

# Health Benefits of Being Multilingual

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**Abstract:** Some facts from different reliable scientific sources show that learning a new language can lead to some health benefits which can fight off aging of the brain and keep our brain young for a longer time, as well as delay the onset of dementia or ward off Alzheimer's disease that may occur in future.

**Keywords:** Languages, Bilingual, Multilingual, Polyglot, Brain

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## 1. Introduction

This study shows that bilingualism, even when acquired in adulthood, may benefit the aging brain (10; 2014). However, before listing the health benefits of being multilingual it would be useful to know some other positive sides that learning a new language can cause.

While speaking in different languages, you interact with people from different linguistic backgrounds. By learning new languages you also learn about various cultures. This makes us more aware of different people with different cultures or different backgrounds.

- Learning a new language bridges the gaps between different social groups. Unfortunately, sometimes, not knowing a language can become a barrier between people and put an end to the cooperation and friendship.
- Learning another language means you are ahead of everyone else compared to monolinguals.
- By learning one foreign language, at the same time you acquire new tools to learn another. The more language you learn, it becomes easier for another one to learn. To be multilingual can open doors to promotions and your business network may instantly expand.
- Bilingualism and multilingualism have many benefits to the country's economy. People who speak more than one language can enhance their country's economic competitiveness overseas, and help boost their country.
- Learning a new language can help you see the world from new perspectives. For instance, due to the reason, English is an international language billions of people speak in this language. If you miss the opportunity to

learn this language, it means you are missing out new opportunities and perspectives that expect you in future.

- Interestingly, it is hard to believe that learning a foreign language can also help us gain a better understanding of our native tongue, including vocabulary, grammar, pronunciation, and language structure. As Johann Wolfgang von Goethe said. "Those who know nothing of foreign languages know nothing of their own" is clear evidence that by learning new languages we start realizing our mother tongue functionally and theoretically and compare it with the other languages we learn. As a result, we discover some differing and similar points among languages.

## 2. Material and Methods

As linguists think that the power of language can influence the perceptions of people, similarly, doctors also think that the power of language can influence the brain itself in a positive way.

According to British Council research, people who are multilingual have a higher density of gray matter opens in a new tab or window, and that older people who are bilingual tend to have better-maintained white matter opens in a new tab or window in their brains. (1; 2014) As a result, it opens a new path in the brain to improve our thinking ability and enable us to compare whatever we see or think about comprehensively.

The same source implies that the human brain is stimulated when people use different accents, different styles of writing and different pronunciations. As a result, it aids

mental development and makes us think more, which it improves blood flow to the brain. Furthermore, it helps fight off “aging of the brain”. Furthermore, it provides exercise for mental muscles which consequently delays aging effects and finally keeps the brain young for a longer time. (3; 2015) To see bilingual or multilingual people and how they think about specific subjects is an ideal example compared with monolingual ones. For example, studies have proved that students who learn foreign languages score statistically higher on standardized college entrance exams than those who do not. Such as results from the Scholastic Aptitude Test (SAT) show that students who had studied a foreign language for 4 or more years outscored other students on the verbal and math portions of the test. (5; 2007)

For that reason, multi-lingual people are easily able to make decisions and solve problems. Psychologist Cesar Avila Rivera at the University of Castellon in Spain found in 2010 that bilingual adults are quicker and more efficient at certain tasks involving the use of skills known as executive functions, such as planning and problem solving. (3; 2015)

Similarly, the University of Pompeu Fabra in Spain revealed that multilingual people are better at observing their surroundings. They are more adept at focusing on relevant information and editing out the irrelevant. They're also better at spotting misleading information (2; 2015). It is almost certainly due to the fact that by learning foreign languages and new phrases language learners enrich their vocabulary stock and accordingly it enables them to spot mistakes or errors. Thus, such people with such skills usually become good proofreaders or editors in the end.

### 3. Discussions

Studies prove that learning languages change the brain. When you learn a new language, a part of our brain called gray matter becomes dense. According to lead researcher and professor of psychology, linguistics and information sciences and technology, our brain is much more plastic than we think. He pointed out that “We can still see anatomical changes in the brain in the elderly, which is very encouraging news for aging.” (6; 2014)

Unlike the researchers which we mentioned above, educators often liken the brain to a muscle, because “it functions better with exercise”. Learning a language involves memorizing rules and vocabulary, which helps strengthen that mental “muscle.” This exercise improves overall memory, which means that multiple language speakers are better at remembering lists or sequences. Therefore, bilinguals are better at retaining shopping lists, names, and directions (7; 2013).

The reason is after having memorized a large number of words, phrases or borrowings from different languages, it opens new ways for multilingual people to find the word's origin and compare similarities or differing points in them. After guessing the origin of unknown words belonging to certain products or names in view of that they can easily discover the meaning of the word. For example, if you

already know what one of three words mean in Chinese, “Mo Li” - “Jasmine”, “Hua” - “flower” and “Cha” - “tea”, you will never confuse which product to choose from the shop stand and you will not buy the wrong one.

Modern imaging techniques have been used for this purpose which allowed scientists to compare the brains of bilingual children with their monolingual peers. It seems that although language areas develop similarly, certain regions, such as the inferior frontal cortex appear to be more active in bilingual children when they are reading. (3; 2015) At the same time, many parents think that using two or more languages can result in confusion for their children. However, there is no sound evidence to support this idea.

In this raises such a question. Do languages have some power to prevent or delay some serious diseases like dementia or Alzheimer?

In 2007, a Canadian study found that people fluent in two languages tended to display the first symptoms of Alzheimer's four to five years after people who spoke just one language. (3; 2015) Scientists claim that the Alzheimer's disease is either delayed or warded off for people who are multilingual. (3; 2015)

In order to prove it, Ellen Bialystok, later scanned the brains of 450 Alzheimer's patients and found that although the patients all displayed a similar degree of cognitive function, the bilingual subjects' brains showed less atrophy and damage in regions involved in long-term memory, language recognition, and auditory perception. This suggests that being bilingual somehow protects the brain from cognitive decline, although it is continuing to degenerate (3; 2015).

For example, the experiment led by Ellen Bialystok and his colleagues is an undeniable fact how it plays a role to delay some diseases. According to Sweden's Karolinska Institute, Ellen Bialystok and his colleagues examined 102 longtime bilingual and 109 monolingual Alzheimer's patients who had the same level of mental acuity. About 24 million people have dementia worldwide, with the majority of them suffering from Alzheimer's. The bilingual patients had been diagnosed with the Alzheimer's about four years later than the monolingual patients, on average, according to Bialystok's most recent study, published in November in the journal *Neurology* (4; 2011). All these facts one more suggest how important are our language skills can be vital for us to prolong some diseases.

Then, scientists think that the benefits of bilingualism can begin in utero as well, as Janet Werker, a psychologist at the University of British Columbia, Canada, told the news briefing. Werker's and his colleagues' recent studies show that babies exposed to two languages in utero do not confuse their languages from birth. The mental workout required to keep the languages separate may create an "enhanced perceptual vigilance" that has lifelong benefits.

"What I'd like to suggest is the kind of advantages you've heard about [in aging] can be established from those first days of life, in [babies] having to keep the two languages apart. One of the things babies have is the luxury of time—they get the opportunity to really focus on the task at hand. If

we want to learn a second language, we need to set time aside to allow that to happen"—and evidence suggests the payoff is worth it. Werker said (4; 2011).

It is undeniable fact that babies feel even hear in the utero. They respond to sound from about 20 weeks. Hence, their first language lesson starts before they are born.

Another study of 40 7-month-old babies by The Language, Cognition, and Development Lab at the International School for Advanced Studies in Trieste, Italy also suggests exposure to more than one language at an early age has benefits. Half of the babies in this study came from homes where two different languages were spoken. The experiment involved using a computer where characters were displayed on one of two screens just after word-like sounds were played. Researchers tested the babies' ability to anticipate upon which screen a character would appear based on various sounds. Only the babies from the bilingual homes were able to use the newly learned sounds to predict where the cartoon would appear. The author of the study, Jacques Mehler, points out that this skill can apply to more than just the ability to switch between languages (8; 2010)

In another study, published online in the journal *Brain and Language*, lead researcher Dr. Viorica Marian and her team used functional magnetic resonance imaging, to look at the co-activation and inhibition in individuals who spoke more than one language. According to the press release, volunteers were asked to perform language comprehension tasks. This included hearing a word and then being asked to look at a corresponding photo. For example, after hearing the word "cloud" they would be shown four pictures, including a picture of a cloud and a picture of a similar-sounding word, such as "clown." The goal of the experiment was to see how well the participants were able to recognize the correct word and ignore the similar-sounding competing word.

Results showed that bilingual speakers were better than their one-language speaking counterparts at filtering out the competing words. This is believed to be because their brains are already used to controlling two languages and inhibiting the irrelevant words (11; 2014).

Hence, all these aforementioned facts show that to learn languages is highly recommended and each of us needs to learn at least one additional language.

## 4. Conclusion

Facts from National Geographic News, Discovery, BBC News, Penn State University, University of Castellon, University of Pompeu, Sweden's University of British Columbia, Karolinska medical institute, Medical Daily, The international school of advanced studies, journal *Brain and language*, *EL Gazette*, NEA Research, *The Telegraph*, and British Council etc. allowed us to explore this topic.

Consequently, all these facts show that this hypothesis has proved itself right. There exists some benefits especially health benefits in learning a new language, which can improve blood flow to the brain, fight off aging of the brain and keep the brain young for a longer time, over and above

improve our cognitive skills, and delay the onset of dementia or ward off Alzheimer's disease that may occur in future.

By speaking in different languages, we intermingle with people from different linguistic backgrounds. We also learn about various cultures. This makes us more aware of different people with different cultures or different backgrounds.

to sum up:

a) Learning languages bridges the gaps between different social groups. Unfortunately, sometimes, not knowing a language can become a barrier between people and put an end to the cooperation and friendship.

b) Learning a new language means we are ahead of everyone else compared to monolinguals.

c) By learning one foreign language, at the same time, we acquire new tools to learn another. The more language we learn, it becomes easier for another one to learn.

d) This can open doors to promotions and your business network may instantly expand.

e) Bilingualism and multilingualism have many benefits to the country's economy as well. People who speak more than one language can enhance their country's economic competitiveness overseas, and help boost their country.

f) Learning a new language can help you see the world from new perspectives. For instance, due to the reason, English is an international language, billions of people speak in this language. If you miss the opportunity to learn this language, it means you are missing out new opportunities and perspectives that expect you in future.

g) Learning a foreign language can also help us to gain a better understanding of our native tongue, including vocabulary, grammar, pronunciation, and language structure. As Johann Wolfgang von Goethe said. "Those who know nothing of foreign languages know nothing of their own" is clear evidence that by learning new languages we start realizing our mother tongue functionally and theoretically and compare it with the other languages we learn. As a result, we discover some differing and similar points among languages.

Taken as a whole, linguists think that the power of language can influence the perceptions' of people, in the same way there exists another power as well, which can influence the brain itself in a positive way.

Learning a new language opens a new path in the brain which improves our thinking ability and enables us to compare whatever we see.

As mentioned earlier, after learning a large number of words, phrases or borrowings from different languages, it opens new ways for multilingual people to find the word's origin and compare similarities or differing points in them. In this way, they can discover the meaning of the word.

It is undeniable fact that babies feel even hear in the utero. They respond to sound from about 20 weeks. Hence, their first language lesson starts before they are born.

As a final point, all these aforementioned facts show that to learn languages is highly recommended and each of us needs to learn at least one additional language.

To sum up, we come to this conclusion that learning

languages can:

- 1) Improve blood flow to the brain.
- 2) Fight off aging of the brain and keeps the brain younger for a longer time.
- 3) Improve cognitive skills
- 4) Delay the onset of dementia
- 5) Ward off Alzheimer's disease

As York Bialystok said, "even if you don't learn a second language until after middle age, it can still help stave off dementia. Being "bilingual is one way to keep your brain active—it's part of the cognitive - reserve approach to brain fitness and when it comes to exercising the brain by learning another language. The more the better—and every little bit helps." (4; 2011).

As Matt Leonard, a neuroscientist at the University of California, San Francisco said "Certainly the more efficient you can make the brain when you're younger, the more likely it is to have less decline with aging" (9; 2013).

All these, quite evidently shows that the brain needs exercise, and the more the brain is multilingual, the more multifunctional it becomes.

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