The Top 7 Ways to Boost Cognitive Function

Source: FoundMyFitness Clips (YouTube) – Dr. Rhonda Patrick

Link: Watch the original video

Summary generated with ChatGPT 5.1 - High (OpenAI)

Unofficial summary; may contain errors. Refer to the original video for complete and accurate information.

Notice:
This text summarizes a video that is derived from a longer version: Watch the full video.
Refer to the full video for complete information.

Overall framing

The discussion focuses on **science-backed ways to enhance cognitive function**—things like focus, memory, executive function, processing speed, and mood.

The speaker groups them into:

- **“Big movers”** – powerful effects but require effort (mainly exercise)
- **“Low-hanging fruit”** – easier interventions (diet, supplements) that still produce measurable cognitive benefits

She then walks through seven major strategies.

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1. Vigorous Exercise (the biggest “mover”)

Core idea: Vigorous physical exercise is the most powerful, well-supported way to boost cognitive function across the lifespan.

Key details

- Works in **older adults, middle-aged adults, and children**.
- Improves:
  - **Memory**
  - **Executive function**
  - **Processing speed**
  - Mood and overall “feeling smarter / sharper”

Mechanism

- Vigorous exercise (around **75–80% of maximal heart rate**, where you're sweating and breathing hard) forces muscles to:
    - Use **glucose without enough oxygen** → produce **lactate**
    - **Lactate** signals the brain to increase **BDNF (Brain-Derived Neurotrophic Factor)**.
- **BDNF**:
    - Promotes **neuroplasticity** (the brain's ability to adapt and change)
    - Supports **growth of new neurons**, especially in the **hippocampus** (key area for learning and memory)

Example study

- Older adults underwent a **1-year exercise intervention** with vigorous intensity (about 75–80% max heart rate).
- Result: **~2% increase in hippocampal volume**.
    - Normally, people in that age group **lose 1–2% per year**.
    - So exercise didn't just slow loss—it **reversed it relative to the expected decline**.

Practical takeaway

- Even **10 minutes of vigorous exercise** can improve **executive function and processing speed**.
- Can be:
    - **HIIT (high-intensity interval training)** – intervals of high effort and rest
    - A **continuous hard run** (e.g., 20 minutes at a vigorous pace)

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2. Daily Multivitamin (especially in older adults)

Core idea: A basic multivitamin can improve cognition and slow brain aging in older adults.

Evidence

- **Three large randomized, placebo-controlled trials** (combined ~5,000 participants, all **65+**), called the **COSMOS (or "Cosmo") trial**.
- Compared multivitamin vs placebo.
- Results:
    - **Improved cognition**
    - **Slowed brain aging by ~2 years** (based on cognitive testing)

Rationale

- Multivitamins provide **micronutrients** many people lack:
    - **Magnesium**
    - **B vitamins**
    - **Folate**
    - **Vitamin K**
    - And others
- These are involved in brain energy metabolism, neurotransmitters, and protection from oxidative stress.

Context

- About 10 years ago, some large analyses claimed **multivitamins were useless**; she criticizes those older studies as poor quality.
- New, better-designed RCTs show the **opposite** for older adults.

Takeaway

- For older adults, a **daily multivitamin** is a **very low-effort way** to support cognition.
- For younger people, it may act more as **"insurance"** rather than a dramatic immediate boost.

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3. Blueberries and Blueberry Extract

Core idea: Regular blueberry intake improves several aspects of cognitive function across ages.

Evidence

- **One cup of blueberries per day** (or equivalent in extract) has been shown to:
  - Improve **executive function**
  - Enhance **memory**
  - Increase **processing speed** (e.g., reaction times, fine motor coordination)
- **Multiple randomized controlled trials** and **meta-analyses** confirm benefits.
- Effects seen in:
  - **Children**
  - **Middle-aged adults**
  - **Older adults**

Mechanism

- Blueberries are rich in **anthocyanins**, a subclass of **flavonoid polyphenols**.
- Anthocyanins:
  - Give berries their **deep pigmentation**
  - Act as **bioactive compounds** that support brain function (via vascular, anti-inflammatory, and signaling effects).

Practical point

- She calls blueberries **"low-hanging fruit"**:
  - Very easy to add: **~1 cup per day** (she personally eats two cups).
  - Clear human data that they **"make you smarter and feel better."**

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4. Cocoa Flavanols / Dark Chocolate

Core idea: Cocoa polyphenols can acutely improve blood flow to the brain and sometimes cognition.

Details

- Dark chocolate and cocoa contain **cocoa flavanols** (she refers to them as “coco flavanols” or “kakans”).
- Studies (some with mixed results) show:
  - **Increased blood flow to the brain**
  - **Improved vascular function**
  - In some trials, improvements in **cognition and executive function**

Product example

- She mentions **Cocovia** (no affiliation) as:
  - Very **high** in cocoa flavanols (tested by ConsumerLab)
  - **Low in contaminants** compared to other brands
- It’s an **effective but more expensive** way to get a high, standardized dose of cocoa flavanols.

Takeaway

- Not as consistently powerful as exercise, but:
  - A relatively **easy intervention** (like a pill/powder) with some evidence for **cerebral blood flow and cognitive benefits**.

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5. Lutein and Zeaxanthin (Carotenoids)

Core idea: These carotenoids from greens and egg yolks protect the eyes and also support brain function and cognitive efficiency.

Sources

- **Egg yolks** – contain lutein, but not highly concentrated.
- **Kale and leafy greens** – very high in lutein.
  - Example: **3 kale leaves ≈ 24 mg of lutein** (her smoothie recipe).

Role in the body

- Lutein and **zeaxanthin** are **carotenoids** (like beta-carotene, lycopene).
- They:
  - Accumulate in the **rods and cones** of the eye.
  - Protect against **damage from blue light and sunlight** (reduce the risk of macular degeneration).
  - Also accumulate in the **brain**.

Evidence for cognition

- **Observational data**:
  - Higher blood levels of lutein and zeaxanthin are associated with **better crystallized intelligence** in older adults.
  - Crystallized intelligence = ability to effectively use knowledge accumulated over life.
- **Randomized controlled trial**:
  - Older adults given **8 mg lutein + ~23 mg zeaxanthin** per day.

    - Result: **Improved neural efficiency** – neurons can perform tasks with **less energy**.
    - This supports better cognitive function because the brain is **highly energy-demanding**.

Takeaway

- Lutein/zeaxanthin support both **eye health** and **brain performance**.
- Very practical via **leafy greens (especially kale)** or targeted supplements.

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6. Choline

Core idea: Choline is crucial for brain development and cognitive function, especially in utero.

Key points

- Choline is important for:
    - Brain structure
    - Neurotransmission (it's a precursor to **acetylcholine**, critical for learning and memory)
- In **pregnant women**:
    - Supplementing about **500 mg choline per day** has been linked to:
        - **Higher intelligence test scores** in their children later on.
- This influenced her own behavior:
    - During pregnancy she ate **many eggs** (rich in choline) and also **supplemented** choline.

Takeaway

- Strong evidence for **prenatal brain development**.
- More generally, choline is an **important nutrient for brain function**, and many people may be under-consuming it.

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7. Omega-3 Fatty Acids (EPA/DHA)

Core idea: Adequate doses of omega-3s improve cognition, but dose matters.

Evidence

- Many randomized controlled trials show **cognitive benefits**, but:
    - The **effective dose** is usually **≥ 2 grams per day** of omega-3s.
    - Lower doses (e.g., **500 mg/day**) often show **mixed or no effect**.
- Benefits include improvements in various aspects of cognitive function, especially in people who are:
    - Older
    - Deficient
    - Or at risk of cognitive decline

Takeaway

- Omega-3s are another **relatively easy intervention** with good evidence, but you typically need **meaningful doses (~2 g/day)** to see consistent effects in studies.

Big Picture

- **Most powerful "big mover":**
  - **Vigorous exercise** – robust effects on brain structure (hippocampal volume), neuroplasticity (via BDNF), and multiple cognitive domains, with benefits at all ages.
- **Key "low-hanging fruit":**
  - **Multivitamin** (especially 65+)
  - **Blueberries / anthocyanin-rich berries**
  - **Cocoa flavanols** (high-quality dark chocolate/cocoa products)
  - **Lutein & zeaxanthin** (kale, greens, egg yolks or supplements)
  - **Choline** (especially in pregnancy, but also for general brain health)
  - **Omega-3 fatty acids** (at ≥2 g/day)

Together, these form a practical toolkit—some requiring lifestyle changes (exercise), others simply adding specific foods or supplements—aimed at improving and preserving cognitive function.