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GET SPICY

Why do we love fiery foods if they hurt?

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The chemical compound that gives peppers their heat, which is believed to have evolved to deter mammals from eating them, only made them more desirable. Getty Images iStockphoto

By Niamh Ordner
The Dallas Morning News

Roughly 20 million years ago, an evolutionary step made by plants completely backfired. At least when it came to humans.

The chemical compound that gives peppers their heat, which is believed to have evolved to deter mammals from eating them, only made them more desirable. As soon as humans discovered how to cultivate these spicy foods, they were hooked.

Since then, hot sauce has exploded into a billion-dollar industry. There are modern restaurant franchises notorious for offering near-intolerable spice levels, and even a viral interview show where guests eat progressively hotter wings.

So that raises the question: Why do we find spice so painfully addictive?

What makes food spicy?

There are a lot of natural chemical compounds that cause food to taste spicy, including cinnamaldehyde in cinnamon and allyl isothiocyanate in wasabi. But capsaicin, the compound found in bell and chile peppers, is by far the most well-known culprit.

When ingested, capsaicin activates a pain and temperature sensor on the tongue known as the TRPV1, said Yuan Peng, a professor and pain researcher at the University of Texas at Arlington. By activating this receptor, capsaicin tricks the body into thinking it ate something on-fire hot, resulting in peppers' trademark burn. To counter this perceived pain, the body releases "happy hormones" such as endorphins and dopamine. This can put people in an alert state and result in temporary mood boosts, similar to a runner's high, Peng said.

Why do we like spicy food?

Researchers have proposed many hypotheses as to why someone may like spicy food, including oral anatomy, cultural or social influences, repeated exposure and even personality traits.

Approximately 1 in 4 people in the United States are "supertasters," according to the National Institutes of Health. This means they have a more sensitive sense of taste compared to the average person, and tend to find bitter foods like black coffee and dark chocolate unpalatable. Supertasters may also have more tastebuds and pain receptors, which can make them more sensitive to spicy foods.

Studies also suggest that factors that lead to repeated exposure, such as cultural background and social influences, can change how much someone likes them. Repeated exposure is hypothesized to result in something called chronic desensitization, in which sensors in the tongue become less sensitive to spicy food, making it more tolerable.

From a psychological perspective, repeated exposure can also increase familiarity with spicy foods, causing someone to develop a liking for them through a process known as the "mere-exposure effect."

A 2014 study from Pennsylvania State University suggests that people with sensation-seeking tendencies and greater sensitivity to rewarding stimuli are more likely to enjoy spicy foods. That means that if you tend to enjoy novel, exciting experiences, you're more likely to enjoy spice.

So, the truth is, liking spicy foods is a little more complicated than a matter of preference. Your genetics, cultural and social background and personality can all have some influence on someone's love for "feeling the burn."

Niamh Ordner is a science reporting fellow at The Dallas Morning News.