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Creativity Can Be a 'Fountain of Youth' for Your Brain

Analysis by Dr. Joseph Mercola | December 6, 2025

STORY AT-A-GLANCE

- Engaging in creative activities like music, dance, art, or gaming helps your brain stay up to seven years biologically younger than your actual age
- Even short periods of creative learning, such as 30 hours of focused practice, improve brain function and reduce biological brain age by about three years
- Creativity strengthens communication between brain regions responsible for attention, coordination, and problem-solving, helping maintain clarity and focus as you age
- You don't need to be an artist to benefit — everyday creative choices like journaling, cooking intuitively, or designing your space keep your brain flexible and resilient
- Regular creative engagement supports better mood, stronger memory, and faster thinking, offering one of the simplest and most enjoyable ways to preserve long-term brain health

When was the last time you danced or learned to play a musical instrument? How about painting or doing a mural? You may not realize it, but these seemingly mundane hobbies, activities that allow you to exercise your creativity, may be doing more for you than you realize — they're helping your brain stay young and healthy.

Recent research shows that people who consistently engage in creative tasks tend to have brains that function several years younger than their chronological age. Creative engagement keeps your neural networks active, helping your brain become more adaptable and resilient.

What's more, even short bursts of creativity can make a difference. Trying something new, learning an unfamiliar skill, or taking time to express yourself all give the brain a workout that strengthens its internal wiring. It's a reminder that creativity isn't only for artists — it's a form of preventive care for the mind.

Creative Engagement Strengthens Brain Networks and Sharpens Mental Function

Recent research published in Nature Communications explored how creativity affects brain function and biological aging. The study set out to determine whether creative expertise — activities like music, painting, dance, or even **playing certain video games** — could measurably delay how quickly the brain ages.[1]

Using cutting-edge brain imaging and machine learning, researchers found that individuals deeply involved in creative practices, such as tango dancers, musicians, visual artists, and strategy gamers exhibited "younger" brains than their non-creative counterparts.

- **The study design —** Led by an international team headed by researchers from the Global Brain Health Institute (GBHI), the research brought together participants from 13 nations, namely Canada, Chile, Argentina, Cuba, Colombia, Brazil, the United Kingdom, Ireland, Italy, Greece, Turkey, Poland, and Germany. It is one of the largest and most comprehensive studies ever conducted on the relationship between creativity and brain health.

- **The research involved nearly 15,000 participants —** 1,472 adults between 18 and 80 were included in the study. Some were professional artists while others were individuals with little creative experience. The researchers designed two key experiments, each exploring creativity's effects from a different angle.

- **The first experiment was an expertise comparison evaluating long-term creativity —** The researchers compared experts vs. non-experts across four creative domains, including tango dancing (Argentina), music performance (Canada), visual arts

(Germany) and real-time strategy gaming (Poland). The experts had years of dedicated practice, while the controls were matched for age, education, sex, and geography but lacked artistic training.

- **The second study was a learning experiment, which looked at short-term creativity —** A separate group of non-experts underwent 30 hours of video game training in StarCraft II, a complex strategy game requiring creativity, adaptability, and rapid decision-making.

  This was done over three to four weeks, with each participant playing between five and 10 hours per week. Their brain activity was recorded before and after training, alongside a control group trained on Hearthstone, a simpler, turn-based game with fewer creative demands.

  Together, these studies allowed the researchers to examine both the long-term impact of artistic expertise and the short-term plasticity of creative learning.

The Brain Clock Model — Machine Learning Meets Neuroscience

Researchers used advanced brain imaging and AI-driven "brain clocks" to calculate the difference between participants' chronological and biological brain ages. However, to fully understand the significance of their findings, it's important to understand what brain clocks are.[2]

- **Just as our bodies carry biological markers of age, so do our brains —** Using advanced algorithms trained on brain imaging data, neuroscientists can estimate how "old" a brain looks relative to a person's actual age.

- **A powerful machine-learning model was used to quantify brain age —** The researchers built a model using M/EEG (magnetoencephalography/electroencephalography) data from 1,240 participants aged 17 to 91. Rather than just structure, it analyzed functional connectivity, which refers to how different brain regions communicate.

Functional connectivity reflects the brain's dynamic ability to coordinate information across networks, a measure thought to capture both cognitive vitality and neural efficiency.

- **The key metric is the Brain Age Gap (BAG) —** This is the difference between your brain's predicted age and your real chronological age. A positive BAG means your brain appears older than expected (accelerated aging), while a negative BAG means your brain appears younger (delayed aging).

  Traditionally, higher BAGs have been associated with Alzheimer's disease, depression, schizophrenia, and other neurological conditions. Conversely, lower BAGs are linked with resilience, emotional health, and cognitive sharpness.

  Until now, factors like exercise, sleep, diet, and education were known to influence BAGs. This study adds a fascinating new variable to the mix — creativity.

The Results Were Clear — Creative Minds Had Younger Brains

What they discovered changes how you think about creativity — these activities are not just a hobby; they're neurological workouts that directly affect how youthful and efficient your brain stays over time. Across every creative field, participants with higher creative expertise displayed significantly younger brain ages than their non-expert peers.

- **Results among the creative groups —** Tango dancers exhibited the greatest delay in brain aging, with their brains appearing approximately 7.1 years younger than their chronological age. Musicians followed closely, showing brains that were on average 5.4 years younger, while visual artists demonstrated a similar rejuvenating effect with a 6.2-year reduction. Strategy gamers also benefited, displaying brains about 4.1 years younger than expected.[3]

- **Even short-term learners showed measurable results —** Those who engaged in only 30 hours of creative video game training had their brain age reduced by roughly 3.1 years. The control group showed no such effect, confirming that creativity-driven

learning was the catalyst.

- **Brain aging doesn't affect all regions equally —** Some areas, especially frontoparietal networks involved in attention, motor control, and cognitive flexibility, are particularly susceptible to age-related decline. In this study, those same regions showed the strongest protective effects from creative engagement.

  When the researchers mapped connectivity patterns, they found that experts exhibited stronger, more efficient connections precisely in the brain hubs most vulnerable to aging. This suggests creativity might counteract age-related deterioration by reinforcing neural pathways critical for complex coordination, imagination, and adaptability.

- **The Neurosynth meta-analysis confirmed this —** This analysis links brain activity to psychological functions. The researchers found that creative experts' brain networks were enriched in domains like:

  - Motor coordination and rhythm
  - Imagery and visual salience
  - Attention and perception
  - Cognitive control and working memory

Simply put, creativity doesn't just build skill-specific circuits — it enhances the very systems that maintain cognitive vitality across the lifespan. Augustin Ibanez, professor in Brain Health at the GBHI and School of Medicine, Trinity College Dublin, and a senior and corresponding author of the study, said:

> *"Creativity emerges as a powerful determinant of brain health, comparable to exercise or diet. Our results open new avenues for creativity-based interventions to protect the brain against aging and disease. Our study also showed that brain clocks can be used to monitor interventions aimed to improve brain health."*[4]

Neural Plasticity at Work

So, how does creativity accomplish this rejuvenation? The researchers point to neural plasticity — the brain's ability to adapt, rewire, and strengthen connections in response to new experiences.

- **Engaging in creative practice involves various processes —** These include constant learning, emotional engagement, sensorimotor integration and cognitive flexibility. These processes activate and reinforce communication among brain regions, particularly those involved in higher-order functions like planning, decision-making, and self-expression.

  Over time, this sustained engagement builds resilience into neural circuits, maintaining efficiency and preventing the disconnection that often accompanies aging.

- **This aligns with decades of research on enriched environments —** It highlights that being in environments that encourage novelty, challenge, and emotional meaning stimulates neurogenesis (the birth of new neurons) and synaptic remodeling. Creativity, in this sense, is a natural exercise for the brain's plastic potential.

- **One of the most exciting insights came from analyzing network efficiency —** This is a measure of how effectively the brain transfers information between regions. The experts found that creative experts had higher global efficiency (better overall communication) and higher local efficiency (more specialized, finely tuned processing).

- **Statistically, lower brain age gaps were tightly linked with higher efficiency scores —** This means a "younger" brain isn't just structurally intact — it's functionally smarter, processing information faster and with less waste.

  Whole-brain computational modeling further revealed that these effects were accompanied by increased global coupling — stronger biophysical interactions among neural networks. This implies that creativity stimulates not just the

architecture of the brain but the dynamic harmony of its rhythms.

- **Interestingly, even short-term creative learning showed measurable effects —** Participants who trained in StarCraft II for just one month not only improved their gameplay but also demonstrated enhanced attention and cognitive control in unrelated tasks, such as reaction time and visual accuracy tests. This suggests that creative learning produces generalized cognitive benefits, extending beyond the specific skill being trained.[5]

Creativity Is a Universal Brain Booster

For decades, medical science has focused on disease prevention through diet, exercise, and medication. But the growing field of neuroaesthetics, the study of how art affects the brain, suggests that human expression itself is medicine.

This study provides biological evidence to support what many creative practitioners have long believed: Engaging in creative expression isn't just emotionally fulfilling — it's neurologically protective.

- **While creativity is often associated with traditional arts, this study broadens its definition —** The inclusion of video gaming as a creative domain underscores a vital point: Creativity is not limited to art — it's a mode of thinking.

- **Strategic gaming can be an art form —** Like improvisational music or dance, it requires flexible problem-solving, pattern recognition, anticipation, and innovation. These are all hallmarks of creative cognition. By engaging these systems, even non-artistic pursuits can confer similar neuroprotective benefits.

  This opens a new avenue for how we might integrate creativity into public health strategies and clinical therapies. From community dance programs to art workshops, from digital game-based training to music therapy, the potential applications are vast.

- **What makes this study stand out is how directly applicable it is to everyday life —** You don't need to take up a formal art class or master an instrument to experience these benefits. Even small daily creative choices like journaling, doodling, cooking without a recipe, or designing a garden engage the same neural systems that keep your brain young.

- **It's the act of creating, not the artistic skill, that drives these changes —** By making creativity part of your lifestyle, you're not just expressing yourself, you're also strengthening your brain's core operating system. The implication is profound — it may never be too late to start something creative.

How to Use Creativity to Rebuild and Protect Your Brain

Creativity is far more than self-expression; it's one of the most powerful tools available for maintaining cognitive vitality. In a world where mental fatigue and distraction are common, this finding matters deeply. Creative engagement offers a science-backed way to rebuild focus, restore emotional balance, and keep your mind sharp well into later life.

When you view creativity through this lens, it becomes not just enjoyable, but necessary for sustaining your brain's longevity and performance. Here are strategies you can follow to turn creativity into a daily practice that keeps your brain young, adaptable, and sharp.

1. **Make daily creativity non-negotiable —** Treat creativity like your brain's workout. Whether you write, dance, sing, paint, play an instrument, or cook from intuition, commit to doing something expressive each day. You don't have to be talented — what matters is effort and engagement.

   If you're someone who says, "I'm not creative," start small. Try doodling while you talk on the phone or rearranging your space in a way that feels fresh. Consistency matters more than time. Even 15 minutes a day of focused creative activity helps maintain healthy communication between brain regions, which improves attention and emotional balance.

2. **Challenge yourself with new skills —** If you feel stuck in routine, that's a sign your brain needs novelty. Learning something new pushes your neural circuits to adapt. If you're a musician, try painting. If you're analytical, experiment with improv or dance.

   I recommend choosing an activity that feels slightly uncomfortable — that's where growth happens. The research shows that even short-term creative learning, like spending a few hours each week mastering a complex game or instrument, can rejuvenate your brain's biological age. You'll notice clearer thinking, quicker problem-solving, and better emotional control.

3. **Engage all your senses —** Creative work activates more of your brain when it involves multiple senses — sight, touch, sound, and even movement. If you paint, pay attention to texture and color. If you cook, use aroma and plating as part of the creative process. If you're learning dance, focus on rhythm and body awareness.

   The goal is to wake up underused brain areas. When you do, you create stronger networks that resist age-related decline. This sensory layering builds resilience in your neural circuits, making your brain more adaptable under stress.

4. **Turn routine into play —** Instead of following autopilot routines, inject novelty into them. If you're a parent, invent a new bedtime story with your child. If you're retired, turn gardening or journaling into a creative project. If you work in an office, brainstorm solutions visually instead of with text.

   Gamify your creativity — set a small goal like "five new ideas this week" or "one new dish this month." When you track progress and reward yourself for creative wins, you activate dopamine circuits that boost motivation and focus.

5. **Reconnect creativity with movement and light —** If your brain feels sluggish, combine creative tasks with physical and environmental stimulation. Move your body, get sunlight, and let your senses be fully awake. The study showed that activities combining movement and rhythm like dancing or drumming produced the strongest protective effects on brain aging.

If you work indoors all day, take your creative time outside. Sketch under natural light, walk while brainstorming, or stretch while listening to music. Your mitochondria, the tiny power plants in your cells, depend on light and oxygen for energy. Pairing movement with creativity amplifies the brain's rejuvenating response.

Each of these steps restores your brain's natural rhythm of curiosity, challenge, and reward. Creativity doesn't just help you think better; it allows you to feel alive again. When you make time for creative play, you're not wasting time; you're repairing your brain's wiring, boosting your mood, and protecting your mental sharpness for years to come.

Frequently Asked Questions (FAQs) About Creativity

Q: How does creativity help keep the brain young?

A: Creativity acts like a workout for your brain. When you learn, express, or experiment creatively through painting, dancing, writing, or even gaming, you activate multiple brain regions at once, forcing them to communicate more efficiently.

This strengthens neural connections and helps delay the aging process of the brain. The study published in Nature Communications found that people deeply engaged in creative activities had brains that appeared five to seven years younger than their actual age.

Q: Do I have to be an artist or musician to benefit from creativity?

A: Not at all. The research made it clear that it's the act of creating, not artistic talent, that delivers the benefits. Everyday creative choices such as journaling, cooking without a recipe, designing a garden, or even playing a strategy game keep

your brain active and adaptable. The key is engagement and novelty. Challenge yourself to think or act in a new way stimulates neuroplasticity, your brain's ability to rewire itself.

Q: How quickly do the benefits of creative activity show up?

A: Even short bursts of creativity can lead to measurable improvements. In one part of the study, participants who trained for just 30 hours in a creative video game reduced their biological brain age by about three years. This demonstrates how fast the brain responds to new challenges. You don't need years of training — just consistent effort and curiosity over time.

Q: Which creative activities are most effective for brain health?

A: Activities that combine movement, rhythm, and emotional expression like dance or music produced the strongest antiaging effects in the study. Tango dancers' brains appeared more than seven years younger, while musicians, visual artists, and strategy gamers also showed significant benefits. You'll get the best results from activities that engage multiple senses or require coordination, imagination, and focus.

Q: How can I make creativity part of my everyday life?

A: Start small and stay consistent. Schedule at least 15 minutes daily for something creative. Try sketching, learning a new song, experimenting with new recipes, or writing ideas in a journal. If you're busy, transform routine moments into playful ones — like inventing a new route to work or turning chores into challenges.

Combine your creativity with movement and sunlight when possible. This blend boosts oxygen flow, activates dopamine (the neurotransmitter associated with motivation), and enhances your brain's natural resilience.

Sources and References

- [1, 2, 3, 5] Nature Communications, 2025, Volume 16, Article number: 8336
- [4] Trinity College Dublin, October 3, 2025