

AVATAR THERAPY FOR AUDITORY HALLUCINATIONS

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EXTENT OF THE PROBLEM

- one in four people with schizophrenia continue to experience hallucinations and delusions despite antipsychotic medication, with severe impairment to their quality of life
- one in ten patients with schizophrenia commit suicide.

PHENOMENOLOGY OF 'VOICES'

- when asked about the worst aspect of hearing persecutory voices, many people say 'the helplessness'
- people who are able to establish a dialogue with the 'voice' feel much more in control (Nayani & David, 1996)



AVATAR THERAPY

- Developed for people with persistent persecutory voices despite adequate medication
- Sequence of therapeutic procedures:
 - 1. An avatar is created by the patient to represent the 'voice'
 - 2. A dialogue with the avatar brings it under the patient's control
 - 3. The avatar changes from being persecutory to supportive

RATIONALE FOR THE THERAPY

- Physical or sexual abuse, emotional neglect, and bullying by peers in childhood are associated with persecutory voices in adult life
- This is mediated by low self-esteem and depression stemming from the trauma
- Mean score on Calgary Depression Scale: control group **22.67**
experimental group **26.50**
Maximum **27**

RATIONALE FOR THE THERAPY

- The critical abuser/uncaring parent (Fairbairn's 'internal saboteur') cannot be tolerated in the patient's mental space and is externalised as a persecutory voice.
- As a result any control the patient had over the abuser, however meagre, is lost.
- The externalised persecutor becomes autonomous and takes over control of the patient
- The aim is 'to give the patient's ego back its mastery over lost provinces of his mental life'

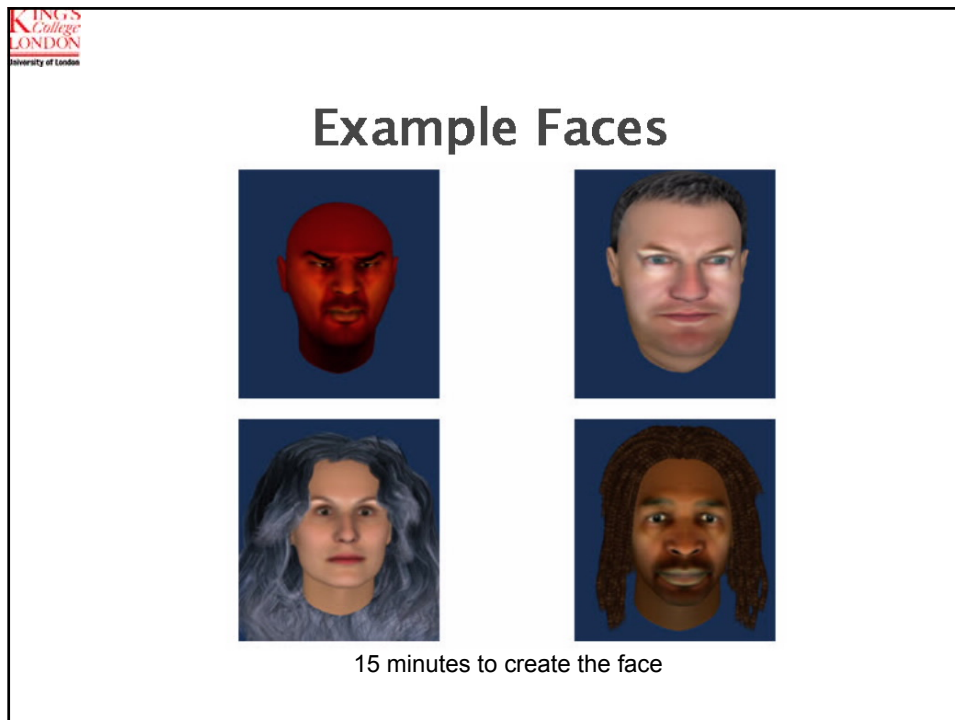
Avatar System Components

1. Face matching - 'Facegen'
2. Animation - 'Annosoft® LIP-SYNC '
3. Voice matching
 - Novel real-time voice-morphing technology
4. MP3 player to record sessions



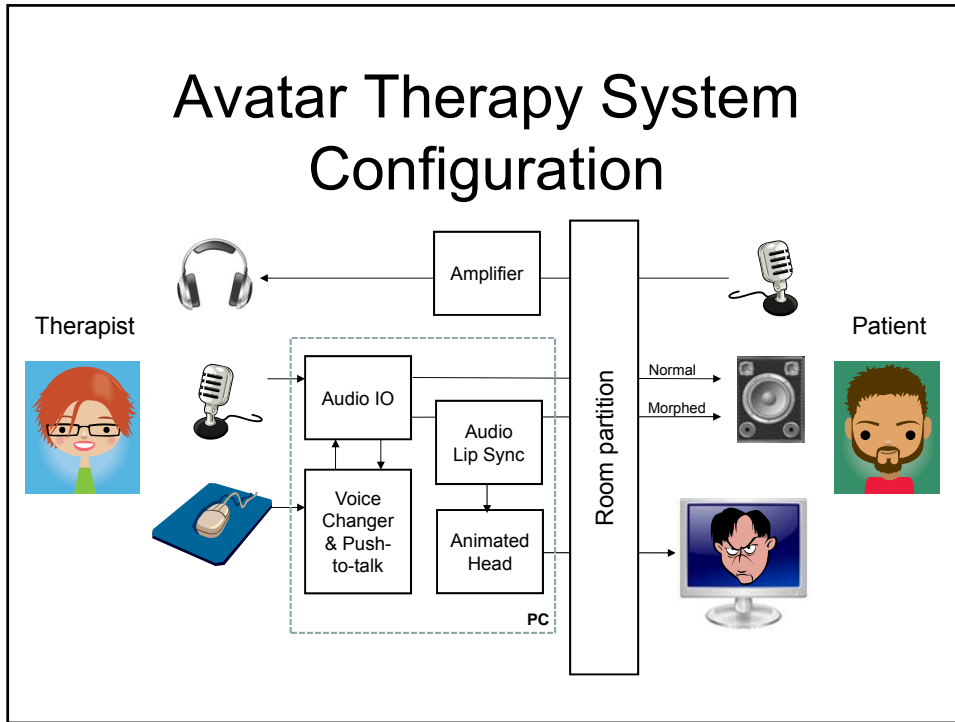
MATCHING THE FACE

- Relatively easy to match the face, but some patients did not experience a face which was associated with the voice
- These patients were asked to choose a face they would feel comfortable talking to



MATCHING THE VOICES

- The therapist's voice is morphed to create both male and female voices
- It would be preferable to use a female for female voices



EXPERIMENTAL DESIGN

- Randomised controlled trial with a cross-over of controls
- Experimental patients receive 6 weekly sessions of avatar therapy, then a 1 week follow-up
- Controls receive treatment as usual for 7 weeks, then are offered the experimental therapy
- Patients who have had the therapy receive an additional 3 months follow-up

ASSESSMENT INSTRUMENTS

- basic information: age, gender, education, job, medication, duration of hearing voices
- Psychiatric Symptoms Rating Scale: hallucinations (**PSYRATS**)
- Beliefs About Voices Questionnaire (**BAVQ-R**) omnipotence & malevolence scales
- Calgary Depression Scale for Schizophrenia (**CDS**)

FOLLOW-UP ASSESSMENTS

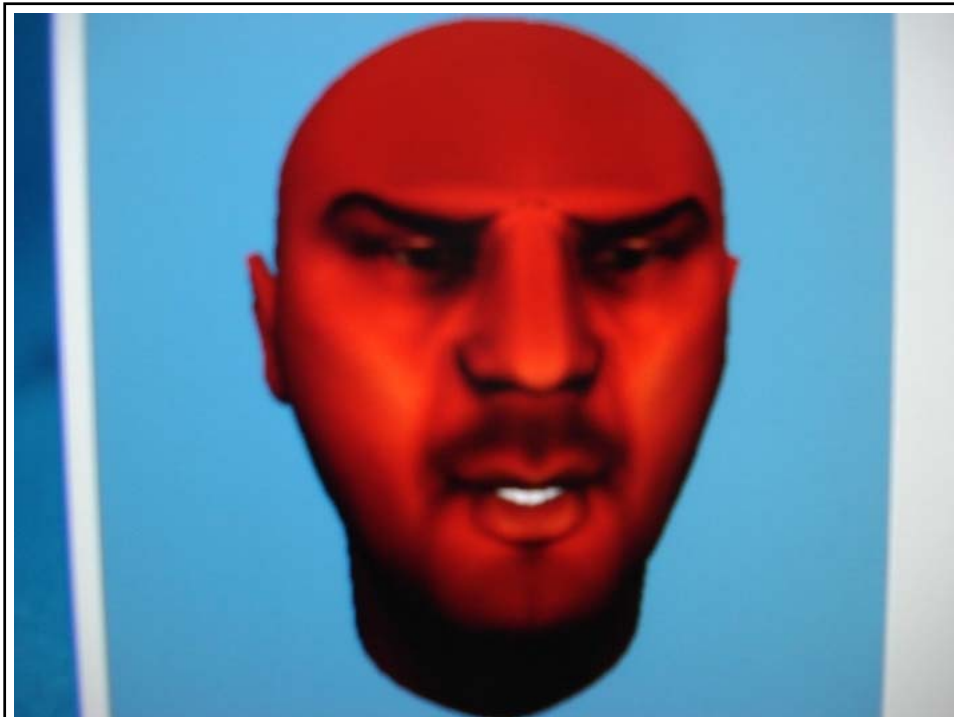
- Conducted by a user-researcher who has heard persecutory voices in the past but has been free of voices for 8 years
- He is blind to the treatment status of the participants and the trial design

PARTICIPANTS AND DROP-OUTS

- 26 Participants recruited from community mental health teams in North London
- 14 Randomised to therapy and 12 to treatment as usual
- All controls followed up at 7 weeks
- 8 Controls accepted therapy
- 8 Experimentals completed therapy
- A total of 16 participants received therapy
- All 16 were followed up 3 months after the end of their therapy

26 PARTICIPANTS

- Age: range 14-74
- Mean 37.7
- Gender: female 10, 38.5%
- Length of time hearing voices: range 3 ½ ->30 years
- Mode: >10 years

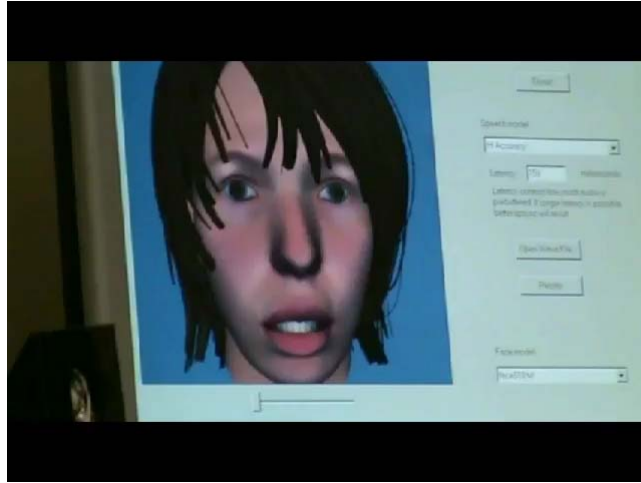


Saul: VOICE FOR 16 YEARS

- Took advice from the Devil and got into severe debt
- **His voice ceased after 2 sessions**
- Saul thanked us for giving him his life back and said: my mind is completely clear now
- Now working abroad as a financial consultant

TWO OTHER SURPRISES

- A man of 74 heard the voice of a woman running business meetings from 5 a.m. throughout the day for 4 years.
- **Her voice ceased after 2 sessions**
- A young man who had been sexually abused as an adolescent heard his abuser for 13 years saying he was to blame and was spoiled for ever.
- **His voice ceased after 5 sessions**



William: CHANGES OVER TIME

TIME	VOICES	DEPRESSION	LOW SELF-ESTEEM
BASELINE	30	11	2
AFTER THERAPY	30	7	2
3 MONTH F-U	24	3	1

CHANGES IN TOTAL SCORES

BETWEEN GROUP EFFECTS	PSYRATS -8.75 P= 0.003	BAVQ -5.88 P= 0.004	CDS -0.94 NS
CONTROL GROUP TAU vs Therapy	T1 to T2 P= 0.027	T1 to T2 P= 0.042	T1 to T2 NS

FOLLOW-UP DATA

	PSYRATS	BAVQ-R	CDS
3M Follow Up vs Post Treatment	-3.5 P< 0.029	-1.14 NS	-2.8 P= 0.052

NS: not significant

THREE MONTH FOLLOW-UP

- Patients continued to improve :
Further significant reduction in
PSYRATS
- Significant reduction in Depression
score
- Probably due to use of MP3
- The 3 patients whose voices ceased:
voices still absent

PLANNED SUBSIDIARY ANALYSIS

- Reduction in suicidal thoughts $P=0.034$
- Power calculation based on a reduction of
35% in Omnipotence score
- Reduction in Omnipotence score 29% at
end of therapy
- 37.9% at 3 month follow-up

HOW DOES AVATAR THERAPY WORK?

- Validation of the patient's experience
- Patients interact with the avatar as though it is a real person, but since it is their creation they know it can't hurt them
- They learn to stand up to the avatar and take control of it
- This generalises to the persecutory voice leading to a reduction in its perceived omnipotence

HOW DOES AVATAR THERAPY WORK?

- During the course of therapy the avatar changes its nature, ceasing to abuse the patient after one or two sessions, and gradually becoming friendly and supportive
- This change results in a reduction of the perceived malevolence of the voice, enabling the reintegration of the externalised hypercritical parent/abuser
- Patients can use the MP3 to listen to the sessions whenever they hear the voices
- We tell them they have a therapist in their pocket.
- This may explain the further improvements after the end of therapy

2 publications on Avatar Therapy

- Computer-assisted therapy for medication-resistant auditory hallucinations: proof-of-concept study. Leff, J., Williams, G., Huckvale, M.A., Arbutnot, M., Leff, A.P. British Journal of Psychiatry, 208, 428-433.

2 publications on Avatar Therapy

- Psychosis online
- Avatar therapy for persecutory auditory hallucinations: What is it and how does it work? (same authors) March 4, 2013
- <http://dx.doi.org/10.1080/17522439.2013.773457>