



Take Charge Of Your Health Today. Be Informed. Be Involved.

This month's Take Charge of Your Health topic is about the impact exercise can have on cognitive functioning. Cognitive functions are brain-based skills needed to carry out any task from the simplest to the most complex. When people have trouble remembering simple tasks, learning new things, reasoning or prob-

lem-solving, they have a cognitive impairment. This impairment can range from mild to severe and is more common as people age.

There are many ways to combat cognitive impairment. One way is through exercise. Of its many benefits, exercise increases a person's heart rate, which pumps more oxygen and

other nutrients to the brain to keep it healthy. Another cognitive benefit of exercise is that it reduces stress, which may help people cope with life's challenges. Now, more than ever, as we continue to deal with effects of the COVID-19 pandemic, having a strong coping mechanism is important.

COVID-19 has changed

the way we live. In terms of exercising, the pandemic has left people scrambling to find creative ways to exercise at home. There are still many things that we can do to keep our bodies and minds moving inside our homes and in our communities while we may not have access to gyms. As the weather warms up, it's a

great time to get outside for a walk or a jog because one thing remains certain—exercising both your brain and body is one important way that you can take charge of your health today.

Esther L. Bush, President and CEO
Urban League of Greater Pittsburgh



ESTHER L. BUSH

Exercise and Cognitive Function

As of 2014, an estimated 5 million people age 65 and older in the United States had Alzheimer's disease or some form of dementia. Though dementia mostly affects older people, it is not a normal part of aging. However, dementia has become so common that, chances are, everyone knows someone dealing with a significant decline in cognitive function. As these numbers increase, health care researchers want to know more about reducing people's risk of developing dementia.

One area of research with potential positive effects on

cognitive function is exercise. Many people know the healthful effects exercise has on the body and mood. But researchers are learning more about how exercise can also help brain function.

"We know that exercise is a good way of influencing the brain in a number of ways," says Kirk Erickson, PhD, professor of psychology at the University of Pittsburgh Dietrich School of Arts and Sciences. "It influences both the production and secretion of a variety of different chemicals in the brain, including certain neurotransmitters and growth



KIRK ERICKSON, PHD

factors. This increased release and production enhances the functioning of neurons, the communication between different parts of the brain and the integrity of various brain regions that we know are affected in the course of aging."

Dr. Erickson says that there is evidence-based research that the brain is not uniformly affected by aging; however, the areas that are more sensitive to aging do benefit from exercise. Researchers do not yet know the basic science processes that underlie beneficial outcomes to the human brain.

In the connection between exercise and cognitive function, Dr. Erickson is trying

interventions on brain health. As most people know from well-published research, exercise has numerous positive effects on the body. Among other benefits, exercise has been shown to reduce blood pressure, influence weight management and improve mood. People just may not always think of exercise as a way to improve brain health.

"I typically refer to exercise as a 'sledgehammer' to the body," says Dr. Erickson. "That sounds terrible, but exercise seems to influence many different cellular and molecular systems throughout the body. It benefits joints, the muscular system, blood pressure, vasculature to the heart, and

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to elucidate how much exercise—and also how often and for how long—reaps the most benefit for the brain. His lab's IGNITE study is designed for people 65 and older to engage them in exercise at various intensities and frequencies. One of the project's goals is to closely examine how much exercise is needed to have an effect on the risk of dementia or cognitive decline.

Another arm of Dr. Erickson's research is geared toward understanding the disparities that exist in dementia between Black and Brown populations and white populations. Dr. Erickson reports that African Americans and Latinx/Hispanic populations are at greater risk for dementia and often experience the onset of symptoms at earlier ages—but researchers do not know why. His REACT study, open only to African Americans, randomly places people in either a group that participates in African dance or a group that learns about the histories and cultures of Africa. The study is meant to compare and contrast the effects of physical activity and educational/instructional

the brain is not outside of this realm. It has a whole-body benefit."

In addition to advocating the whole-body benefits of exercise, Dr. Erickson says that, although it is better to start early in life, it is never too late to start exercising and experience its positive effects. Some study participants have told him that they think it is too late or that they are "destined" by genetics to develop certain health conditions.

"We still have so much to learn about how exercise helps brain health," he says, "but we know it does. It's never too late to think positively or be proactive about making exercise a habit for a healthier lifestyle."

To learn more about the IGNITE study, visit <https://pittplusme.org/studyarms/publicdetails?guid=dc7edf62-e4ca-4c3b-a653-a088aaf343ce> or call 412-463-4588. To learn more about the REACT study, visit

<https://pittplusme.org/studyarms/publicdetails?Guid=3000fd7a-a578-41fd-b6b4-89d0c8be3351> or call 412-389-0998.



IGNITE

