





Changing Tastes

You can use all 5 senses to learn to love healthy foods. Here's how!

Love edamame? Loathe broccoli? Run screaming from salmon?

You may think that your love or hate of certain (especially healthy) foods is hard-wired in your taste buds, but it turns out a lot of our tastes for foods can be learned and relearned—even as adults. Our flavor preferences are malleable: “Eating is a multisensory experience with many opportunities to intervene,” says Barb Stuckey, author of *Taste What You're Missing: The Passionate Eater's Guide to Why Good Food Tastes Good* (Free Press, 2012).

While there are only five tastes that we can detect—sweet, sour, bitter, salty and *umami*, which means savory or meaty—there are many factors that impact flavor. “A food's texture, how it sounds, how appetizing it looks and how it smells, all play a role in flavor perception,” says Stuckey. For instance, researchers at Oregon State University recently looked at how aroma can play mind games with our taste buds. They examined retronasal olfaction, or how we smell food through our mouths. (When you chew, the aromas from the food get released and sucked up through your nose as you breathe.) Apparently, when the scent and taste of a food are congruent—or naturally harmonious, like vanilla and sugar—we perceive this combination as one sensation in our mouth. “Even though vanilla actually has no taste at all—it's only a smell—we are unable to separate which information came from our mouth and which from our nose.

BY HOLLY PEVZNER • PHOTOGRAPHY BY ERICA ALLEN

Instead, we think the overall sensation is in our mouth,” says Juyun Lim, Ph.D., lead researcher and an assistant professor of food science and technology. “It’s a trick that our brain plays on us.” And because we quite literally don’t know our nose from our taste buds, we can manipulate our senses to alter our taste perception.

Here’s how you can use mind-over-menu tricks to eat healthier:

Smell

AMP UP SCENT Desserts are hard to resist. But the task is a little easier when their scent is intense. When we experience a strong complementary aroma (even a pleasant one) with our food, we take smaller bites, according to a recent study in the journal *Flavour* (for example, a whiff of coffee in a mocha dessert). And we don’t make up for those smaller bites with more bites or by eating more food later. It’s thought that there’s some sort of feedback loop happening in our brains: when a strong complementary smell is present, we reduce our food intake so we are not overwhelmed with flavor. Next time you serve a sweet treat at a dinner party, think about lighting a vanilla-scented candle. Or when you order a dessert at a restaurant, pair it with strong-smelling coffee.

LESSEN BITTER SMELLS People often turn their noses up at cruciferous vegetables like cauliflower, Brussels sprouts or broccoli, and for good reason: “With cruciferous vegetables, we

often think they just taste bitter, but data suggests that the aroma is also a big part that people are reacting to,” says Lim. Cauliflower and company contain smelly sulfurous compounds, which are there, in part, to protect the plants from animals and insects. (Those same compounds deliver cancer-fighting benefits.) But “masking the smell of broccoli and other bitter vegetables can easily change our flavor perception,” says Stuckey. She suggests steaming the vegetables, which releases the sulfurous smell. “The process liberates some of the most volatile aromas, but since those smelly compounds will then be in the air, you’ll want to eat in a different room than where your vegetables were cooked.” Another option: roasting. “This cooking process enhances any natural sugars in the plants and can counterbalance the aroma,” says Stuckey.

Listen

TURN UP THE TUNES Even the background noise we hear while eating influences the way our mind judges food. Oxford University researchers recently enlisted 20 men and women to taste toffee while listening to a soundtrack that was either brass- or piano-filled. The results: the toffee tasted more bitter when accompanied by brass instruments and low notes and sweeter when piano music and high-pitched notes filled the air. While the brain mechanics are still unknown, one theory is that positive and negative attributes from music carry over to the perception of the food,

a process called sensation transference. “Essentially, our brain integrates the sweet sound and sweet flavor into one stimuli,” says lead researcher Anne-Sylvie Crisinel, Ph.D. You experience a similar phenomenon if you find a pasta dish especially delicious at your favorite restaurant when traditional Italian music is playing in the background. Be mindful of a constant, unpleasant background noise. “You know how food often tastes bland on airplanes? Part of the reason is that the low-level and intense noise of the engines has a somewhat masking effect on flavors. The sound actually dampens your flavor perception,” Crisinel says. To use this mind game to your advantage, play your favorite upbeat tunes during healthy meals. “If you listen to pop music that you perceive as fresh or strong, you’ll wind up ascribing those same attributes to the food you’re eating,” says Stuckey.

Taste

MIND YOUR SWEET CHOICES Research shows that artificially sweetened foods play games with your mind. While consuming either the fake stuff or the real deal stimulates the rewards area of the brain, artificial sweeteners activate this section more, according to a 2011 study in the journal *NeuroImage*. And a greater reward leads to more cravings. Adding to the “keep eating” mindset is artificial sugar’s amped-up sweetness. “It’s about 400 to 13,000 times as sweet as sugar. And over time, your brain and

taste buds become accustomed to—and prefer—intensely sweet flavors over natural sweetness,” says David Katz, M.D., M.P.H., founding director of the Yale-Griffin Prevention Research Center and an *EatingWell* advisor. (The less-sweet taste of foods with natural sugars often simply doesn’t cut it anymore.) The good news is you can rehabilitate your taste buds and brain. “If you gradually cut out artificial sweeteners from your diet, you will lose your taste for them,” says Katz. “After about two weeks, your brain will unconsciously start to become used to less sweetness. After three months, it’ll be a habit. After six months, your brain and taste buds will, essentially, refuse the overly sweet stuff.”

ADD FLAVOR TRAINING WHEELS Though artificial sweeteners can be counterproductive, a little bit of sweet can actually trick your brain into liking certain foods. We can develop a taste for sour or bitter fruits and veggies, like grapefruit or asparagus, by first getting used to a sweetened version, according to a study in the journal *Appetite*. Researchers first served up regular ol’ broccoli and cauliflower. Next, they doled out versions that had been briefly dipped in a mixture of distilled water and 20 percent sugar. After three days of dining on the slightly sweetened version, the testers’ taste for the unsweetened produce improved significantly. “It’s like flavor training wheels to get you to start accepting a particular food in your diet,” says Stuckey. “Just a touch of sugar helps to mitigate the bitterness or sourness. It also buys you time to get familiar with the aromas and textures of the food. You

NUTRITION REPORT

can eventually eliminate the sugar because you've already gotten over the biggest obstacles and are more likely to accept the food now." In addition to the sugar-water-dip method, you can top vegetables with a brown sugar sauce or add sweet citrusy dressings.

TRICK YOUR TONGUE If you are looking to cut back on sodium, try vinegar instead—sharp distilled white, a seasoned rice version or any other in between. "The way that we physically perceive salt and sour tastes is through pores in our tongue. It's like threading a needle: the salt or sour molecule has to go through the pore to be detected," explains Stuckey. (Sweet, savory and bitter, however, are more like a hand-shake: "The taste molecule and the cell receptor protein have to match up for the taste to be perceived," she says.) "If you replace added salt on your food with a splash of vinegar, it won't taste exactly the same, but your tongue will receive a similar type of pleasure that salt gives."

See

PLAY WITH COLORS "Flavor intensity increases as the color level on our plate increases," says food scientist Kantha Shelke, Ph.D., an Institute of Food Technologists spokesperson. "For example, research has shown that strawberry mousse served on a white plate rates consistently higher in flavor intensity, sweetness and enjoyability than the identical mousse served on a black plate." The theory is that if there's a high color contrast between the plate and the food (like reddish-pink mousse on a stark white dish), your food will appear more vibrant, which translates into you believing it tastes more intense. "For people who love powerful flavors, I'll serve bright-colored fruit and vegetables on a white plate to enhance their flavor perception," says Shelke. "But I'd place that same colorful produce on a dark plate to mute their flavor for picky eaters, kids or people who are trying a certain vegetable for the first time."

Trying to eat less? A recent study in the *Journal of Consumer Research* found that people tend to serve themselves less

food when there's a high contrast between tableware and food. For example, if you piled pasta Alfredo on a red plate you'd take less than if you put that same meal on an all-blends-together white plate. In fact, the white-on-white folks in the study served themselves 22 percent more food than those with a high-contrast combo.

Feel

TWEAK TEXTURE Crunchy, chewy, squishy, thick, thin. All these textures play a role in how we interpret food and how much we eat. "More-viscous foods—foods that are thicker or have less fluidity—leave a coating of flavor in your mouth that prolongs a pleasurable sensation," says René de Wijk, Ph.D., a sensory scientist at Food & Biobased Research in the Netherlands. For instance, the sweetness of a thick smoothie will last in your mouth longer than the sweetness of a soda. In the same vein, anything that makes food linger in your mouth longer—like adding crunchy bits that require a lot of chewing—draws out and intensifies positive sensations, says de Wijk. And with all this intensity going on, smaller bites yield plenty of pleasure and, thus, we eat less, according to de Wijk's research. "These types of foods elicit more sensations and more oral movement than less thick or less crunchy foods. So people unconsciously react to that intensity with smaller bite sizes," he says.

There are so many tricks and mind-over-meal games to play to expand your palate. "They are all fantastic ways to like healthier and more diverse foods," says Stuckey. But perhaps the most important thing is to change your mindset. "Expose yourself to different foods repeatedly. But instead of viewing your taste retraining as trying to love something you hate, think of it as becoming a connoisseur. How do you think wine, cheese or coffee experts get that way? Repeated exposure." 🍷

Holly Pevzner is a writer in Brooklyn, NY, who forced herself to acquire a taste for seafood before marrying a Mainer. Today, she happily cracks her own lobsters and devours fresh haddock topped with seafood stuffing.

