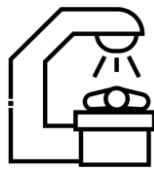


Brain Predictors of Treatment Success in Semantic Variant Primary Progressive Aphasia



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An accessible version of: “Baseline structural imaging correlates of treatment outcomes in semantic variant primary progressive aphasia”

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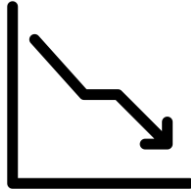
Summary

Some people have a brain problem that makes them forget words.

- They can't remember the names of things they use every day, like a spoon or a chair.



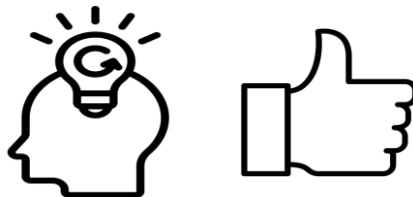
- It gets worse over time



- Scientists wanted to see if images of the brain could help decide if language therapy will help someone get better at talking.



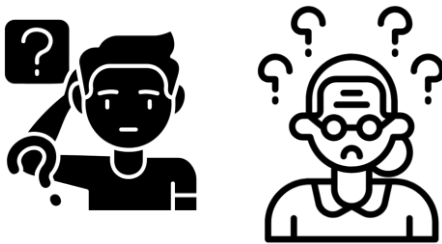
- They looked at pictures of the brain before the people got therapy.
- After the therapy, people remembered more words. S



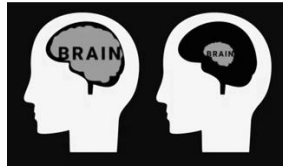
- The parts of the brain that help us understand sounds, meanings of words, and memories of past events were the most important for showing how much someone got better with therapy.

Introduction

- People with Semantic variant primary progressive aphasia (svPPA) have a hard time naming things in pictures or knowing what words mean.



- Their brain gets smaller. The part that helps with understanding the meaning of words and ideas, so they have more trouble speaking.



- People with this condition slowly get worse, which is different from someone who has trouble talking after a stroke.



- Doctors want to learn what parts of the brain help people get better after language therapy.



- When we see a picture, our brain works like this:
 - We look at the picture.
 - We think of words that are like it.
 - We find the right word.
 - We say the word.



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from Noun Project

- People with svPPA can't do this well. They might not recognize the picture or know any words that go with it.



- Doing therapy might help them remember some words, at least for a while.



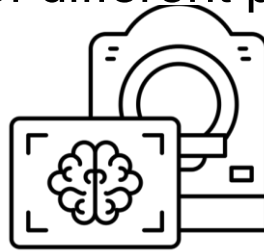
- Knowing which parts of the brain are connected to getting better with therapy can help us understand why therapy works and who it will help the most.



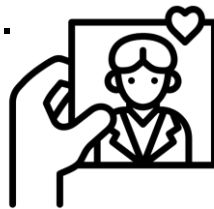
Methods

- In this study, the scientists worked with 19 people who have a diagnosis of svPPA.

- They looked at the size of different parts of the brain.



- In the study, people looked at pictures and tried to say the name of each one.



- The language therapy taught people to use clues from their own memory and word knowledge to think of words.

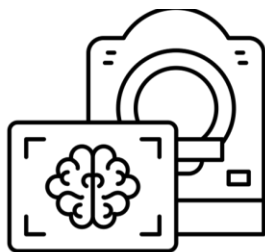


- They used pictures that were important to participants.

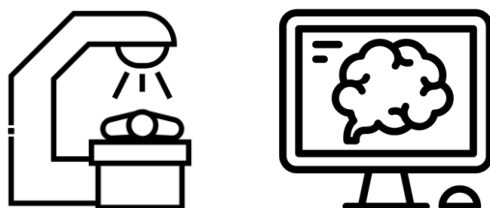
The steps included:



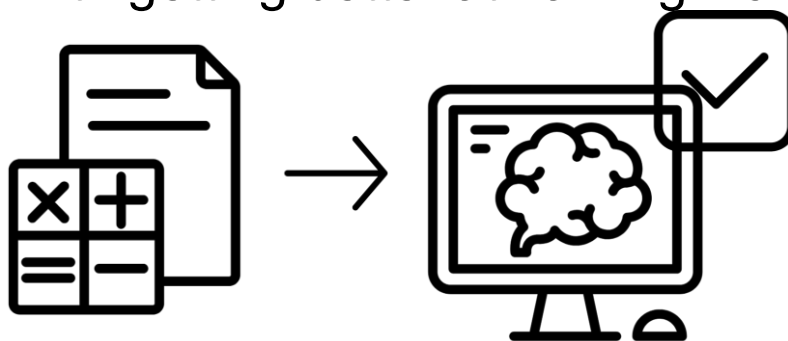
- Thinking about what the picture means
 - Trying to name it again
 - Using the sound and spelling of the word to help
 - Saying and writing the word
 - Trying to remember the word after waiting a little while
-
- Scientists used a special brain scan machine called a MRI to get brain scans before treatment started.



- After that, they looked at the brain scans and used math to measure how much brain was in each part.

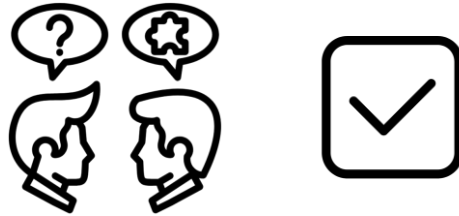


- They used math and statistics to see if people got better at naming words they practiced, and even words they didn't practice.
- They also looked at what parts of the brain were connected with getting better at naming words.



Results

- The researchers found that after language therapy, people were better at naming things.



- They found specific parts of the brain that help people get better after language therapy.



- The parts of the brain that help us understand sounds, meanings of words, and memories of past events were the most important for showing how much someone got better with therapy.
 - These areas are called the angular gyrus, supramarginal gyrus, and hippocampus.

Conclusions

- People with svPPA can learn some words again with practice.



- But we still don't know exactly what the brain is doing when someone gets better at finding words.

- The study showed that people got better at naming both practiced (trained) and unpracticed (untrained) words.

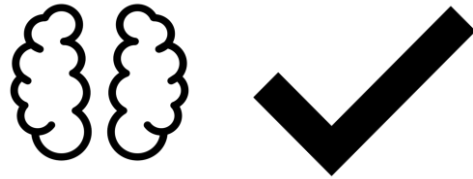


- They did even better with the words they practiced more.

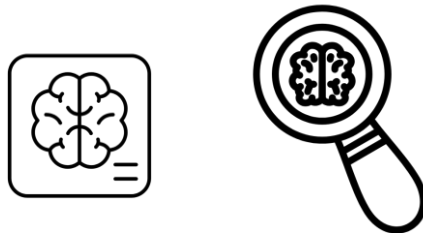


- These results were similar to what other studies found before.

- The researchers also found parts of the brain that help with remembering words after language therapy.



- The parts of the brain that help us understand sounds, meanings of words, and memories of past events were the most important for showing how much someone got better with therapy.
- The researchers suggest using more brain tools and looking at how different brain parts work together to help with language therapy.



- There is still more to learn about how the brain helps people get better at naming things after language therapy.

