

BUSTED

IT'S COMPLICATED

BUSTED

MOSTLY MYTH

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● A FREE GUIDE FOR THE SCEPTICAL

10 *myths* about intelligence.

The brain facts everyone repeats at parties — fact-checked against the actual research, one rubber stamp at a time.

Let's start with the ones you've definitely heard.

Some brain myths are so widespread that they show up in movies, classrooms and job interviews. The research on these three is not ambiguous.

Myth • 01

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“You only use 10% of your brain.”

Imaging shows activity across **virtually the whole brain**, even during sleep. There is no dormant 90% waiting to be unlocked — damage to almost any region has consequences, which is exactly what you'd expect of an organ with no spare parts.

Boyd (2008); Herculano-Houzel (2009)

Myth • 02

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“Some people are left-brained, some are right-brained.”

A study of **1,011 resting brains** found no evidence that individuals preferentially use one hemisphere. Specific *functions* lateralize; whole *personalities* don't. Creativity and logic both recruit networks on both sides.

Nielsen et al. (2013)

Myth • 03

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“Teach to my learning style and I'll learn better.”

People genuinely **prefer** visual or verbal material — but decades of studies find no boost from matching instruction to the preferred style. What reliably helps everyone: spacing, retrieval practice, and sleep.

Pashler et al. (2008)

RULE OF THUMB

“If a brain fact fits on a bumper sticker, it's probably been in an accident.”

The ones someone is trying to sell you.

Where there's a myth about getting smarter, there's usually a product attached. Here's what holds up once the receipts come out.

Myth • 04

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“Brain-training games raise your IQ.”

Training reliably improves **the practiced game** — and that's about it. A landmark review found no convincing evidence of transfer to general intelligence or everyday cognition. (One major app maker paid a \$2M settlement over these claims.)

Simons et al. (2016); FTC v. Lumos Labs (2016)

Myth • 05

MOSTLY MYTH

“Listening to Mozart makes you smarter.”

Meta-analysis of ~40 studies: the “Mozart effect” is a **tiny, short-lived arousal bump** that anything mildly stimulating — coffee, a brisk walk, music you actually like — reproduces. No lasting gain, no special Mozart ingredient.

Pietschnig, Voracek & Formann (2010)

Myth • 06

IT'S COMPLICATED

“IQ is fixed at birth — you've got what you've got.”

Genes matter a lot — but so does life. Each extra year of education adds roughly **1-5 IQ points**, whole populations gained ~3 points per decade across the 20th century, and sleep, health and practice all move your measured score today.

Ritchie & Tucker-Drob (2018); Flynn (1984)

RULE OF THUMB

“If a product promises to raise your IQ, the only number going up is the price.”

The ones that are *almost* right.

Myth • 07

“IQ tests only measure how good you are at IQ tests.”

Scores correlate — imperfectly but consistently — with school performance, job performance and even health outcomes. They measure **something real, but narrow**: not wisdom, not creativity, not character.

Deary et al. (2007); Schmidt & Hunter (2004)

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Myth • 08

“Smart people are smart at everything.”

Abilities do correlate (the famous “positive manifold”), but nearly everyone’s profile has **peaks and valleys** — brilliant verbal reasoning next to average spatial skill is completely normal. That spread is the interesting part.

Spearman (1904); Carroll (1993)

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Myth • 09

“Memory works like a video recording.”

Remembering is **reconstruction, not playback**. Each recall rebuilds the memory — and can quietly edit it. Confident, vivid memories can be demonstrably false, which is why eyewitness testimony gets independent corroboration.

Loftus (1974–present)

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Myth • 10

“It’s all downhill after 30.”

Only **one** of your mental clocks winds down early. Raw puzzle-solving speed peaks in the mid-20s, but vocabulary, knowledge and judgment keep climbing into the 60s. Different abilities, different trajectories.

Horn & Cattell (1967); Salthouse (2019)

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What survived the stamp?

Not much. The pattern across all ten: **the brain has no cheat codes** — but it does have real, measurable structure. The honest way to learn about yours isn't a myth; it's a well-built test.

6**BUSTED**

10% brain, left/right people, learning styles, brain training, video-tape memory, downhill-after-30.

3**IT'S COMPLICATED**

Fixed IQ, "tests measure nothing," smart-at-everything — each holds a grain of truth wrapped in exaggeration.

1**MOSTLY MYTH**

The Mozart effect — real for about ten minutes, and coffee does it too.

YOUR MOVE

Skip the myths. *Measure.*

MindSpan's tests are built in the style of the classic research instruments — timed, multi-domain, and scored on the real bell curve.

Raven's-style matrices	pure fluid reasoning	36 items · 20 min
Stanford-Binet-style	five domains, one profile	50 items · 45 min
WAIS-style	the full four-index workout	48 items · 45 min

Your welcome grant of **1,000 neurons** covers your first tests.

mindspanlabs.app**SOURCES & FURTHER READING**

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