



The Secret to Why Exercise Is So Good for Mental Health? 'Hope Molecules'

运动有益心理健康的秘诀：“希望分子”

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448 Words

Exercise, in whatever form, and for however long, just makes life feel better. The physical benefits of movement such as lowered blood pressure, reduced risk of **diabetes** and cancer, and healthy ageing, are well-known, and we're beginning to understand more about the mental health benefits as well.

无论形式为何，持续多长时间，运动都会让你感觉生活更美好。众所周知，运动对身体有好处，比方说降血压、降低糖尿病和癌症的风险、让人健康地变老，另外我们也开始更多地了解运动对心理健康的好处。

One of the most interesting health research projects of the past decade **or so** has looked at how exactly exercise makes us feel good. Research shows that there appears to be a clear scientific reason that we can see at a **cellular** level. When muscles **contract**, they **secrete** chemicals into the bloodstream. Among these chemicals are **myokines**, which have been referred to as “hope molecules”. These small **proteins** travel to the brain, cross the blood-brain barrier, and act as an **antidepressant**. They do this by improving our mood, our ability to learn, our capacity for **locomotor** activity, and protect the brain from the negative effects of ageing. This has been referred to as “muscle-brain cross-talk”.

在过去十年左右的时间里，最有趣的健康研究项目之一就是研究运动究竟是如何让我们感觉良好的。研究表明，似乎有一个明确的科学原因存在于细胞层面上。肌肉收缩时会向血液中释放化学物质。其中有被称为“希望分子”的肌细胞因子。这些小蛋白质穿过血脑屏障进入大脑，能够改善我们的情绪、学习能力、运动能力，保护大脑免受衰老的负面影响，起到抗抑郁剂的作用。这一过程被称为“肌肉-大脑交叉对话”。

diabetes [ˌdaɪəˈbiːtiːz] *n.* 糖尿病**or so** 大约，左右，……上下 | We have to leave in five minutes or so. 过五分钟左右我们就得走了。**cellular** [ˈseljələr] *adj.* 细胞的；格状的，蜂窝式的 | Many toxic effects can be studied at the cellular level. 许多毒效可以从细胞层次上去研究。**contract** [kənˈtrækt] *v.* 收缩，缩小；感染（疾病）；订立合同 *n.* 合同，合约 | The heart muscles contract to expel the blood. 心脏肌肉收缩以挤压出血液。**secrete** [sɪˈkriːt] *v.* 分泌；隐藏，藏匿 | The sweat glands secrete water. 汗腺分泌汗液。**myokine** [ˈmaɪəʊkaɪn] *n.* 肌细胞因子**protein** [ˈprəʊtiːn] *n.* 蛋白质**antidepressant** [ˌæntɪdɪˈpresnt] *n.* 抗抑郁药，抗抑郁剂；使人放松（或快乐）的事物，解忧良药**locomotor** [ˌləʊkəˈməʊtər] *adj.* 运动的**metabolism** [məˈtæbəlaɪzəm] *n.* 新陈代谢 | The body's metabolism is slowed down by extreme cold. 严寒可以使身体新陈代谢的速度下

They're also responsible for improved **metabolism**, reduced **inflammation**, and increased muscle strength. Myokines are not solely responsible for feeling good: exercise also releases **neurotransmitters** such as **dopamine**, **noradrenaline** and **serotonin** that have a positive impact on our brains.

肌细胞因子还能促进新陈代谢，减少炎症，增强肌肉力量。它并不是让人感觉良好的唯一原因：运动还会释放神经递质，如多巴胺、去甲肾上腺素和血清素，它们对大脑有积极的影响。

The links between physical activity and mental health are **acutely** true for children and young people as well. A large study from Norway showed that physically active teenagers in team sports had higher **self-esteem** and life satisfaction, particularly for senior high-school girls. This also was true for university students where a clear **association** was found between **inactivity** and poor mental health, self-harm and suicidal attempts.

体育活动与心理健康之间的关系也体现在儿童和年轻人身上。挪威的一项大型研究表明，在团队运动中积极参与的青少年，尤其是高中女生，自尊心更强，生活满意度也更高。对于大学生来说也是如此，缺乏运动与心理健康状况不佳、自残和自杀企图之间存在明显的联系。

But trends are going the wrong way. Young people are spending more time on devices, and less taking part in sport and other physical activities. This has significant **ramifications** for mental health: a study of 40,000 children in the US found that after more than one hour per day of use, screen time was associated with less curiosity, lower self-control, less emotional stability and lower psychological wellbeing. Among 14- to 17-year-olds, those who used screens throughout the day were twice as likely to have been **diagnosed** with depression. With the stress of adolescence – whether peer pressure, exams, **isolation** and uncertain economic futures – sport, especially

降。

inflammation [ˌɪnfləˈmeɪʃn] *n.*

发炎，炎症

neurotransmitter

[ˈnɒrəʊtrænzˌmɪtər] *n.* 神经递质（在神经细胞间或向肌肉传递信息）

dopamine [ˈdɒpəmiːn] *n.* 多巴胺（神经细胞产生的一种作用于其他细胞的化学物质）

noradrenaline [ˌnɒrəˈdrenəlɪn]

n. 去甲肾上腺素

serotonin [ˌserəˈtɒnɪn] *n.* 血清素（神经递质，亦影响情绪等）

acutely [əˈkjuːtli] *adv.* 极其，强烈地 | I am acutely aware of the difficulties we face. 我十分清楚我们面临的困难。

self-esteem *n.* 自尊（心）

association [əˌsəʊʃiˈeɪʃn] *n.* 联系，关联；社团，协会 | Some studies show a strong association between pesticide use and certain diseases. 一些研究表明，杀虫剂的使用与某些疾病之间有很密切的联系。

inactivity [ˌɪnæktɪvəti] *n.* 不做任何事，不活动，不工作 | Don't suddenly take up violent exercise after years of inactivity. 多年没锻炼不要突然进行剧烈运动。

ramification [ˌræmɪfɪˈkeɪʃn] *n.* 后果，影响 | These changes are bound to have widespread social ramifications. 这些变化注定会造成许多难以预料的社会后果。

diagnose [ˌdaɪəɡˈnəʊs] *v.* 诊断

team sport, is a good protective measure for mental health.

但趋势正在向错误的方向发展。年轻人花在电子设备上的时间越来越多，参加体育运动和其他体力活动的时间越来越少。这对心理健康造成了重大影响：一项针对 4 万名美国儿童的研究发现，每天使用电子屏幕超过一小时后，屏幕使用时间与好奇心减弱、自控能力下降、情绪稳定性下降和心理健康状况恶化有关。在 14 到 17 岁的青少年中，整天使用屏幕的人被诊断患有抑郁症的可能性是其他人的两倍。面对青春期的压力——无论是同辈压力、考试、孤立还是不确定的经济未来——体育运动，尤其是团队运动，是一种很好的心理健康保护措施。

So when you're feeling low, it's **tempting** to spend hours **scrolling** on social media comparing others' lives to yours, and feeling increasingly sad. This is especially true for teenagers. The **antidote** we know clearly from **epidemiology** and biology is to just get moving: whether it's joining a team, going for a long walk, or finding a community gym or yoga class. You'll certainly feel more hopeful afterwards.

所以，当你情绪低落的时候，很容易花几个小时刷社交媒体，比较别人和你的生活，感觉越来越难过。对于青少年来说尤其如此。我们通过流行病学和生物学能清楚地知道，解药就是动起来：无论是加入一个团队，长距离散步，还是找一家社区健身房或瑜伽班。运动之后你肯定会觉得生活更有希望了。

(疾病)，判断(问题的原因)| The illness was diagnosed as cancer. 此病诊断为癌症。

isolation [ˌaɪsəˈleɪʃn] *n.* 孤独，孤立状态；隔离 | Isolation from family and friends can lead to feelings of anxiety. 与家人和朋友分离会导致焦虑感。

tempting [ˈtemptɪŋ] *adj.* 吸引人的，诱人的，有吸引力的 | It's tempting to speculate about what might have happened. 大家不禁猜测，到底发生了什么事。

scroll [skroʊl] *v.* 滚屏，滚动 *n.* 长卷纸，卷轴 | Scroll down to the bottom of the document. 向下滚动到文件末尾。

antidote [ˈæntɪdoʊt] *n.* 解毒药，解毒剂；消除令人不快的事物，矫正方法 | Massage is a wonderful antidote to stress. 按摩是舒缓压力的一剂妙方。

epidemiology [ˌepɪˈdɪːmiˈɑːlədʒi] *n.* 流行病学

➤ 脉络梳理

- Para. 1 引出话题：运动有益心理健康
- Para. 2-3 分析原因：运动时肌肉收缩，释放肌细胞因子等化学物质，能够改善情绪
- Para. 4-5 分析运动对青少年的好处以及沉迷电子设备对青少年的危害
- Para. 6 提出建议：情绪低落时可以通过运动调节

➤ 长难句拆解

主句（全部倒装）

定语从句，修饰 myokines

Among these chemicals are myokines, which have been referred to as "hope molecules".