

Brain

It is amazing just how many medical myths there are **(1) to choose / chosen** from, but one part of the body seems to attract more than its fair **(2) share / diversity**, and that's the brain. One of my favourite brain myths is the idea that we only use 10% of it. It's an **(3) upsetting / appealing** idea because it suggests the possibility that we could become so much more intelligent, successful or creative **(4) if / but** we could **(5) "harness"** that wasted 90%. This might inspire us **(5b) to try / trying** harder, but unfortunately there is not any truth in it. It is just a popular myth.

5. "harness" is closest in meaning to ----.

- | | |
|---------------|-------------|
| A) scrutinize | B) attach |
| C) exploit | D) denounce |
| E) exceed | |

6. Which of the following is true according to the text?

- A) It is possible to use the wasted 90%.
- B) There is no such thing as wasted 90%.
- C) We can become more imaginative by using more of our brains.
- D) It is unlikely for us to be motivated to work harder unless we are inspired by a possibility to use more of our brains.
- E) The author of the text is an avid supporter of the idea that we only use 10% of our brains.

One of my favourite brain myths is the idea that we only use 10% of it. First of all, it is important **(7) asking / to ask** the question – 10% of what? If it is 10% of the regions of the brain to which people are referring, this is the easiest idea to **(8) “quash.”** Using a technique called functional magnetic resonance imaging, neuroscientists can place a person inside a scanner and see which parts of the brain are activated **(9)so / when** they do or think about something. A simple action like clenching and unclenching your hand or saying a few words requires activity **(10) in / to** far more than a tenth of the brain. Even when you think you are doing nothing, your brain is doing rather a lot – **(11) whether / either** it is controlling functions like breathing and heart rate, or recalling the items on your to-do list.

8. “quash” is closest in meaning to ----.

- A) believe
- B) refute
- C) deploy
- D) condemn
- E) surpass

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But maybe the 10% refers to number of brain cells. Again this doesn't work. When any nerve cells are **(12) "going spare"**, or out of order *in layman's terms*, they **(13.a) either / whether** degenerate and die off or they are colonised by other areas nearby. We simply don't let our brain cells **(13.b) loiter**. **(14) They are too valuable for that**. In fact, our brains are a huge **(15) drain** on our resources because keeping brain tissue alive consumes a huge amount of energy and 20% of the oxygen we breathe, according to cognitive neuroscientists.

12. "going spare" is closest in meaning to ----.

- A) to be used
- B) to be left aside

13.b "loiter" is closest in meaning to ----.

- A) work hard individually
- B) hang around idly

14. Which of the following is true according to the underlined sentence?

- A) It is impossible for us to let any single brain cell roam freely.
- B) There are such valuable brain cells that they cannot be spared unlike certain brain cells.
- C) The value of a brain cell depends on the functions it performs.
- D) It is unlikely for us to control our brain cells as they degenerate and die off or they are colonised by other areas nearby
- E) The writer probably thinks that the value of brain cells is hyperbolic.

15. "drain" is closest in meaning to ----.

- A) relief
- B) trust
- C) process
- D) burden
- E) collapse

It is true that nature can sometimes **involve** some strange designs. However, to evolve **to have** a brain ten times the size we needed would seem very odd. The brain's large dimensions are so costly to our survival, **(16) leading / led on occasion to** obstructed labour, – also known as labour dystocia, which occurs when the baby does not exit the pelvis during childbirth due to being physically blocked– and the death of a mother during childbirth if no help is available. Yet many people do **(17) cling on** to the idea that we only use 10% of our brains. The idea is **(18) ----** prevalent ---- when the University College London neuroscientist Sophie Scott was **on** a first aid **course**, the tutor **(19) assured/ demanded** the class that head injuries are not very serious because of the 10% “fact”. He was not only wrong about the 10%, but he was also wrong about the impact **(20) on / of** brain damage upon our lives. Even a small injury can have huge effects on a person's capabilities. The first aid tutor probably wasn't expecting **(21) ---- instructing / instructed** a professor of neuroscience on the course, but Scott put him right.

17. “cling on” is closest in meaning to ----.

- A) stick to B) turn down

18. Choose the best option.

- A) so / that B) such / that

22. Which of the following is true according to the text?

- A) Labour dystocia is a phenomenon that occurs very often.
B) Obstructed labour does not literally refer to an obstruction.
C) The death of a mother during childbirth has nothing to do with the brain and thus skull size.
D) That the brain has not evolved in time to have a bigger size is a sort of blessing for our survival.
E) The writer thinks that the size of the brain is the epitome of nature's strange designs.

So how can an idea with so little biological or physiological basis have spread so widely? It is hard **(23) to track down / tracking down** an original source. The American psychologist and philosopher William James mentioned in *The Energies of Men* in 1908 that we "are making use of only a small part of our possible mental and physical resources". He was optimistic that people **(23.b) had to achieve / could achieve** more, but he does not refer to brain volume or quantity of cells, nor does he give a specific percentage. The 10% figure is mentioned in the preface **(24) on / to** the 1936 edition of Dale Carnegie's best-selling book *How to Win Friends and Influence People*, and sometimes people say that Albert Einstein was the source. But Professor Della Sala has tried **(24.b) finding / to find** the quote, and even those who work at the Albert Einstein archives can find no record of it. So it seems this might be a myth too.

25. Which of the following is true according to the text?

- A) It is possible to pin down the real source of 10% myth thanks to scholars in the field.
- B) *The Energies of Men* mainly focuses on brain volume or quantity of cells.
- C) The sources cited as the origin of 10% figure are nothing but rumour.
- D) Despite the evidence to the contrary, the 10% figure found advocates among academic circles.
- E) It is only a matter of time before the academic world admits the validity of the 10% figure.

There are two other phenomena that might **(26) account for / emerge from** the misunderstanding. Nine-tenths of the cells in the brain are so-called glial cells. These are the support cells, the white matter, which provide physical and nutritional help for the other 10% of cells, the neurons, which **make up** the grey matter than does the thinking. So perhaps people heard that only 10% of the cells do the hard graft and assumed that we **(27) could harness / can harness** the glial cells too. But these are different kind of cells entirely. There is no way that they could suddenly transform themselves **(28) from / into** neurons, giving us extra brain power.

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There is a very rare group of patients whose brain scans reveal something extraordinary, **(29) for example / though**. In 1980, a British paediatrician called John Lorber mentioned in the journal Science that he had patients **(30) of / with** hydrocephalus who had hardly any brain tissue, yet could function. This doesn't of course show us that the rest of us could make extra use of our brains, just that these people **(31) adapt / have adapted** to extraordinary circumstances.

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It is, of course, true that **(32) if / though** we put our minds to it, we can learn new things, and there is increasing evidence **(33) on / in** the area of neuroplasticity showing that this changes our brains. But we are not tapping into a new area of the brain. We create new connections **(34) between / beyond** nerve cells or lose old connections that we no longer need. What I find most intriguing about this myth is **(35) how / that** disappointed people are when you tell them it's not true. Maybe it's the figure of 10% that is so appealing **(36) because / so** it is so low that it offers massive potential for improvement. We'd all like to be better. And we can be better if we try. But, sadly, finding an unused portion of our brains isn't the way it's going to happen.

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