

# Physical activity helps protect the brain by lowering your cardiovascular risk factors.

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## Introduction

A new study looks into the mechanisms that play a role in the link between exercise and brain health. Larger grey matter volume has been demonstrated to help guard against dementia by enhancing brain function in previous studies. Insulin resistance and BMI are found to modulate the link between larger and smaller brain grey matter volumes, according to a new study (the part of the brain involved in processing information) [1].

## Glucose metabolism and brain volume are being investigated

The participants in the study were 134 persons with an average age of 69 and no memory impairments. A physical activity survey spanning the previous 12 months was completed by the participants. Brain scans were also used to assess glucose metabolism and brain volume. The brain generates Adenosine 5'-Triphosphate (ATP) as a result of glucose metabolism, which is a critical chemical for sustaining the health of neurons and other cells. ATP is also required for the production of neurotransmitters. Dementia patients have slowed glucose metabolism in their brains. Gray matter development peaks between the ages of 2 and 3. It starts to decline in some areas of the brain after that, but the grey matter density grows. This increase in density is responsible for the human brain's superior processing capabilities and growth from an evolutionary standpoint. Larger total brain volume, as measured by Magnetic Resonance Imaging (MRI), shows a slight link with better intellect in men and a very poor correlation with the capacity to perform well on intelligence tests in women, according to certain research [2].

Brain tissue degradation and volume loss, on the other hand, is a substantial factor to decreased cognitive function later in life. Researchers enrolled 134 participants with an average age of 69 who had no memory impairments in the new study. A physical activity survey spanning the previous 12 months was completed by the participants. Brain scans were also used to assess glucose metabolism and brain volume.

## The brain's health is influenced by BMI and insulin levels

Researchers gathered data on cardiovascular risk variables such as BMI and insulin, as well as cholesterol, blood pressure,

and other parameters, for the current study. The scientists looked into the link between insulin and cardiovascular disease. Insulin-induced metabolic imbalances increase the risk of cardiovascular problems, which impact brain function. Insulin and BMI levels had no effect on glucose metabolism in the brain, according to the researchers [3].

## A marker for Alzheimer's disease is unaffected

The study found that exercise had no effect on the quantity of amyloid plaque in the brain, which relates to Alzheimer's disease. This study adds to the growing body of evidence demonstrating the good effects of remaining active on brain function, particularly as we become older. There is a pressing need to find signs of cognitive deterioration, according to the researchers. Insulin levels can be reduced and weight can be lost by following a healthy diet and exercising regularly. It was unsurprising that increased physical activity was not linked to the amount of amyloid plaque in people's brains. There is mounting evidence that the quantity of tau pathology in the brain, rather than an amyloid burden, mediates the effects of vascular risk factors on cognitive function [4].

## Takeaway

Exercise has been dubbed "brain food," with numerous studies demonstrating its value in enhancing brain health and lowering the incidence of dementia. Physical activity improves cognitive brain function by lowering BMI and enhancing insulin metabolism, according to a recent study. Weight control can help slow the rate of brain volume decrease, which is a proven risk factor for dementia. The evidence shows that cardiovascular risk factors are linked to cognitive decline and the likelihood of Alzheimer's disease and other dementias. Studies into minor brain alterations that occur prior to the onset of dementia are crucial for improving brain health and preventing cognitive decline [5].

## References

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