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The Brain in Motion

It's 6:30 AM, and all across Japan, the country takes part in a shared experience of movement. Radio calisthenics broadcast to homes, businesses, schools, and parks-- provides a daily, guided exercise routine designed to encourage stretching and light aerobic activity. And with over twenty-seven million people listening in and moving along, it's not just a token gesture; it's a normal practice in the nation with the highest life expectancy in the world. School children, salarymen, retirees all carving out time to start their day with a shared experience...of movement.

It's no surprise that our ancestors moved more than we do. After all, it was a matter of survival--and the need to gather food, escape predators, and survive in different environments fundamentally shaped human physiology. On average, an active hunter-gatherer would walk roughly seven miles per day. In contrast, the average, modern American notches under two per day.

You may already be thinking: *I get it. Exercise is good. Next topic.* And, yes, it is. But a vast majority of public outreach and discourse around movement, activity, and exercise focuses fully on its relation to overall body health--to the heart, to muscular composition, to body fat percentage. Your brain is made for movement. It learns from it. Responds to it. Craves it. And introducing even small amounts of exercise time can have crucial, monumental effects on mental well-being.

Let's take a quick look at your brain as it encounters moderate aerobic exercise--a brisk walk in the woods, or a game of pickup basketball. Your heart rate increases in response to the body's need for more oxygen. This sends increased blood, and thus oxygen, to all parts of the body--including the brain. The number of neurotransmitters like serotonin in your synapses increases, allowing you to process information more efficiently and improving mood. And levels of BDNF, the neurotrophin linked to brain growth, increase

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tremendously. All of these physical effects have measurable impact on mood, reasoning, and mental health.

Studies have shown, time and time again, the viability of an exercise routine as a treatment option for chronic stress and anxiety. On the biological side of things, the effects of increased exercise can literally open up the pathways and neural connections linked to stress reduction and improved mood. But consider, also, the psychological perspective. A 2018 study examined how developing a routine of regular exercise led many patients to acknowledge a greater sense of self-efficacy and self-awareness. The act of doing, and of moving, creates a fundamental shift in how people view their own ability to change their surroundings, alter their circumstances, and exhibit agency over their own lives. Likewise with depression; a 2019 study examined hundreds of thousands of people to more fully understand the link between activity and depression and came to the simple conclusion: *“Increasing evidence shows that physical activity is associated with reduced risk for depression, pointing to a potential modifiable target for prevention.”*

In general, the effects of exercise on mood are innumerable. It releases positive endorphins. It provides directed distraction from negative thoughts. It boosts self-confidence, self-efficacy, and self-image.

Then there are the effects on higher function, learning, and cognition. A study that measured and tested subjects' cognitive abilities before and after a session of aerobic exercise showed increased performance in memorization, problem solving, abstract thought, and attention. Exercise even helps the brain to grow, change, and adapt, and even mild amounts of aerobic activity have been shown to have positive effects on neuroplasticity and neurogenesis, and heightened levels of BDNF.

Remember, BDNF acts as a growth agent in the brain. During endurance exercise, another molecule called irisin is able to pass the blood brain barrier in increased amounts,

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bolstering the expression of BDNF in the synapses. In practice, this leads to a decreased chance of neurological diseases like depression and Alzheimer's. It fosters not just the protection of your neurons, but the creation of new ones. And it leads to better overall mental clarity and well-being.

So what does this all mean, in real terms? Simply put, you should be finding ways to get more activity into your schedule--the current recommendation is 150 minutes of aerobic activity per week, for adults. However, achieving this can be more difficult than it first appears, particularly for those suffering from symptoms of anxiety or depression. After all, the physical manifestations of depression--exhaustion, malaise, poor sleep, brain fog--act as fundamental barriers to summoning the motivation to get moving. This brings us back to that tedious cycle, wherein depressive symptoms encourage a sedentary lifestyle, which in turn feeds back into the depression.

That's why changing your habits around movement is such a fundamental piece to increasing your mental health and your mental fitness. This doesn't mean that you need to be exercising for 2+ hours every week or pick up a new sport or get a lot of equipment. It means that based on the most recent evidence, taking a few simple steps every day to increase the movement in your life has profound effects for your brain health and your mental health.

In the next section, we'll look a little more into developing a better plan for incorporating movement, but for now, try starting small. Even fitting in ten minutes to walk around the block can have an impact on your outlook and mood, and it will set a foundation to build upon and create future habits around movement

And, as a quick exercise, start thinking about the ways you experienced movement as a kid. How you felt. How you interacted with exercise. And how you had fun. Because as we move

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ahead, this will form a foundation for how we start to look at physical activity through a new lens. A lens that helps our brains get into grow mode, a lens that helps us to understand movement, to fight inflammation, and to promote better sleep, and through a lens that helps you create better habits you need to foster more movement in your life to best take care of your brain.