Peer-graded Assignment: Lay summary exercise

You passed!
Congratulations. You earned 1 / 1 point. Review the feedback below and continue the course when you are ready. You can also help more peers by reviewing their submissions.

Review assignments

Instructions | My submission | Discussions

Can the brain be read through blood flow? A first step for locked-in patient to communicate with other

Submitted on July 29, 2021 Shareable Link

PROMPT

The following summary appeared in a paper in *PLOS Biology*.

"Despite scientific and technological advances, communication has remained impossible for persons suffering from complete motor paralysis but intact cognitive and emotional processing, a condition that is called completely locked-in state. Brain–computer interfaces based on neuroelectrical technology (like an electroencephalogram) have failed at providing patients in a completely locked-in state with means to communicate. Therefore, here we explored if a brain–computer interface based on functional near infrared spectroscopy (*f*NIRS)—which measures brain hemodynamic responses associated with neuronal activity—could overcome this barrier. Four patients suffering from advanced amyotrophic lateral sclerosis (ALS), two of them in permanent completely locked-in state and two entering the completely locked-in state without reliable means of communication, learned to answer personal questions with known answers and open questions requiring a “yes” or “no” by using frontocentral oxygenation changes measured with *f*NIRS. These results are, potentially, the first step towards abolition of completely locked-in states, at least for patients with ALS."

Write a brief summary (3-4 sentences) of this research for a lay audience. (Do not simply edit or paraphrase the original; write a new summary as you would for a news article.)

For those not familiar with functional near infrared spectroscopy, you may want to read more about it here: https://psychcentral.com/lib/what-is-functional-optical-brain-imaging/

Scientists found a way to read people's thoughts by observing the blood flow inside the brain. Working with four completely (or nearly) locked-in patients — who can think and feel normally, but have no means of communicating — with simple personal or yes/no questions and measuring their brains, the research achieved promising results. These research outcomes can be the first step to find a way for locked-in people to communicate with other people.

RUBRIC

Please review your peers' work to make sure that they have adequately completed the assignment and provided a more readable, lay-friendly description of the research.

Did the author adequately complete the assignment?

- 0 points
  No, the submission is blank or incomplete or simply repeats the original scientific summary. AA
- **1 point**
  Yes, the author provided a new summary of the research that is at least somewhat more lay-friendly. RY JR

This exercise has many possible answers, but here is one "model answer":

People with locked-in syndrome can think and feel normally, but have no means of communicating. Now researchers have introduced an infrared technology that can be used to "read" people's thoughts by measuring blood flow in the brain through the skull. When four patients with locked-in syndrome were asked questions with known answers, the tool accurately divined whether the patient was thinking "yes" or "no."

Please provide specific written feedback on your peer's summary. For example, you may want to point out instances where: (1) the prose is confusing or wordy; (2) the prose remains too technical and "jargony"; or (3) the author has included low-level details that are unimportant in a lay summary. Also, let the author know what he/she has done well!

Ruby Yang
I really like your informative title. I also think that you did a great job summarizing the main points.

Ahmed Abdelrahman Mohammed Abdelhamid
The author has low-level details that aren't important

Julia Roth
You did a great job! Your summary is very concise, clear, and I have no advice.

Edit submission

Comments

Comments left for the learner are visible only to that learner and the person who left the comment.

QN Share your thoughts...