

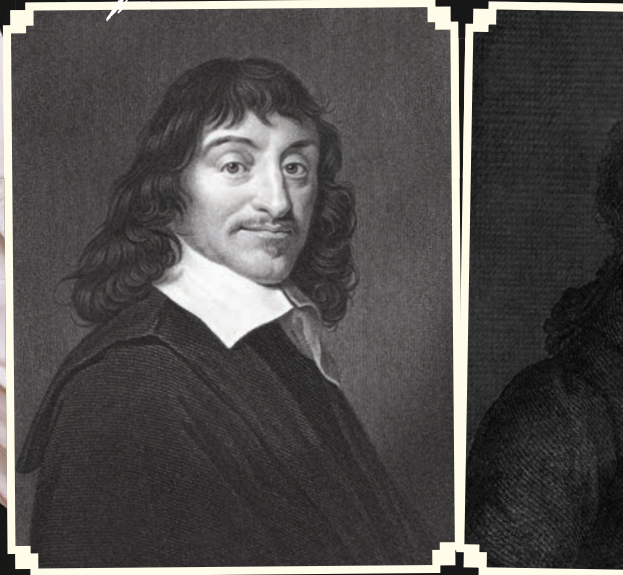
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# HOW SMART are you *really*?

[[The new IQ]]



'I think, therefore I am  
a flipping genius.'





$$A(v) = \gamma(v) \begin{pmatrix} 1 & v \\ \alpha v & 1 \end{pmatrix}$$

$$\gamma(v) = \frac{1}{\sqrt{1 - \alpha v^2}}$$

$$A'^0 = \frac{A^0 - \frac{v}{c} A^1}{\sqrt{1 - \frac{v^2}{c^2}}}$$

Let's be honest, we'd all like to know how smart we are (what if you're an untapped genius?) and how to make ourselves smarter. But the identification of new types of intelligence, along with well-documented self-delusions, make grading our own cleverness tricky. Here's how to gauge your brain and get it to work better.

Words: Harriet Edmund

**I**ntelligence *n.*  
1. *capacity for understanding; aptitude in grasping truths, facts, meaning, etc.*

The *Macquarie Dictionary* is a good place to start this report – after all, discussing contextual characteristics of something demands a fundamental definition, right? And since psychology golden boys Dunning and Kruger declared that many of us are deluded about how clever we are, thanks to a well-studied cognitive bias – the Dunning-Kruger effect – we clearly can't be trusted to gauge our own smarts.

Macquarie seems to be saying that intelligence is, oxymoronically, a fixed set of variables. Or rather, aptitude at reading the state of play and adapting. Which makes sense insofar as it mirrors many skills. It's one thing to hit winning forehands in

the closed environment of a tennis lesson, with its basket full of balls and affable coach. Hitting the same winner when a ball is flying towards you, and subject to surrounding air flow, is quite another matter. That's what separates Tuesday morning ladies' comp from the Australian Open.

According to Melbourne psychologist and neurologist Ben Buchanan, being truly intelligent is about responding to your environment to achieve your goals.

"In this world of social relationships, what's the point in having a high IQ if you can't get what you want from life because you have poor social skills?" he says.

So if you can fail miserably despite ranking highly on traditional measures of intelligence and aptitude, and succeed based on how well you learn from your mistakes, is there any point knowing whether you're a prodigy or not?

### Hypotheses hype

Many brainiacs have canvassed different ideas about intelligence.

There's the multiple intelligence theory, coined by Howard Gardner in the early 1980s. He says there are eight types of intelligence: musical-rhythmic, visual-spatial, verbal-linguistic, logical-mathematic, bodily-kinesthetic, interpersonal, intrapersonal and naturalistic.

Robert Sternberg's triarchic theory is based on measuring componential, experimental and practical categories. Sternberg suggests intelligence is how well you deal with environmental changes throughout your life – which leads to modern intelligence crusaders, who say emotional and social intelligence are more important than academic achievement.

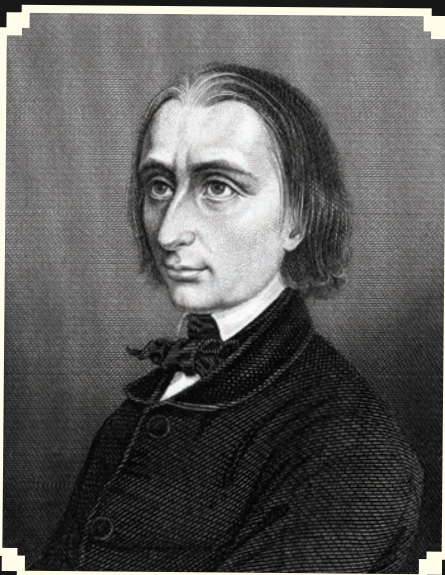
In his book *Emotional Intelligence: Why It Can Matter More Than IQ*, psychologist

and science journalist Daniel Goleman says the modern view of human intelligence is far too narrow. He writes that emotions play a major role in thought, decision-making and individual success.

### IQ is a one-trick pony

Chances are your IQ score will be somewhere between 85 and 115 points along with two-thirds of the population.

If your score is above average, or you meet criteria for high or superior intelligence against the Wechsler Adult Intelligence Scale's 60 questions in 30 minutes, good for you. But it's worth noting that job recruiters often look for people with an average – not astral – IQ. "Agencies purposefully seek people of average intelligence so the person won't get bored or frustrated in the role," says Buchanan, a doctor of clinical psychology at Victorian Counselling &



## Genius or eccentric?

Technically, a genius is anyone who logs 145-plus on an IQ test. But there's a fine line between people considered brilliant and those thought to be, well, mad.

The meaning of the term 'genius' is arbitrated by tastes of the day and whether society values what a person is doing, says Buchanan.

After all, Claude Monet is now considered an artistic genius, but back in the day, his impressionistic work was heavily ridiculed

and controversial.

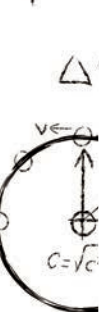
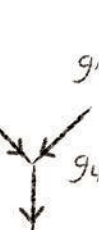
Many greats in artistic spheres from fine art to philosophy were either institutionalised for insanity or unofficially diagnosed in public commentary.

What's more, you don't need to be a master at one skill to be considered a genius, adds Professor Haslam. Asked what it takes to be a genius, he says: "A mixture of very high intelligence, high creativity, good luck and a lot of hard work."

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## BEST BODY >> LOVE IT

$$-2-p^2c$$



$$A_\alpha =$$

Psychological Services.

And anyway, reducing intelligence to a number, your IQ, won't accurately reflect your holistic wit if you're strong in one intelligence style but not another, adds Buchanan.

### Types of intel

Whiz with numbers but tragic with maps? This one's for you. Pleasingly for those of us with such polar strengths and weaknesses, an IQ assessment result reflecting a marked discrepancy between acumen and aptitude is likely to be disregarded.

"More insight can be gained from looking at the patterns of strengths and weaknesses across the multiple intelligences," says Buchanan.

When it comes to increasing your IQ, the evidence that intelligence can be substantially boosted is mixed, and over-hyped, says Professor Haslam, head of the Melbourne School of Psychological Sciences. But there's no harm in believing it's possible. "This will only motivate you to try harder to master tasks," he

says. Plus, there's the Flynn effect to consider. Since the start of the 20th century, every 10 years, IQ levels have increased

by three points. Researchers put the brain boost down to better education, health care and nutrition. A general move towards smaller families also means more time and money is spent educating fewer children.

### Instant brain boost

While the standard thinking says your brain's left hemisphere is all about logic and reason and the right is about intuition and emotion, there are ifs, buts and nuances, says Professor Haslam.

"Intelligent thinking and behaviour requires the coordination of the whole brain. However, there are some parts of the brain that are specialised for some of the skills involved in aspects of emotional intelligence, such as recognising emotions expressed in the face and inferring other people's mental state, while creativity requires an associative style of brain functioning rather than a purely linear or logical mindset."

Verbal processing usually uses the left side of the brain, so intelligence tests that rely on vocabulary, verbal reasoning and comprehension will largely assess your left hemisphere function. And the MRIs Buchanan has studied suggest that more educated

patients log bigger disparities between the right and left side of their brains. So, surely the more we continue learning – professional development, TED talks, whatever – the more our brains will grow, along with our intelligence, right? Not likely, especially if you believe neuroscientist Jay Giedd, from the National Institute of Mental Health in the US. He recently found that the brain is fully developed by age 25, and deteriorates from then on!

Once your mid-20s pass you by, your best hope of improving your smarts is to learn from your mistakes and welcome feedback about your weaknesses, says Buchanan.

### The care factor of clever

Just because you're a clever cat does not mean you will be successful – or happy – in life, says Stephanie Kakris, of High Performance Coach. What's more, being 'gifted' at school is no guarantee of a celebrated adulthood.

Kakris advises forgetting about your intelligence level and focusing on your strengths.

"The two strongest qualities a person can possess are determination and persistence," she says. "The ability to continue to work towards your goals in the face of setbacks is critical to success."

Realising your weaknesses and being open to addressing them won't necessarily boost your IQ score, but it can help you get what you want out of life. "It's the best way to avoid the mistakes you've been

making over and over again while being blissfully unaware of them," adds Buchanan.

Little wonder, then, that personality plays into how real world-smart you are. The personality characteristics of conscientiousness (paying attention to other people's needs), the inclination to plan ahead and being open to new

experiences are considered more valuable than having a high IQ, concludes Buchanan.

And you don't need to be Descartes' cousin 21 times removed to do that.

### Wise up, woman

If you are on a mission to improve your IQ, here are Buchanan's tips for each of the four main domains assessed:

#### Verbal comprehension >>

① Read as much as possible – and not just this magazine or the news headlines on Twitter. Reading novels improves brain connectivity according to a 2013 Emory University study.

② Don't know the meaning of a word, or think you only have the gist of it? Look it up so you really understand how to use it in the right context.

#### Processing speed >>

① While it's difficult to increase how quickly you process information, it is possible, says Buchanan. Try recording what you're listening to and play it back later.

② Take your time. Improve the way you absorb information by asking for, and giving yourself, more time to get the answer right.

#### Perceptual organisation >>

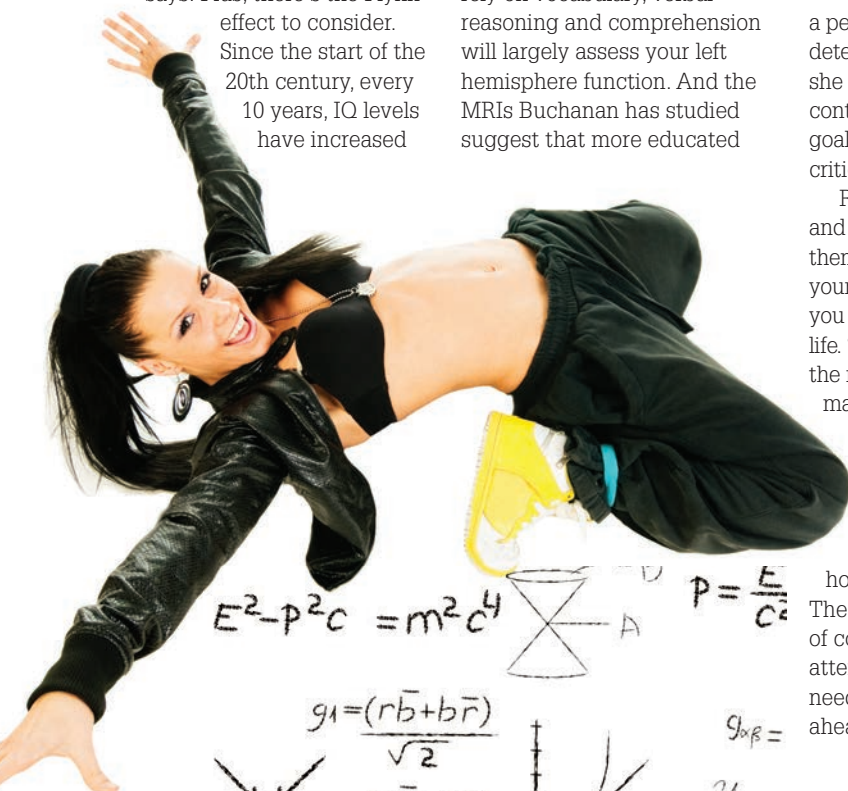
① Improve your abstract reasoning with word and number games such as crosswords and Sudoku.

② Don't always take for granted that you will come up with the right answer in your head; writing things down gives a handy visual reference when problem solving.

#### Working memory >>

① Mnemonics such as rhyming and acronyms have been proven to help store information in your brain.

② Breaking information into chunks, especially numbers, can help you remember more at one time. "People can generally remember five to nine numbers," says Buchanan. The chunking method can triple that.





# 5 ways to IMPROVE YOUR INTELLIGENCE

Wrap your thinking chops around the latest brain research to get an unfair cerebral advantage. (Einstein.)

## 1. MEDITATE

Meditation improves memory, increases brain size, makes both brain hemispheres work together and enhances emotional intelligence according to the Exploration of Consciousness Research Institute. Plus, a 2012 study published in *Frontiers in Human Neuroscience* found that participating in an eight-week meditation training program had measurable effects on brain function, even outside of active meditation.

**TRY »** There are various meditation practices, which the Australian Teachers of Meditation Association says broadly involve turning the mind and attention inward and focusing on a single thought, image, object or feeling. A quiet space makes meditation easier and you don't need to take up any particular posture; just be comfortable so that you don't need to readjust part way through the practice. Kakris, who teaches meditation, recommends starting with a guided meditation using an app such as Relax and Rest, which gives five-, 13- or 20-minute options with music or nature sounds.

## 2. PLAY GAMES

The jury is still out on whether cerebral exercises have any long-term effect on mental performance. "The main problem is that although people can

train themselves to do better on particular tasks, the performance improvement rarely generalises to other tasks and abilities," says Professor Haslam. But a 2008 study called Improving Fluid Intelligence with Training on Working Memory was the first research to show it might be possible to increase your intelligence to a significant degree through training.

**TRY »** Neuroscientists have designed a series of games called Lumosity to help challenge certain parts of your brain. The online and smartphone resource lets you exercise core cognitive abilities whenever and wherever you like.

## 3. REST UP

Nothing will drain your brain faster than sleep deprivation. "Being well rested means you will use your cognitive skills more efficiently; tiredness, anxiety and stress interfere with mental clarity, focus and concentrated effort," says Professor Haslam.

**TRY »** Sleeping even seven hours a night will slowly add up to a costly sleep debt when it comes to brain function according to recent studies by the University of Pennsylvania and the Walter Reed Army Institute of Research. Getting six hours a night for two weeks resulted in participants having the "cognitive equivalent of being legally drunk". Aim for eight hours or more every night!

## 5. NETWORK

Networking is the perfect way to boost your know-how and social intelligence. "A big part of success in life is the ability to build strong interpersonal relationships – be they in a netball team, a family unit or at work," says Kakris.

**TRY »** Mixing with new people, ideas and environments opens you up to new opportunities for cognitive growth. Ideally, networking is done through face-to-face interactions, but Andrea Kuszewski, a behaviour therapist from Florida, told a 2010 Harvard University intelligence seminar that social media can also be used to realise your cognitive potential. ■

## 4. KEEP FIT

Physical exercise – the type that really gets your heart pumping – has been proven to have long- and short-term brain benefits. New research from Boston University School of Medicine shows physical activity is beneficial for brain health and cognition. The findings published in *Behavioral Brain Research* suggest that certain hormones, which increase during exercise, may help improve memory and processing speed.

**TRY »** Get at least 30 minutes of moderate-intensity physical activity into most, if not all, days of the week. You can break it into short bouts such as three 10-minute sessions each day.

