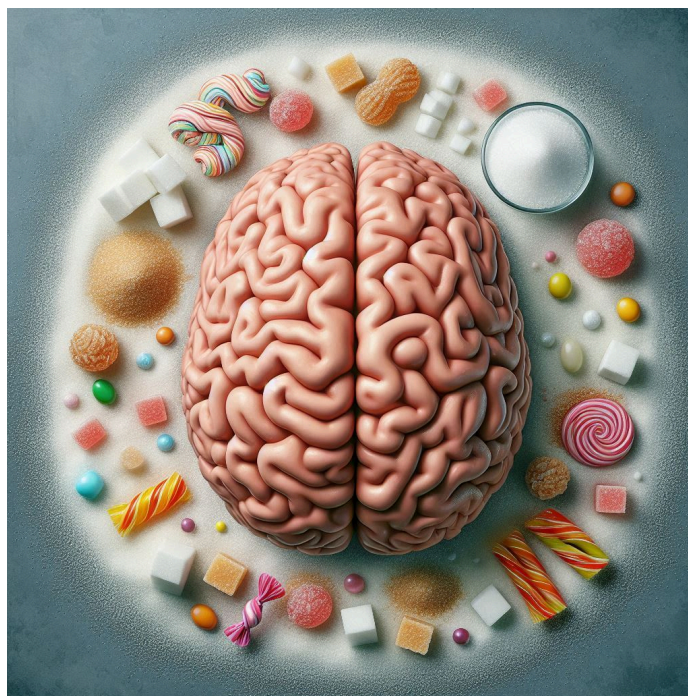


Why Your Brain Loves Sugar

VOCABULARY WORDS

1. **Phenomenon** (noun) /fəˈnɒmɪnən/: A fact or event that is observed and may require explanation.
Example: The Northern Lights are a natural phenomenon that fascinates scientists and travelers alike.
2. **Neuron** (noun) /ˈnjuərən/: A specialized cell in the nervous system that transmits information through electrical and chemical signals.
Example: Neurons in the brain are responsible for processing thoughts and controlling actions.
3. **Endorphin** (noun) /ɛnˈdɔːfɪn/: A chemical produced by the brain that reduces pain and induces feelings of pleasure or happiness.
Example: Exercise is known to trigger the release of endorphins, improving mood.
4. **Craving** (noun) /ˈkreɪvɪŋ/: A strong desire for something, particularly food or drink.
Example: She had an intense craving for chocolate after a long day at work.
5. **Evolutionary** (adjective) /ˌɛvəˈluːʃənəri/: Relating to the process of gradual change and development over time.
Example: The long necks of giraffes are an evolutionary adaptation to help them reach high leaves.



In Japan, there is a word that explains why we always seem to have room for dessert, no matter how full we are: **betsubara**, meaning “separate stomach.” This word reflects the idea that our capacity for sweets is independent of how much we've already eaten. While we obviously don't have an actual second stomach, the love for dessert is deeply rooted in how our brains function. Craving sweets is more than just habit; it's a biological process influenced by our brain's chemistry.

Research by the Max Planck Institute for Biology of Ageing sheds light on this phenomenon, starting with a study on mice. The researchers observed that certain brain cells, known as POMC neurons, become active when sugar is present. Typically, these neurons signal the body to stop eating by creating a feeling of fullness. However, when the mice consumed sugar, these neurons triggered the release of endorphins—chemicals that make us feel happy and satisfied.

The researchers took the experiment a step further by blocking the POMC neurons in the mice. Without these neurons sending signals, the mice no longer experienced the pleasurable feeling that sugar usually provides. As a result, the mice lost interest in eating sugar altogether. This demonstrated that the "happy chemicals" play a crucial role in sugar cravings.

To explore whether humans experience the same reaction, the researchers conducted similar tests on volunteers. The findings showed comparable results: the release of endorphins encouraged sugar consumption. Henning Fenselau, a scientist involved in the study, explained that this makes evolutionary sense. Historically, sugar was rare but provided a quick energy boost, so the brain evolved to prioritize it when available.

Understanding how our brains react to sugar not only explains our love for desserts but also opens new possibilities for managing cravings. Scientists aim to use this knowledge to help people maintain healthier diets and control their sugar intake. So, the next time you find yourself wanting dessert after a meal, remember—it's not a lack of willpower. It's your brain working exactly as nature designed it to.

DISCUSSION

1. If you had a "betsubara," what dessert would always fill it?
2. Imagine an experiment to find a modern replacement for sugar. What would you test?
3. How do you think your brain would react if your favorite dessert became unavailable?
4. If you could design a new type of endorphin, what emotion or sensation would it create?
5. Should schools teach students about sugar cravings as part of science or health classes? Why or why not?
6. If sugar cravings were a superpower, what kind of superhero would you be?
7. If humans were to evolve new eating habits in the next 1,000 years, how might our relationship with sugar change?
8. Imagine you're a scientist in the study. What experiment would you suggest to understand sugar cravings better?
9. If desserts could talk, what do you think your favorite one would say to tempt you?
10. How would your life change if you could completely turn off your sugar cravings?