

The important role that your diet plays in keeping your brain healthy and your mind alert.

FEED YOUR BRAIN!

BY DELIA MCCABE

The brain is an organ made of flesh and blood just like the rest of the body, and it's a fascinating area of science to investigate. However, the brain also has a deeper, more personal meaning to us. It's the seat of our entire being. It underpins how we love, how we hate, how we grieve, and the way we think, plan, imagine, dream and learn.

If you want to preserve your mind and the essence of who you are, you must focus on preserving your brain. Because thinking is a pattern of cellular activity that occurs across a vast network of cells, chemicals, membranes and molecules, it's possible to influence the brain's functioning in the same way that we influence our body's functioning.

An alarming statistic is that 11 per

cent of the United States population over the age of 12 is using antidepressant medication. Americans alone spent more than \$US11 billion on antidepressants in 2010.*

There are, of course, a multitude of converging reasons for a mental health problem to occur. However, the brain, being made from the same flesh and blood as the rest of the body, requires specific nutrients to operate optimally. It will become less capable of managing effectively in today's overwhelming world if it isn't nourished properly.

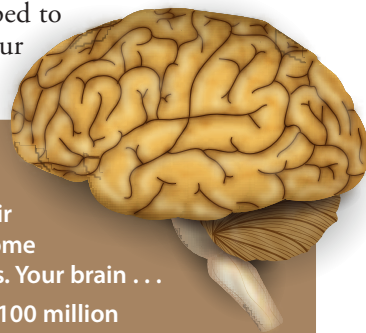
There's scientific evidence to support the fact that what you eat directly influences your mood, behaviour, concentration, learning and memory. You can literally feed your brain to be happy or sad and help it to learn and remember things

much more efficiently by simply changing the kinds of foods you eat.

While completing my master of psychology degree, I was working with a group of very smart adolescents. Although they were all capable of achieving well at school, many were, in fact, doing very poorly. I had a bit of extra space on one of the questionnaires I'd asked them to complete, so I threw in a few questions about what their favourite foods were. All the adolescents who were battling at school loved junk food, whereas the control group—the group who were smart and doing well—didn't!

I've found that most people don't associate what they eat with how their brain is functioning. If they're forgetful or moody or battling to learn something new, they often look for other reasons to explain why they're feeling that way. Feeding your brain what it needs is a natural way to feel happier and enjoy more stable moods.

If you know what various nutrients do in your brain and why they are critically important for optimal brain function, you'll be better equipped to choose your foods



our amazing brain

It's a myth that humans use only 10 per cent of their brain. All the parts of the brain are used, though some people use their brains more efficiently than others. Your brain . . .

- ▶ weighs between 1.3 and 1.4 kg, about 2 per cent of body weight
- ▶ uses 25 per cent of the oxygen that you breathe—every fourth breath
- ▶ uses up to half of the glucose that your body produces from carbohydrates for its energy requirement
- ▶ needs 22 times the amount of metabolic energy per unit of tissue, compared to the same amount of muscle tissue
- ▶ uses 20 per cent of the heart's output of blood, which is 25 times more blood than the equivalent weight of resting tissue
- ▶ receives and processes approximately 100 million pieces of information at any given moment
- ▶ transmits information between neurons as slowly as 0.5 m (1.6 ft) per second or as fast as 120 m (390 ft) per second, which is about 430 kph (268 mph)
- ▶ uses one-fifth of your heart's activity
- ▶ has some 160,000 km (100,000 miles) of blood vessels
- ▶ grows new neurons in response to mental activity
- ▶ closes down consciousness in eight to 10 seconds after the blood supply is cut off.

FREEMIC

appropriately. Food is actually information, and it can lead to optimal brain function or dysfunction.

A stressed brain uses up more nutrients than a calm, relaxed brain, and it also produces many more damaging cells called free radicals. Concentration, focus, memory and mood all occur across an enormous network of sophisticated, interconnecting brain cells called neurons. Each of these specialised cells depends on an optimal supply of nutrients from the food you eat in order to work smoothly and efficiently. Without the right nutrients, your brain is incapable of working effectively.

lifestyle choices and cognitive wellbeing

Lifestyle choices will influence both physical wellbeing and mental health. Research shows that cognitive decline isn't inevitable with age and that there are, in fact, specific things you can do and other things you can avoid that can prevent cognitive decline. The brain's grey matter is made up of millions of neurons that can thicken or shrink, and the connections between these neurons can be strengthened or weakened, or new ones can be created. These changes on the physical terrain of the brain give new instructions to the body, which manifest as new abilities and skills.

Dr S Sabia was the leader of

the Whitehall study (2009) of the health behaviours of people as predictors of later cognitive function. The study results were fascinating. They showed how much control we have over how our brains age. The number of unhealthy behaviours we adopt—such as smoking, low physical activity, low consumption of fresh produce—and the duration of these behaviours are associated with cognitive decline in later life.

Another recent study led by Dr Tasnime Akbaraly, a researcher at the French National Institute of Health and Medical Research, examined the impact of diet on overall health in older people and found that a high intake of fried and sweet foods, as well as processed foods, red meat, refined grains and high-fat dairy products, led to less healthy outcomes than a diet focused on whole foods such as wholegrains, polyunsaturated fats, nuts, fruits and vegetables. In addition, they found that mental and cognitive functions are influenced negatively by poor food choices.

Another large research study led by Dr Martin-Löf, who held a joint chair of Mathematics and Philosophy at Stockholm University, looked at factors that led to good health. The researchers summed up their findings and declared that there are five primary areas that we need to keep in mind when we look at how we feel, how we are ageing and what our health status is:

1. Never smoking
2. Having a body mass index (BMI) lower than 30
3. Being physically active for 3.5 hours per week
4. Following healthy dietary guidelines, such as a high intake of fruits and vegetables and wholegrain bread and low consumption of meat
5. Avoiding the use of alcohol.

diet: the simplest way to influence your brain

All the research points to prevention being better than cure. This is not a new idea. If you want a brain that's going to work well into old age, you need to start thinking about its welfare before you suffer from any mental complaint. It's much harder to get yourself well than it is to keep yourself well.

our plastic brain

"My mother lived on French fries and ice-cream while pregnant with me," said Tess. "No surprise, I love them. I know obesity will likely shorten my life, but there's nothing I can do about it. Genetics . . . epigenetics—" she waved her hand dismissively.

"Actually," her coach replied, "genetics may contribute 30 per cent, but 70 per cent of how long and how well you live is in your hands. If you think you can or you think you can't, you're right. Your brain can only do what it thinks it can—and you tell it what it can think and do."

"Oh, well, big is beautiful," Tess said, shrugging.

Big may be beautiful, but obesity is linked with diseases that aren't so beautiful and can negatively impact your brain's function. Generally, there is something you can do about it, since brain software is somewhat plastic, meaning that it can alter its software, at least to some extent.

Obesity is associated with hyperactivation of the brain's reward system that prefers high-calorie rather than low-calorie foods. This in turn encourages unhealthy food selection and overeating. The brain's reward system is triggered by seeing, smelling, thinking about and picturing high calorie foods. Researchers at Harvard and Tufts universities released the results of a new MRI pilot study, which suggests that it's possible to reprogram the brain's reward system not only to stop responding to high-calorie food cues but also to respond to healthier low-calorie ones.

That pretty much puts health and longevity squarely back in your corner. You trained your brain to begin with; you can retrain it. Being healthy is beautiful!

—Dr Arlene R Taylor

We eat several times every day. While eating provides nourishment to fuel our brain and body, it's also a great source of pleasure and provides an opportunity to interact with our loved ones and friends. Using food to keep your brain working well, once you identify the best brain-supportive foods, is the simplest way to stay sharp. Because nutrients go to work very quickly either to support great mental function or to undermine it, you can quickly see a cognitive "result" after eating. Although coffee can give you a very quick energy hit, a snack that provides good fats, protein and unrefined carbohydrates such as a handful of almonds or goji berries or sun-dried tomatoes, will provide an energy boost that won't drop off quickly, because it helps to keep blood glucose levels stable.

Eating well to support your brain is also very simple once you know how

to do it. It's a lot simpler than following complex computer games, doing Sudoku or learning a new language, although these activities also improve cognitive functioning. But you probably can't do them quite so regularly as eating!

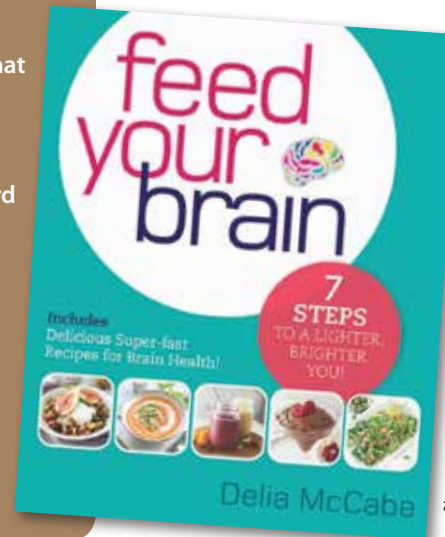
How does food improve your brain? The simple answer is that food can help to:

- improve your clarity of mind
- increase your speed of thinking or cognitive processing
- enhance your ability to pay attention
- lengthen the amount of time in which you can concentrate
- improve your memory and learning capacity
- improve and sustain your positive mood.

your choices

We have choices supported by science: choices for people who may believe that they have no control over how their brain works and ages; choices for people who fear that their genes are their destiny and that the statistics of mental illness, brain disease and disability are inevitable for them.

When you focus on ill health and disease, you'll see nothing but hopelessness and despair. When you focus on all the research, you'll quickly see that you have choices, and you'll understand that statistics aren't destiny. By simply making different choices, you can experience profound change, both mentally and physically. ↻



Feed Your Brain is available from www.exislepublishing.com.au and wherever good books are sold.

*Australia has the second highest level of antidepressant consumption of all OECD countries, with taxpayers spending in excess \$A330 m annually subsidising antidepressant medications.