



PONTIFÍCIA UNIVERSIDADE CATÓLICA DO RIO GRANDE DO SUL
ESCOLA DE HUMANIDADES - LETRAS

PROVA DE PROFICIÊNCIA EM LÍNGUA INGLESA PARA ALUNOS DE MEDICINA, ODONTOLOGIA,
FARMÁCIA, ENFERMAGEM, NUTRIÇÃO, FISIOTERAPIA.
GRADUAÇÃO - 2018/1

Nome: _____

Curso: _____

Instruções gerais:

1. Apresentar documento de identidade com foto.
2. Responder às questões em língua portuguesa, com caneta azul ou preta.
3. É permitido consultar dicionários e gramáticas em papel.
4. Não é permitido utilizar celulares, laptops, notebooks, tablets e canetas tradutoras.
5. Entregar a prova no prazo máximo de duas (2) horas.
6. Serão considerados aprovados os candidatos que demonstrarem proficiência, com aproveitamento igual ou superior a 70% de acertos.

I - Responda às questões 1 - 4 de acordo com o texto 1 (“*Brain Stimulation used like a scalpel to improve memory*”, publicado em 20/01/17, <https://news.northwestern.edu/stories/2017/01/brain-stimulation-used-like-a-scalpel-to-improve-memory/>, acessado em 29 abril 2018).

Text 1: Brain Stimulation Used Like a Scalpel to Improve Memory

CHICAGO - Northwestern Medicine scientists showed for the first time that non-invasive brain stimulation can be used like a scalpel, rather than like a hammer, to cause a specific improvement in precise memory.

Precise memory, rather than general memory, is critical for knowing details such as the specific color, shape and location of a building you are looking for, rather than simply knowing the part of town it's in. This type of memory is crucial for normal functioning, and it is often lost in people with serious memory disorders.

"We show that it is possible to target the portion of the brain responsible for this type of memory and to improve it," said lead author Joel Voss, assistant professor of medical social sciences at Northwestern University Feinberg School of Medicine. "People with brain injuries have problems with precise memory as do individuals with dementia, and so our findings could be useful in developing new treatments for these conditions."

By stimulating the brain network responsible for spatial memory with powerful electromagnets, scientists improved the precision of people's memory for identifying locations. This benefit lasted a full 24 hours after receiving stimulation and corresponded to changes in brain activity. "We improved people's memory in a very specific and important way a full day after we stimulated their brains," Voss said. The paper was published Jan. 19 in *Current Biology*.

The research enhances scientific understanding of how memory can be improved using noninvasive stimulation. Most previous studies of noninvasive brain stimulation have found only very general and short-lived effects on thinking abilities, rather than highly specific and long-lasting effects on an ability such as precise memory.

The scientists used MRI to identify memory-related brain networks then stimulated them with noninvasive electromagnetic stimulation. Detailed memory tests were used to show that this improved spatial precision memory, and EEG was used to show that these memory improvements corresponded to indicators of improved brain network function.

1. O que os cientistas descobriram e qual foi o procedimento adotado para alcançar a descoberta? (2 pontos)

2. Comparando-se os resultados obtidos neste estudo com os de pesquisas anteriores, qual foi a diferença? (1 ponto)

3. O texto menciona dois tipos de memórias. Quais são elas e o qual o papel de cada uma delas? (1 ponto)

4. Traduza, para o Português, o seguinte segmento do texto 1. (1 ponto)

“People with brain injuries have problems with precise memory as do individuals with dementia, and so our findings could be useful in developing new treatments for these conditions.”

II - Responda às questões 5 - 9 de acordo com o texto 2, abaixo.

Text 2: Drinking water may help exercising seniors stay mentally sharp
Hydration boosts performance on test of executive function following exercise

1 Dehydration has been shown to impair exercise performance and brain function in young people,
2 but less is known about its impact on older populations. "Middle-age and older adults often display
3 a blunted thirst perception, which places them at risk for dehydration and subsequently may reduce
4 the cognitive health-related benefits of exercise," a team of New England-based researchers wrote.
5 The researchers recruited recreational cyclists (average age 55) who participated in a large cycling
6 event on a warm day (78-86 degrees F). The cyclists performed a "trail-making" executive
7 function test -- quickly and accurately connecting numbered dots using paper and pencil -- before
8 and after the event. Executive function includes the skills needed to plan, focus, remember and
9 multitask. Exercise has been shown to improve intellectual health, including executive function.
10 The research team tested the volunteers' urine before they exercised and divided them into two
11 groups -- normal hydration and dehydrated -- based on their hydration status. The normal
12 hydration group showed noticeable improvement in the completion time of the trail-making test
13 after cycling when compared to their pre-cycling test. The dehydration group also completed their
14 post-cycling test more quickly, but the time reduction was not significant. "This suggests that
15 older adults should adopt adequate drinking behaviors to reduce cognitive fatigue and potentially
16 enhance the cognitive benefits of regular exercise participation," the researchers wrote.

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18 **Story Source:** Materials provided by **American Physiological Society** / *ScienceDaily*, 22 April
19 2018. <www.sciencedaily.com/releases/2018/04/180422123757.htm>.

5. Qual o significado do título do texto: “*Drinking water may help exercising seniors stay mentally sharp*”? (1 ponto)

6. Quem foram os participantes da pesquisa e como ocorreu a formação dos dois grupos? (1 ponto)

7. Traduza para o Português o trecho que segue: *“The normal hydration group showed noticeable improvement in the completion time of the trail-making test after cycling when compared to their pre-cycling test.”* (1 ponto)

8. Qual conselho os pesquisadores dão aos idosos, a partir dos resultados alcançados pelo estudo? (1 ponto)

9. A que se refere o pronome *“its”* na linha 2? (1 ponto)
