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A big brain doesn't necessarily make us smart
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[A Bigger Brain Doesn't Always Make You Smarter](#)

Complexity is what gives human brain superior power

ENIAC versus a modern digital computer - which one is faster? Well, ENIAC weighed about 27 tons and filled several rooms while a modern computer weighs less than ten kilograms and you can fill a single room with several hundreds of them, so if we were to judge the computing power according to size then ENIAC would certainly win. However, the fact of the matter is that ENIAC had a computing power several times lower than that of a typical pocket calculator, therefore size doesn't really matter when it comes to computers. But what about the human brain? Since it's rather similar to a computer, does this rule still apply? According to researchers from the Wellcome Trust Sanger Institute, it does. Having a bigger brain doesn't always make you smarter. And what better way to demonstrate this theory than by comparing the human brain with that of various animals? Scientists previously thought that a large brain with a vast number of nerve connections was a sign of a superior intellect and that synapses were similar in most living creatures. The new study however shows that mammals have synapses with higher concentrations of proteins. "Our simple view that 'more nerves' is sufficient to explain 'more brain power' is simply not supported by our study. We found dramatic differences in the numbers of proteins in the neuron connections between different species", said Professor Seth Grant of the Wellcome Trust Sanger Institute. The study involving the investigation of 600 proteins found in mammalian synapses showed that 50 percent of them were also found in invertebrates and another 25 percent were shared by single-celled creatures that don't even have brains. Additionally, the brain of less evolved creatures contains simpler synapse proteins than that of vertebrates. "The molecular evolution of the synapse is like the evolution of computer chips - the increasing complexity has given them more power. This work leads to a new and simple model for understanding the origins and diversity of brains and behavior in all species. We are one step closer to understanding the logic behind the complexity of human brains", said Professor Grant.