditory hallucinations: the AVATAR clinical trial

Tom Craig

On behalf of the AVATAR team.
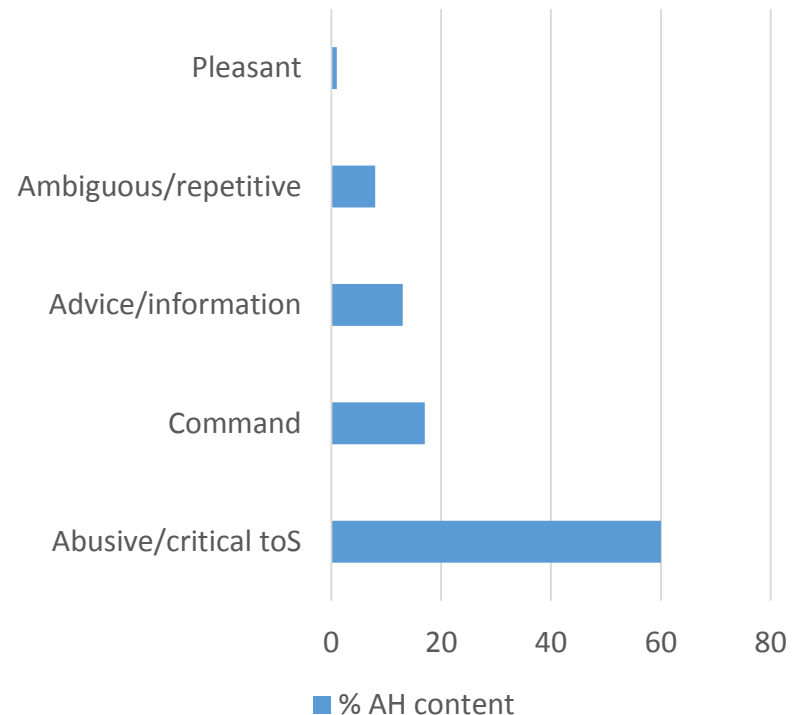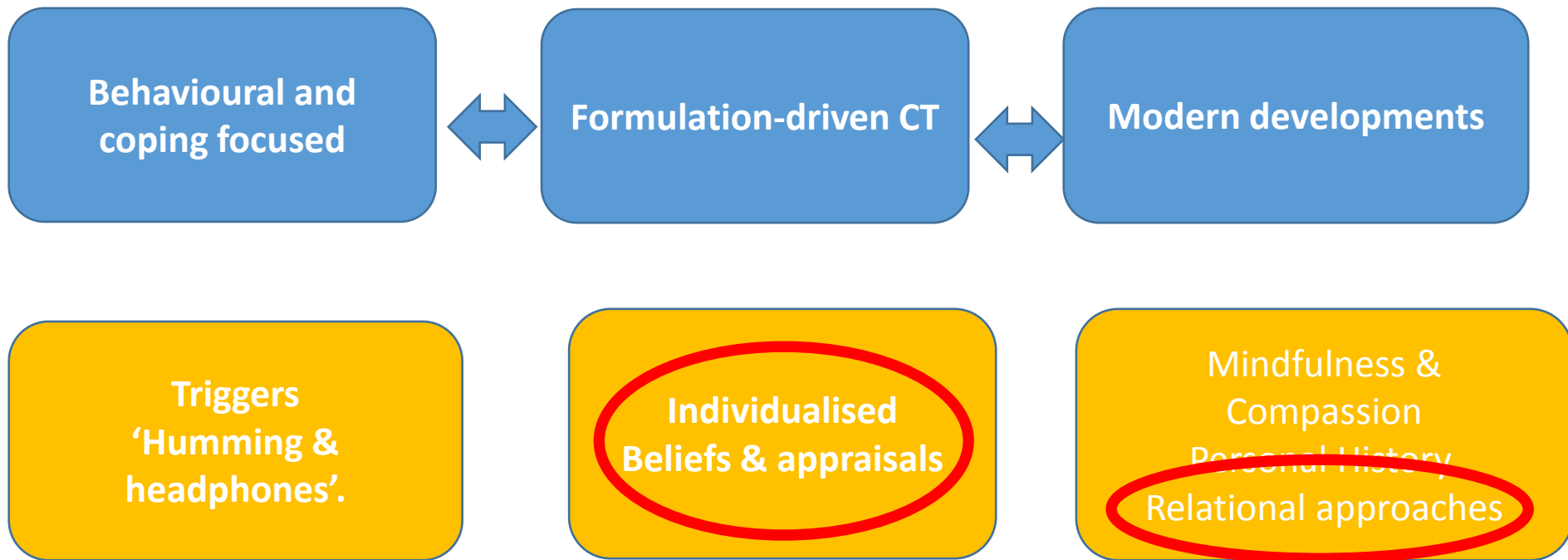
# Auditory Hallucinations: phenomenology

- 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



% 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



Room partition

Clinician

Patient
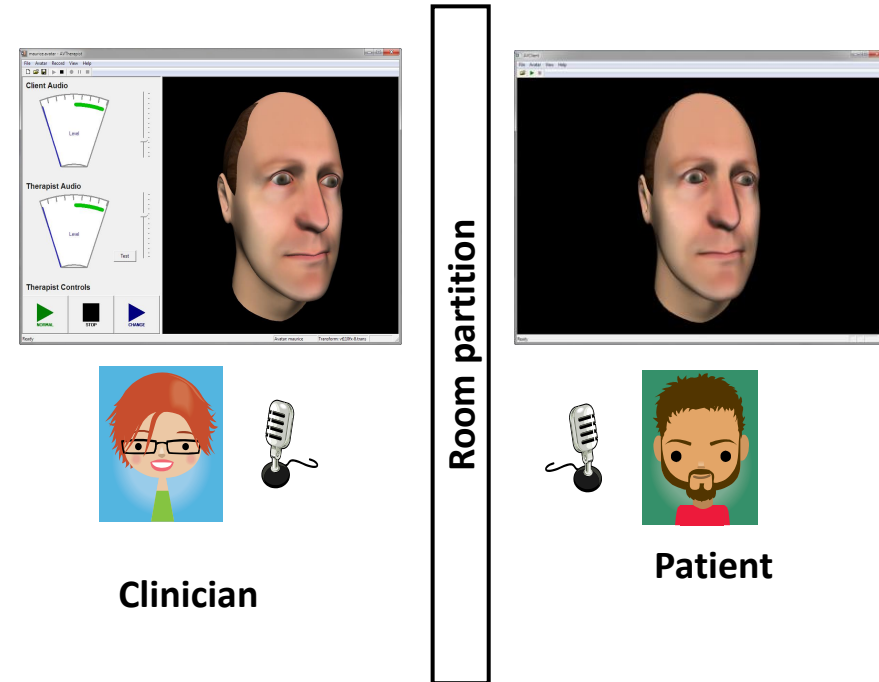
MP3 recording to take home
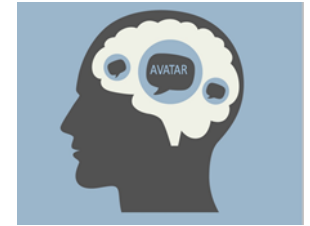
# Assessment includes

- *"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
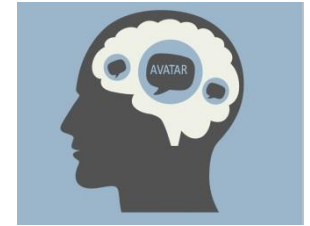
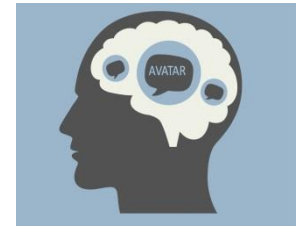# Creating an avatar……

Start with the voice (key)
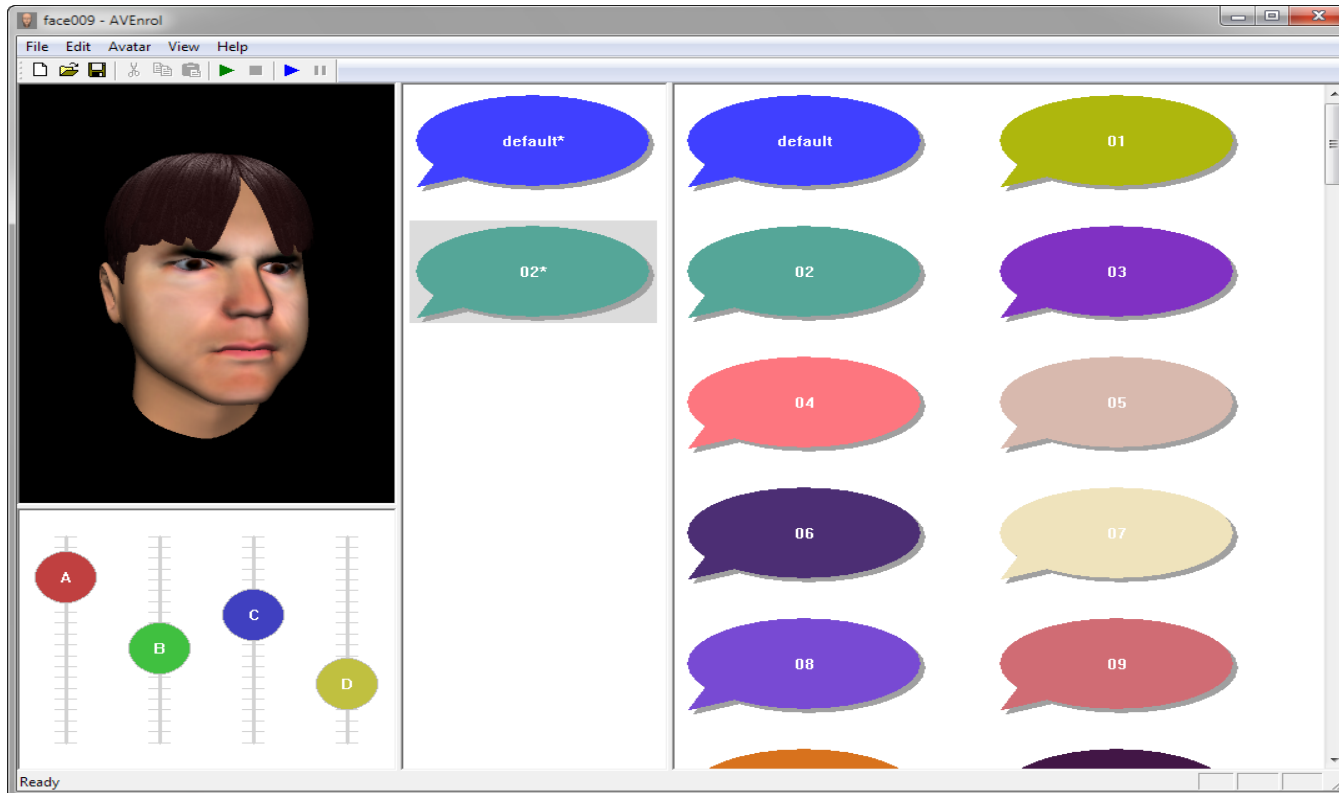


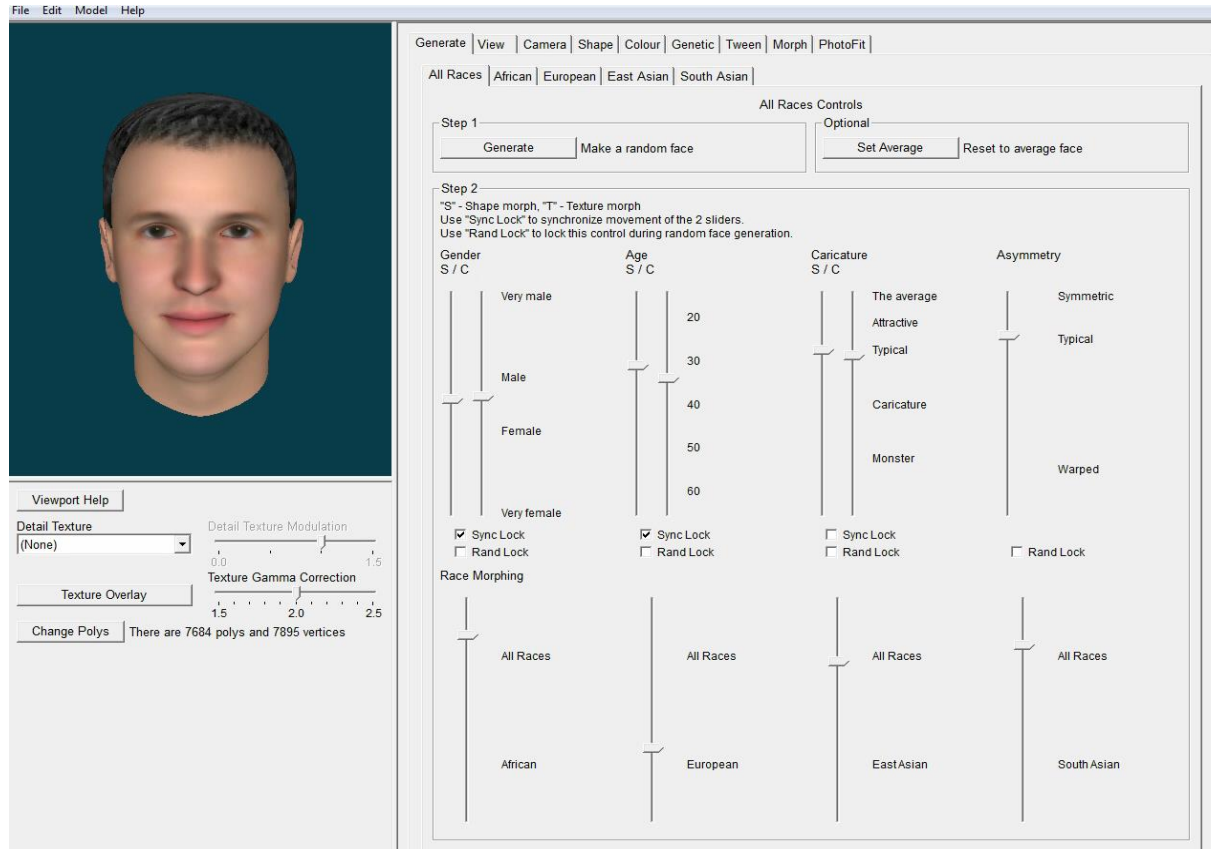Each 'bubble' is a different transform of the therapist's speech
The sliders allow fine tuning of the selected starting bubble

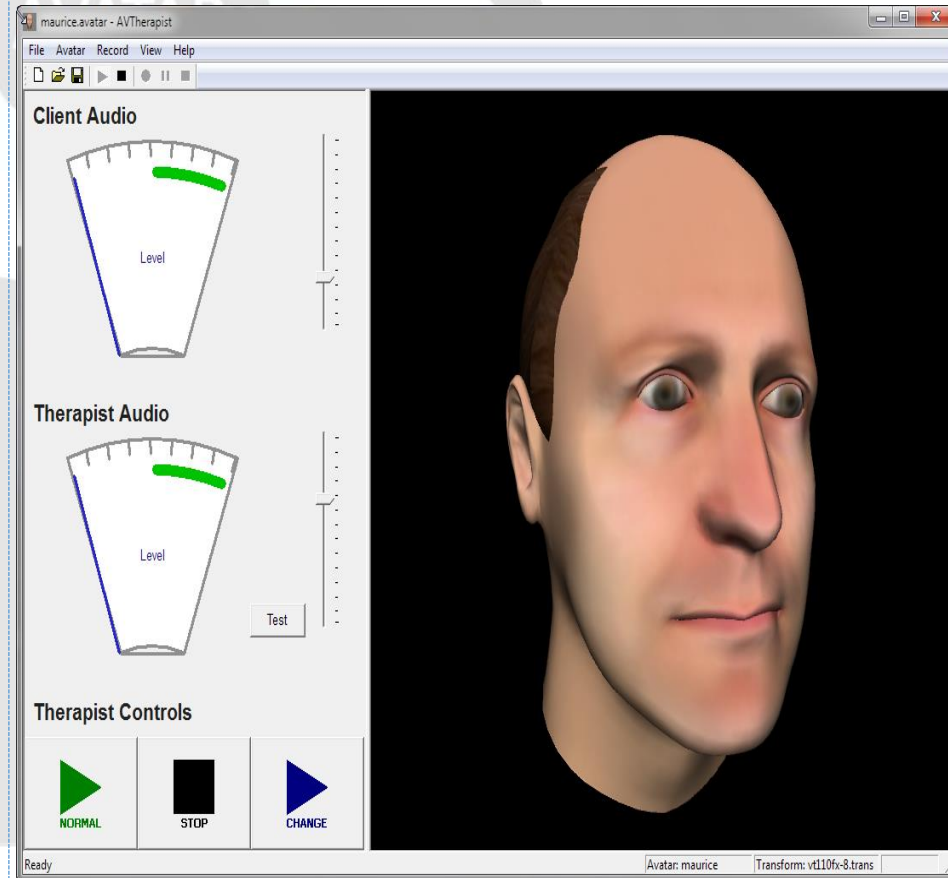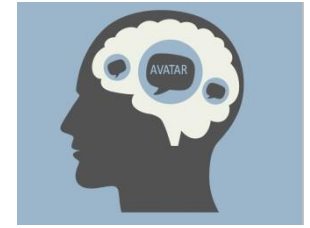# Creating an avatar......
## then the face



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

| Session | Content | Aim |
|---|---|---|
| 0 | Assessment & creation of AVATAR | 70% match to voice |
| 1 | Verbatim statements; titrate exposure; | Manage anxiety |
| 2 | Gradual increase in dialogue not just verbatim | Assertive rejection of A |
| 3 | 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 | Reduce sense of voices as omnipotent entity, increase S's confidence and resilience |
| 4 | | |
| 5 | | |
| 6 | Ending | Appropriate to dialogue |

# 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

S. COUNSELLING N= 75

12 w  57/68 84%
24 w  45/57 79%

12W   53/67 79%
24 W  43/56 77%
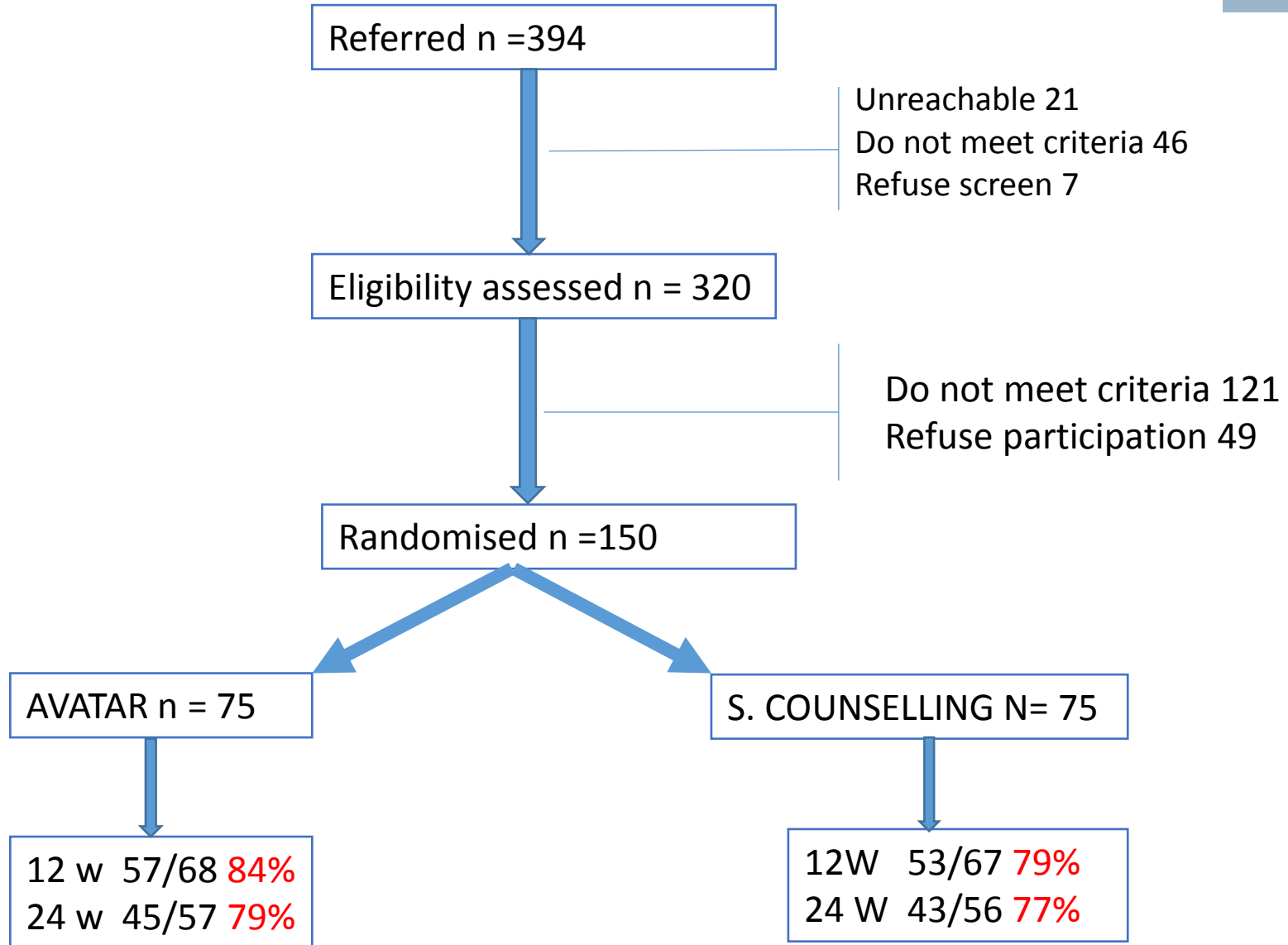
# Experiences so far

- 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**         **Mark Huckvale**
**& AVATAR IT systems**           **Geoffrey Williams**

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                                  **Zeyana Ramadhan**
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**Research Team:**                **Mar Rus-Calafell (Research Coordinator)**
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