<<Saber viver e saber cuidar em um mundo globalizado>>

Nova Friburgo, _____ de _____ 2020.

Nome: _____

3° ano – Ensino Médio Turma: _____ N°: _____

Professor(a):

1º TRIMESTRE – ATIVIDADES DE LÍNGUA INGLESA

ENCONTRO VIRTUAL 1- SEMANA DE 23 A 27 DE MARÇO

Hello, Everyone !!

How are you doing? Are you following the quarantine advice all of us have been given?

Keep safe, protect your elders and keep calm! Everything will be okay in a while!

Algumas instruções que deverão ser seguidas:

- Meu e- mail é : renatamartferreira@gmail.com. Caso precise de alguma ajuda, entre em contato.
- Faça as atividades enviadas tão logo as receba, isso evitará acúmulos que, inevitavelmente, geram ansiedade.
- Separe um horário do seu dia para estudar. Não faça as tarefas pela metade ou as distribua pelo seu dia inteiro! Isso vai deixar você com a sensação de sobrecarga.

Agora gostaria de partilhar um pequeno poema com vocês:

Belíssimo poema da querida **Ania Kítylla**

"Outono

Sejamos como a folha
Que despenca em sua hora
E sabe quando dar lugar.
Sejamos como o fruto
Que amadurece de dentro
Para fora, do centro
Muito antes de mostrar.
Sejamos, pois, como o vento
De outono, ameno,
Que outrora ardente
Sente que precisa esfriar."

Ania.

Agora, sua atividade:

- Atenção: suas atividades serão retiradas de diversas provas de vestibular de universidades públicas e privadas

LÍNGUA ESTRANGEIRA / INGLÊS

How Exercise Can Calm Anxiety

In an eye-opening demonstration of nature's ingenuity, researchers at an American University recently discovered that exercise creates vibrant new brain cells — and then shuts them down when they shouldn't be in action.

For some time, scientists studying exercise have been puzzled by physical activity's two seemingly incompatible effects on the brain. On the one hand, exercise is known to prompt the creation of new and very excitable brain cells. At the same time, exercise can induce an overall pattern of calm in certain parts of the brain.

Most of us probably don't realize that neurons are born with certain predispositions. Some, often the younger ones, are by nature easily excited. They fire with almost any provocation, which is laudable if you wish to speed thinking and memory formation. But that feature is less desirable during times of everyday stress. If a stressor does not involve a life-or-death decision and require immediate physical action, then having lots of excitable neurons firing all at once can be counterproductive, inducing anxiety.

Studies in animals have shown that physical exercise creates excitable neurons in abundance, especially in the hippocampus, a portion of the brain known to be involved in thinking and emotional responses. But exercise also has been found to reduce anxiety in both people and animals.

How can an activity simultaneously create ideal neurological conditions for anxiety and leave practitioners with a deep-rooted calm, the Princeton researchers wondered?

So they gathered adult mice, injected them with a substance that marks newborn cells in the brain, and for six weeks, allowed half of them to run at will on little wheels, while the others sat quietly in their cages.

Afterward, the scientists determined each group's baseline nervousness. Given access to cages with open, well-lighted areas, as well as shadowy corners, the running mice were more willing to cautiously explore and spend time in open areas, an indication that they were more confident and less anxious than the sedentary animals.

The researchers also checked the brains of some of the runners and the sedentary mice to determine how many and what varieties of new neurons they contained. As expected, the runners' brains teemed with many new, excitable neurons. The sedentary mice's brains also contained similar, volatile newborn cells, but not in such profusion.

The runners' brains, however, also had a notable number of new neurons specifically designed to release the neurotransmitter GABA, which inhibits brain activity, keeping other neurons from firing easily. In effect, these are nanny neurons, designed to shush and quiet activity in the brain.

In the runners' brains, there were large new populations of these cells in a portion of the hippocampus, the ventral region, associated with the processing of emotions. The rest of the hippocampus, the dorsal region, is more involved with thinking and memory. What role these nanny neurons were playing in the animals' brains and subsequent behavior was not altogether clear.

So the scientists next gently placed the remaining mice in ice-cold water for five minutes. Mice do not enjoy cold water. They find immersion stressful and anxiety-inducing, although it is not life-threatening. Then the scientists checked these animals' brains. They were looking for markers, known as immediate early genes, that indicate a neuron has recently fired.

They found them, in profusion. In both the physically fit and the sedentary mice, large numbers of the excitable cells had fired in response to the cold bath. Emotionally, the animals had become fired up by the stress. But with the runners, it didn't last long. Their brains, unlike those of the sedentary animals, showed evidence that the shushing neurons also had been activated in large numbers, releasing GABA, calming the excitable neurons' activity and presumably keeping unnecessary anxiety at bay.

In effect, the runners' brains had responded to the relatively minor stress of a cold bath with a quick rush of worry and a concomitant, overarching calm.

What all of this suggests is that the hippocampus of runners is vastly different from that of sedentary animals. Not only are there more excitatory neurons and more excitatory synapses, but the inhibitory neurons are more likely to become activated, presumably to dampen the excitatory neurons, in response to stress.

It's important to note that this study examined long-term training responses. The runners' wheels had been locked for 24 hours before their cold bath, so they would gain no acute calming effect from exercise. Instead, the difference in stress response between the runners and the sedentary animals reflected fundamental remodeling of their brains.

Of course, as we all know, mice are not men or women. But other studies show that physical exercise reduces anxiety in humans, which suggests that similar remodeling takes place in the brains of people who work out. It won't be a huge stretch to suggest that the hippocampi of active people might be less susceptible to certain undesirable aspects of stress than those of sedentary people.

By Gretchen Reynolds
Adapted from: http://well.blogs.nytimes.com/2013/07/03/how-exercise-can-calm-anxiety/?src=me
Retrieved on 03/07/2013

11
The main purpose of the text is
(A) to suggest that exercising eases anxiety.
(B) to prove that people and mice react the same way under stress.
(C) to discuss human beings' anxiety when in contact with mice.
(D) to highlight anxiety symptoms in newborn mice.
(E) to examine mice's reactions to dark cages.

12
In paragraph 2 (ℓ. 6-12), the author argues that
(A) both old and new brain cells create neurological conditions to social interaction.
(B) exercises seem to have two different effects in the brain.
(C) American scientists are bewildered by the human brain evolution.
(D) creativity, anxiety and relaxation are triggered by the same neurons.
(E) physical activity can damage two similar aspects of the brain.

13
In "But that feature", in paragraph 3 (ℓ. 17-18) refers to
(A) the characteristics presented by every brain cell during stress.
(B) the predisposition presented by the brain to shut down neurons.
(C) young individual's neurological conditions after exercising.
(D) the capability some neurons have to be quickly excited.
(E) young individual's quick response to provocation.

14
In "…while the others sat quietly in their cages." (ℓ. 36), "others" replaces
(A) other cells.
(B) other scientists.
(C) other wheels.
(D) other corners.
(E) other mice.

15
In "Given access to cages (…) the sedentary animals." (ℓ. 38-43), we learn that
(A) active mice proved to be more adventurous and confident and less anxious.
(B) active and sedentary mice presented similar behaviour during the experiment.
(C) scientists deduced that the variation of anxiety levels were insignificant among mice.
(D) confined sedentary mice were attracted to well lit open air spaces.
(E) sedentary mice were more confident and adventurous than active mice.

16
In paragraph 8, (ℓ. 44-50), there is evidence that
(A) the research results were inconclusive.
(B) scientists expected both groups of mice to react similarly.
(C) scientists confirmed their previous assumptions.
(D) the experiment proved mice's brains were identical.
(E) scientists' expectations could not be met.

17
In "They find immersion stressful and anxiety-inducing, although it is not life-threatening." (ℓ. 67-68), "although" expresses the idea of
(A) regardless of the fact.
(B) in addition to.
(C) furthermore.
(D) likewise.
(E) taking into account.

18
In "Their brains (…) showed evidence that the sushing neurons…" (ℓ. 77-78), "shushing" could be replaced by
(A) quick.
(B) silent.
(C) active.
(D) agitated.
(E) disturbed.

19
At the end of the text (ℓ. 103-106), "might" suggests
(A) certainty.
(B) obligation.
(C) quality.
(D) possibility.
(E) ability.

20
Based on the text, mark the **CORRECT** statement:
(A) Mice or humans, every mammal has identical brains.
(B) The sedentary mice showed predisposition to obesity.
(C) The sedentary mice's brains showed a profusion of life-threatening cells.
(D) Physical exercise increases anxiety in both people and animals.
(E) Through their studies, scientists could relate anxiety to lack of exercises.