

Why thinking makes us feel tired

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Have you ever wondered why thinking too much makes you tired? A new study has found out some answers to this question. Researchers from the Paris Brain Institute looked at why mental effort makes us tired. They found that when people

think a lot, the brain releases a chemical called glutamate. Too much glutamate upsets the brain's functions. It means the brain tells the body it is tired and that it must rest. People who spend more than six hours working on a task that requires a lot of thought are more likely to feel tired. A period of rest allows the brain to return to normal. This explains why a power nap is good for us. A power nap can be as short as 20 minutes, but can make us feel totally refreshed.

The research team looked at the behaviour of 40 participants in their research. Twenty-four of these had to perform challenging tasks. These included looking at a computer screen and matching different letters that appeared. The other 16 participants did a similar, but easier task. Both teams worked for six hours, and had two ten-minute breaks. The researchers scanned the brains of the participants. They found that the group who had the more difficult task had higher levels of glutamate in their brain. Study author Antonius Wiehler said: "It would be great to find out more about how glutamate levels are restored." He asked: "Is sleep helpful? How long do breaks need to be to have a positive effect?"

Sources: cnet.com / nature.com / cnn.com

Writing

There should be a limit to the number of hours we work each day. Discuss.

Chat

Talk about these words from the article.

wondering / tired / study / question / answers / chemical / rest / tasks / power nap / behaviour / research / challenging / computer screen / letter / breaks / author / sleep

True / False

- 1) The Paris Brain Institute looked into why thinking makes us tired. T / F
- 2) The chemical glutamate tells the body that it is tired and needs rest. T / F
- 3) The article says we should go to bed after working for six hours. T / F
- 4) We need to have a nap for longer than 20 minutes to feel refreshed. T / F
- 5) In the research, 16 participants worked for 24 hours. T / F
- 6) In the tests, 24 people had to look at a computer screen. T / F
- 7) People who did more difficult tasks had higher levels of glutamate. T / F
- 8) The author of the study wants to know if sleep is helpful. T / F

Synonym Match

(The words in **bold** are from the news article.)

- | | |
|---------------------|------------------|
| 1. wondered | a. rests |
| 2. found out | b. needs |
| 3. task | c. carry out |
| 4. requires | d. discovered |
| 5. period | e. writer |
| 6. perform | f. time |
| 7. breaks | g. piece of work |
| 8. difficult | h. result |
| 9. author | i. hard |
| 10. effect | j. thought about |

Discussion – Student A

- a) Does thinking a lot make you tired?
- b) What do you think about a lot?
- c) Do you ever think too much?
- d) Why does thinking make us tired?
- e) What things do you like thinking about?
- f) What can make you think more clearly?
- g) Are you good at thinking?
- h) What do you think of power naps?

Phrase Match

- | | |
|--|---------------------------|
| 1. A new study has found | a. of 40 participants |
| 2. why mental effort | b. effect |
| 3. People who spend more than six hours | c. as short as 20 minutes |
| 4. A period of rest allows the brain | d. in their brain |
| 5. A power nap can be | e. out some answers |
| 6. The research team looked at the behaviour | f. brains |
| 7. perform challenging | g. makes us tired |
| 8. researchers scanned the | h. to return to normal |
| 9. higher levels of glutamate | i. tasks |
| 10. have a positive | j. working on a task |

Discussion – Student B

- What do you think about what you read?
- Do you like doing challenging tasks?
- What's the most challenging task you've ever done?
- How do you feel if you work for six hours non-stop?
- What things do you dislike thinking about?
- How helpful is sleep?
- How long should breaks from work be?
- What questions would you like to ask the researchers?

Spelling

- odwrened why
- the brain releases a himeccal called glutamate
- glutamate upsets the brain's tncfiouns
- a task that eurriqes a lot of thought
- return to onmral
- make us feel totally errsefhed
- the ahbveoiur of 40 participants
- perform ggcinlelahn tasks
- matching different letters that rdppeaae
- researchers nsadenc the brains
- how glutamate levels are dreroets
- have a stoievip effect

Answers – Synonym Match

1. j	2. d	3. g	4. b	5. f
6. c	7. a	8. i	9. e	10. h

Role Play

Role A – Money

You think money is the think that makes us most tired thinking about. Tell the others three reasons why. Tell them why their things aren't as tiring. Also, tell the others which is the least tiring of these (and why): family, the world or social media.

Role B – Family

You think family is is the think that makes us most tired thinking about. Tell the others three reasons why. Tell them why their things aren't as tiring. Also, tell the others which is the least tiring of these (and why): money, the world or social media.

Role C – The World

You think the world is is the think that makes us most tired thinking about. Tell the others three reasons why. Tell them why their things aren't as tiring. Also, tell the others which is the least tiring of these (and why): family, money or social media.

Role D – Social Media

You think social media is is the think that makes us most tired thinking about. Tell the others three reasons why. Tell them why their things aren't as tiring. Also, tell the others which is the least tiring of these (and why): family, the world or money.

Speaking – Tiredness

Rank these with your partner. Put the thinks that make you most tired thinking about at the top. Change partners often and share your rankings.

- | | |
|-----------|----------------|
| • Money | • Family |
| • Health | • Friends |
| • English | • Social media |
| • Work | • The World |

Answers – True False

1 T	2 T	3 F	4 F	5 F	6 T	7 T	8 T
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Answers to Phrase Match and Spelling are in the text.