

Research Update

Issue 3, February 2019



In this issue...

Recent projects

- Testing a new aphasia therapy: Using familiar phrases more flexibly. Claudia Bruns p.2
- Pauses in the speech of people with aphasia. Mary Moos p.4
- Familiar and unfamiliar communication partners. Phoebe Bill p.5
- Ambiguous words. Kate Osborne p.6
- Inference-making abilities in people with aphasia. Millie Quinton Smith p.7
- The effect of background noise. Kate Rykova p.8
- The impact of frequency modulation systems on speech perception. Emma Browning p.10

New projects looking for volunteers

- "Values" in speech and language therapy. Kirsty Ayers p.11
- Research about communication partner training. Nivetha Koculan p.11
- Research on word-finding problems. Wei Ping Sze p.12

Getting in touch

p.12

Testing a new aphasia therapy: Using familiar phrases more flexibly



Claudia
Bruns

Why is it important?

Many people with aphasia use **familiar phrases** in conversation, such as *"it's alright"*, *"I like it"* and *"I don't know"*

It is **unclear** if these phrases are **useful for aphasia therapy**, to help people produce more sentences

Aim of the project

As part of my PhD project, I developed and tested a **new therapy program**.

The main question was:

Can people with aphasia learn to use familiar phrases in a more flexible way?

Who took part?

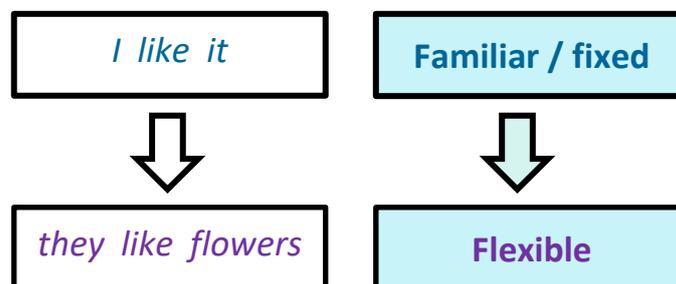
- 5 individuals with **aphasia**
- 48 to 68 years old



What they did



- Participants took part in **6 weeks of therapy**, using a **laptop**
- The therapy used **recordings** of a participant's **own voice**
- Participants **practiced speaking** with these recordings
- Phrases were **variations of familiar word combinations**, such as:



Before and after the therapy, participants were **tested by:**



- Telling a story
- Completing a story with a sentence
- Conversation videos at home with a friend or family member
- Questionnaires: Is this therapy acceptable?

Main findings

Telling a story

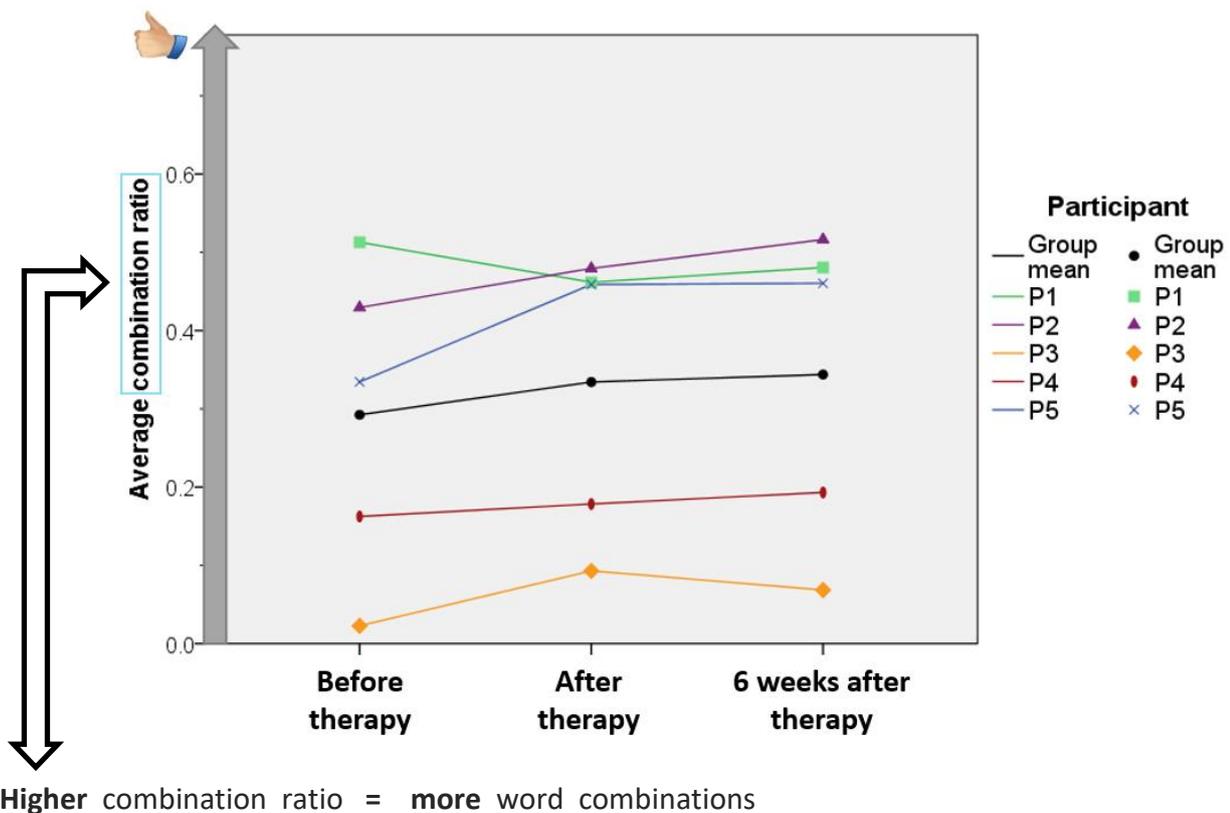
- Some people produced **more phrases** (word combinations) **after the therapy** (see graph below)
- Some people produced more **creative word combinations**

Completing a story with a sentence

- Some people produced **more well-formed answers**

Questionnaires

- People gave **encouraging feedback**



What we learned

Using **familiar phrases** in therapy may **improve communication**

Using a **person's own recordings** for therapy is **acceptable**

We need to do **more work** to find out **who benefits most** from this therapy, for example by analysing conversation videos

Based on these findings, we can **refine the therapy** and do more research

Pauses in the speech of people with aphasia



Mary Moos

Why is this important?

People with aphasia often **pause** when they are speaking.

Sometimes the pause is **filled**, sometimes it is **silent**

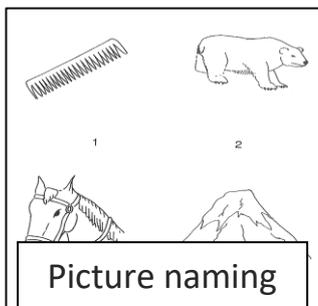


Pauses could **happen for different reasons**: word finding is slower; the person is trying to correct an error; the person has finished their turn in a conversation.

We wanted to find out whether filled and silent pauses happen the same way **in all speaking activities**.

What people did

17 people with aphasia took part. They spoke in **three different activities**:



What we found

The amount of **filled pauses** people made was related in **all three activities**.

The amount of **silent pauses** was related between **story telling and conversations**, but **not** picture naming.

Communication partners **took over the conversation** when **silent pauses** happened. They think the speaker has **finished or needs help**.

They did **not** do this after **filled pauses**. They know the speaker has **more to say**.

Familiar and unfamiliar communication partners



Phoebe
Bill

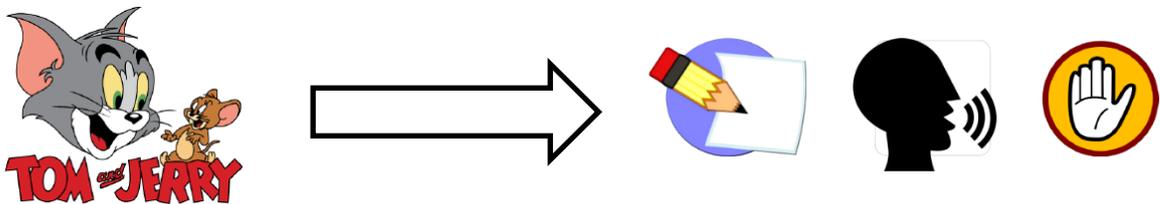
Introduction

People with **aphasia** often say it is **harder to talk to strangers** than people they know well. We wanted to find out whether there were **differences** in a person with aphasia's communication with someone they knew well versus someone they didn't know

What participants did

One person with aphasia took part

He **watched** cartoon clips and then **described** them using **speech, drawing, writing and gesture**



He described the clips to: a **familiar** person (his wife) and an **unfamiliar** person (a stranger)

Results

There was **no difference** in the **amount** of information exchanged with the familiar versus unfamiliar communication partner

There was **no difference** in the **time** it took to communicate the message, nor the **number of turns** it took



Conclusion

The person with aphasia was **as good** at communicating with a stranger as with someone he knows well

This might also be true for other people with aphasia. Yet people with aphasia **feel** that communicating with unfamiliar people is harder

Therefore therapy could focus on **increasing the confidence** of people with aphasia in **communicating with strangers**

Ambiguous words



Kate
Osborne

Why is it important?

Most words in English are **ambiguous** – they have more than one meaning.

People with aphasia find **choosing the right meaning** of ambiguous words **difficult**.

Example: **Match**



Match



Previous research says it is easier to choose the right meaning when given a **clue**.

It might be helpful if more **clues** were included in information provided to people with aphasia.

We asked two questions:

1. Does **giving a clue help** people choose the correct meaning of a word **faster**?
2. Does it matter **where** the clue is? For example: **Before or after** the ambiguous word

What participants did

 <p>He left the rugby. There were no more matches.</p> <p>Read a 2-sentence story</p>	 <p>Chose between two pictures</p>	 <p>Reponses were timed</p>
--	---	---

Findings

Ambiguous words were harder for everyone to process, but especially people with **aphasia**.

Clues that come **before** an ambiguous word only help when the meaning is the more common one.

Inference-making abilities in people with aphasia



Millie
Quinton
Smith

Why is it important?

Inferences are **important** for communication and are **used every day**

Inferences are simply **'filling in the gaps'**, for example:
"Adam saw the bee land on his arm. As he tried to brush the bee away, he screamed in pain."
Someone hearing this would **infer** that the bee stung Adam.



This research will help us understand whether people with aphasia have difficulty understanding language when inferences are used.

What participants did

Participants read 24 **short stories** on a computer.

Story coherence could only be achieved by making an **inference** based on information in the story.

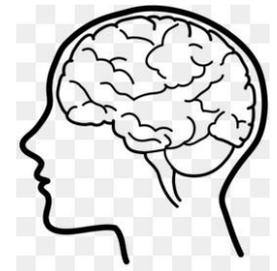


Participants were given a correct and incorrect description of story events and could **only select one answer**. This shows whether they **made the inference**.

Findings

People with aphasia have more **difficulty making inferences** compared to people without aphasia. They were less accurate and took longer.

The **left hemisphere** plays a role in inference-making.



Therapies should take this into consideration in order to **support** effective and functional **communication** in people with aphasia

The effect of background noise



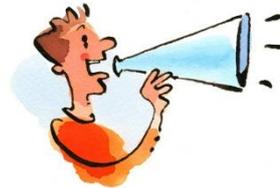
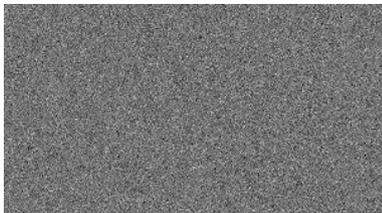
Kate
Rykova

Why is this important?

Sometimes people with **aphasia** can have normal hearing, but have **trouble hearing in noise**.

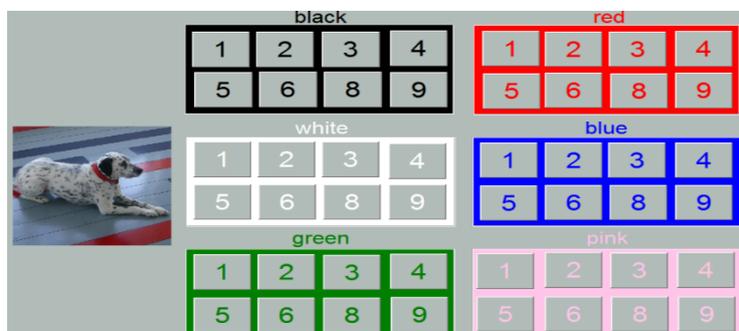
I looked at:

- different types of background noise (**RANDOM** noise or a **PERSON SPEAKING** in the background)
- if something else affects hearing in noise, such as **age**, **occupation**, **type** of aphasia, how **severe** the aphasia is, how well people can **remember a sequence of numbers** (a measure of working memory)



What participants did

Participants sat at a **computer**. They **saw** this:



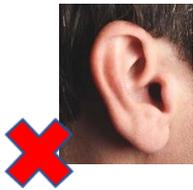
They heard a **sentence** with **background noise**. The noise was **sometimes loud** and **quiet** at other times. The noise was also either **random** or a **person speaking** in the background.



After hearing the sentence, participants had to **click** on a **number** of a certain **colour** (for example, BLUE FIVE). This determined how **accurately** they could hear in noise.

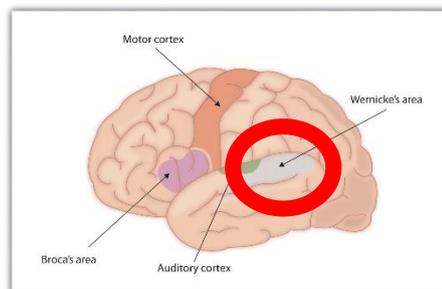
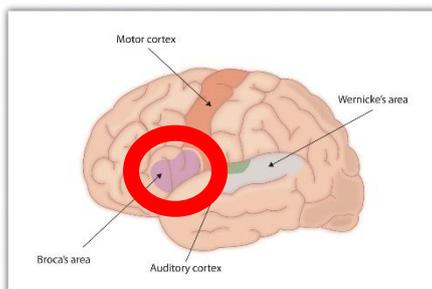
What I found

Working memory, age, occupation, first language had **NO EFFECT** on hearing in noise. Also as long as people had **normal hearing**, how well they could hear also had **NO EFFECT** on hearing in noise.

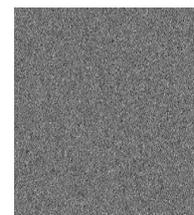


People with **anomia** found **RANDOM noise** more difficult than a **background SPEAKER**. People **without aphasia** perform in the same manner. This might be because the people with anomia in this study had **less severe** forms of aphasia.

People with **non-fluent aphasia** found **RANDOM noise** easier than a **background SPEAKER**. This might be because the area in the brain responsible for **motor control** is affected due to the **nature** of stroke. People might otherwise activate this area in the brain to go through the **SPEECH GESTURES** in their head to help them understand what someone is saying, **especially** when it is **noisy**.



easier



harder



People with **fluent aphasia** also found **RANDOM noise** easier than a **background SPEAKER**. This may be because such individuals find it **hard** to use the **GAPS** that happen when background noise is **SPEECH** and not **random** noise. People usually tend to **use those gaps** in the speech of others to help them but after stroke, this may be more difficult to do.

Conclusion

Maybe **type of aphasia** affects hearing in noise differently but...

- Would need to test more people to know for sure.
- People of **different ages**, with **different types of aphasia**, and varying amounts of **time after their stroke**

The impact of frequency modulation systems (FMs) on speech perception



Emma
Browning

Why is it important?

People with aphasia often struggle to understand speech in noisy environments



=



Frequency modulation systems (FMs) can help to reduce the effect of noise by making speech louder



FMs may help people with aphasia better understand speech in noise

What participants did

- Listened to sentences in different types of noise and repeated what was said
- Listened to instructions (e.g. 'point to the duck') and picked the correct picture
- Carried out each task twice: once with FM, once without



Findings

- FM use improved listening to speech in noise, especially in the picture task
- There was a small (but non-significant) improvement in the repetition task
- There was no link with severity of aphasia, but people with poorer unaided performance did benefit most from FM use

Conclusions

- Evidence that FM use can be beneficial to aid listening to speech in noise
- Further research needs to investigate FMs in different contexts (e.g. at home) and with different noise types
- Further research needs to investigate FM use for longer periods of time

New project
looking for
volunteers

“Values” in speech and language therapy



Kirsty
Ayers

Why is it important?

Healthcare organisations have important **values** that must be delivered in their work. This research will help us **learn** about **what matters to you**. The research may help therapists **in the future** to **plan better therapy**.

What will it involve?

You will attend **1 group session** at **Chandler House UCL**. There will be **four people with aphasia** in the group. You will talk about **your experience of therapy**. There will be a **researcher** and an **assistant** to **help you answer the questions** and **get your message across**.

Interested in taking part?

Contact us for more information: 020 7679 4239 communicationclinic@ucl.ac.uk

New project
looking for
volunteers

Research about communication partner training



Nivetha
Koculan

Why is it important?

When people find it hard to talk, they can **use other ways to communicate**, like writing, gesture or drawing.

We are interested in the **strategies** people use to get messages across and the **effects of communication partner training**.

This will **help** us deliver **training to professionals** working with people who have aphasia.

What will it involve?

The researcher will meet you **3 or 4 times** at **Chandler House** or your **home**. You will complete several tasks: **language assessments**, **watch videos** and **convey messages** to a communication partner before and after their training.

Interested in taking part?

Contact us for more information: 020 7679 4239 communicationclinic@ucl.ac.uk

New project
looking for
volunteers

Research on word-finding problems



Wei Ping
Sze

Do you know **anyone** who had a **stroke**?

Do you know **anyone** who has **problems finding or saying** the right word?

If you answered **YES** to the **two** questions:

We would like to **invite you OR someone you know** to
take part in a research project



In this research
we will find out more about **naming**



We will research the **type of cues**
that can help people find words

To **find out more**, please **contact** Wei Ping directly at:



w.sze.17@ucl.ac.uk



07562 204 301

Or via the clinic address below

Getting in touch...

If you would like to take part in any of our research projects, please get in touch

Our contact details are:



Phone: 020 7679 4239



Email: communicationclinic@ucl.ac.uk



**Post: UCL Communication Clinic, Chandler House, 2 Wakefield Street,
London, WC1N 1PF**