

But Why: A Podcast For Curious Kids

Why Do We Like To Eat Certain Foods?

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[Jane] This is *But Why: A Podcast For Curious Kids* from Vermont Public Radio.

I'm Jane Lindholm. This is a show for you to ask questions and it's our job to get some thoughtful people to help you with the answers.

We're putting this episode out a little bit early this week, a few days before Thanksgiving.

This is a week where many of us are thinking about what we're thankful for. You're probably thankful for your friends and family and... ok, ok! Many of you are just thinking about cranberry sauce, mashed potatoes, turkey, and maybe just pumpkin pie and candied yams. Given the cultural focus on food at this time of year, it seemed like a good time to answer a couple of the questions that have come in about food and taste.

Here's one of them.

[Alex] My name is Alex. I like to cook food and I like to eat it. I'm eleven years old, in Columbus, Ohio. And I was wondering why do we like to eat certain foods? For example, why do some people like to eat spicy food, and some people not like to eat vegetables and that stuff?

[Jane] We love this question Alex. A few months ago we actually had a live event here in Vermont and we asked other kids about what kinds of food they love and hate.

[Kids] "Mac and cheese. It's really cheesy." "Cake, because I have it ever single time on my birthday." "Seaweed. Salted, dry seaweed, because I like trying new foods." "Clementines and hot dogs!" "I like a lot of foods, but I like dumplings. They have good taste and I like the texture." "Macaroni at school, because it's so cheesy." "My favorite food is burgers. They're yummy and I like the juice inside of them." "My favorite food is peach because they're sweet." "Probably fish sticks or chicken nuggets." "I like lots of foods, but one of my favorite foods is hot dogs because hot dogs are delicious. And the bun and the ketchup gives them a very good taste of flavor." "I like hamburgers and hot dogs."

[Jane] So why do some kids like hotdogs and others don't? We got in touch with this guy to find out.

[Chris] I'm Chris Kimball, and I'm the guy who likes to make sure recipes work when you get into the kitchen at home.

[Jane] Chris Kimball is a chef writer and TV personality. He had a magazine called *Cook's Illustrated* and he had a TV show called *America's Test Kitchen*, where they tried out different recipes to make sure they were as good as possible. Now he runs a company in Boston called *Milk Street*. It's a magazine, cooking school and TV and radio production company.

Let's re-familiarize ourselves with Alex's question:

[Alex] Why do we like to eat certain foods? For example, why do some people like to eat spicy food and some people not like to eat their vegetables and that stuff.

[Chris] Studies have suggested that while, you know, you are still inside your mother what your mother eats does have an effect on what you're going to like when you get a little older. You know, a mother who loves carrots for example, sometimes kids grow up to like carrots or they like bitter things, instead of sweet things. That will affect your taste. I do think children in general like very high energy foods which means obviously sugary foods, sweet foods. And over time I think as you get older your taste buds, your palate, the way you react to foods changes and people tend to have slightly duller tastes and therefore want bigger flavors they tend to like spicier foods.

By the way, most of what you think of as taste has nothing to do with the palate, or the tongue. That's just sweet, sour, bitter, something called umami, which means meaty, maybe a couple others, but almost everything you perceive as being a specific taste is through the nose, or back up through the throat from the mouth up into the nasal cavity and the sensors there are going to pick up, you know, the thousand different kinds of sweet. So your palate will determine sweet, and different levels of sweet, but it's really it's the air, it's the odors that identify strawberry, for example, from peppermint.

[Jane] So you're smelling, it rather than just tasting it, with your tongue and your taste buds.

[Chris] Flavor is mostly about smell and very little about taste. Taste, the sensors on your tongue, can determine different levels of the basic things sweet, sour, salty, bitter, and meaty, or umami, but when you get it within any of those categories, to all the infinite variety, that's really the smell.

[Jane] So for somebody who really doesn't like to eat any vegetables and their parents are telling them every week, 'you have to eat your vegetables, you have to eat broccoli, this tastes good.' And the kid is saying 'I don't like broccoli.' How do you develop a taste for things that at first you don't necessarily like?

[Chris] Well, why should you? I mean if you don't like broccoli, don't eat broccoli, I think it's, it's very strange in this country that we seem to like to force kids to eat things they

don't want to eat. Certainly, kids should have good diets. But if kids don't like broccoli why try to make them eat broccoli? Go find something they do like that is healthy. If they want to eat an apple, have them eat an apple. But I don't believe in forcing foods on people. It makes no sense to me.

[Jane] Our audience is going to think you're the best guess that's ever been on the podcast now. You've just given all of our kids an excuse to say, 'Mom, Chris Kimball says I don't have to eat my broccoli.'

[Chris] Hey, when I was growing up my mother made me eat okra, so what can I tell you? And I still hate okra.

[Jane] You have not developed a liking of okra?

[Chris] Well, if it is crispy and pickled, yes, but otherwise, no.

[Jane] Slimy and goopy doesn't work for you?

[Chris] No.

[Jane] What about spicy food? Some cultures have a lot of spicy food. So you're just going to be exposed to spicy food and you know most people sort of adapt to whatever the regional and cultural flavors are in their lives. But spicy food is one area where you can sort of gain and lose spice tolerance.

[Chris] Well, there are some people who are more sensitive to spice, like I am, than others, that's true. You can put a blue dye on the tongue to measure the number of papillae or taste buds on your tongue. The more you have the more sensitive you'll probably be. That's true and a lot of, a lot of research now suggests the taste preferences, some of them are genetic. For example, I can detect bitterness very quickly in food. And that's because I have some genetic markers which allow me to do that but some large part of the population, 30 percent or more, don't have those markers. So some of it is just physiological not just a matter of experience.

[Jane] And some of it is experience? I mean is there a sense that when you try things over and over again you might change your...

[Chris] If you grow up in a culture that's used to eating spicy foods you'll be used to eating spicy food, sure. I think I think there's no question about that. You may not experience the spicy foods exactly the same way as your neighbor. But that'll be part of your diet, certainly.

[Jane] For me when I was a kid, my mom and my step-dad used to have what they thought was their delicacy, in the 80s was liver wrapped in bacon. And I thought that was about the most disgusting thing you could possibly eat. And now in my 30s, liver

wrapped in bacon actually sounds pretty darn tasty. And that liver texture that was so disgusting to me as a 10-year-old seems pretty appealing now. And that flavor is really wonderful. Do you know what changed? Is it just that, you know, I'm an adult and I've made my brain decide that that's a good flavor?

[Chris] Well, that's a good point. Most of flavor is really about what the brain does with the input, the sensory input. So part of it is getting the input. But the big part in the frontal lobe is, is where you have emotions and memories and other things, is where the brain processes this information. And so your reaction to it and your ability to perceive it is based on experience. So you may have lots of positive memories or experiences or emotions relating to that food now where 20 years ago you didn't. And that's all part and parcel of how the brain perceives flavor, so what goes on in the brain and how the brain takes those inputs and puts them together, people don't really understand yet. So it's really brain function that controls the perception of flavor more than anything else.

[Jane] So maybe if you just told yourself every day that you really like broccoli you could eventually convince your tongue that your brain says you like it?

[Chris] There is yeah, it's called mind over matter I'm not sure that works. But you can certainly try it.

[Jane] While we had Chris, we had another question we wanted to put to him.

[Isadore] Hello. My name is Isadore and I live in Plainfield, Vermont. My question is why does pineapple hurt your mouth when you eat too much?

[Chris] It is very acidic. I'm sure there is a particular chemical in the pineapple that does that but it's got it's very high acid and that's probably why.

[Jane] That was chef, author and TV and radio personality Chris Kimball. In addition to Alex's question we have a couple more about food and taste buds.

The first comes from Timothy. He lives in Fairfax Vermont and he's seven years old.

[Timothy] Why we taste things and how we taste things?

[Jane] And this.

[Kate] My name is Kate. I'm nine years old and I am from Norwood, New Jersey. My question is why do different types of food taste different?

[Jane] To get some explanations, we got in touch with Dr. Leslie Stein. She works at the Monell Center in Philadelphia. That's a place where scientists research taste and smell. Dr. Stein tackled these two questions and Alex's question from the beginning of the episode.

[Leslie] Hi, Timothy, Kate and Alex! Those are great questions and I'm going to answer them all together. Let me start by telling you that our senses of taste and smell are known as the chemical senses, because they detect chemicals in our food and in the air around us. Did you know that everything, including you and me, is made of chemicals? That's right. That also goes for the things you eat and drink. If you drank a glass of water today, you were drinking hydrogen dioxide or H₂O. That's just another name for water. Table sugar is also known by its chemical name sucrose, and Sodium Chloride is the chemical name for the salt in your salt shaker.

Our sense of taste checks out the chemicals that make up anything that we put in our mouth. Usually that's a food or a drink. Taste let us know if we should swallow the food or drink into our body or spit them out because they might be dangerous. I like to call taste 'the final checkpoint.'

We are programmed to like some taste because they tell our sense of taste about healthful chemicals. For example, we like sweet things because they contain sugar that gives us energy and helps us grow. We also like things that taste salty because that tells us that the food contains sodium, a chemical that we need to be able to stay alive. Other tastes, like bitter and sour, warn us that what's in our mouth might be dangerous, telling us that it might be safer not to swallow and to spit it out instead.

But there's something important that I want you to understand. Taste gives us clues about what's in our mouth but lots of other things also help decide whether a food or a drink is good for us. Just because something tastes good doesn't mean that we should eat it all the time. It's not healthy to eat lots of candy, or salty chips, or drink a lot of soda pop. Also some bitter foods like broccoli actually are very good for our bodies.

Now Kate, let me answer your question. There are three main reasons why different foods taste different. The first is, as I explained to Timothy and the others, food is made of chemicals and each food is made up of a different mix of chemicals that activate your taste system in different ways. So if a food has more sugar it will activate more of your sweet taste.

The second reason is that because chemicals in our food also activate our smell receptors when you chew your food some of the chemicals go up from your mouth into your nose through a back passage way. Remember how I said that smell also is a chemical sense? So in addition to taste, other chemicals in your food activate your sense of smell and because each food is made of different chemicals each has a different smell, combined with the taste to make the food seem different.

[Jane] So a lot of the way we taste food and recognize its flavor is actually by smelling it. Dr. Stein has an experiment she suggests you try out. You're going to need two candies or jelly beans of very different flavors.

[Leslie] Now hold your nose real tight and put one in your mouth without looking at it. Your taste will tell you when you chew that it's sweet but you won't be able to tell if its watermelon, or cherry, or licorice, or banana until you let go of your nose and can detect the smell.

[Jane] Another way to test this theory isn't as fun. Just wait until you get a really bad cold and your nose is all stuffed up. Have you ever noticed that food just doesn't taste as good when your nose is all plugged up? That's because you're not smelling the food so you're missing out on so much of the way we actually experience flavor.

[Leslie] Finally different foods taste different to different people because we're all born just a little bit different. Just like you might have brown eyes and I have blue eyes. Some of us can detect some taste and smells better than others. It's part of what makes us each special. So Alex, what I just told Kate is part of why some people like different foods. It's because they actually taste different to each of us. If I taste a lot of bitterness in my vegetables then I'm probably not going to like those veggies. But if you can taste that bitterness then you'll have no problem chowing them down.

But there's more to this story. We can actually learn to like certain foods by eating them more often. This is probably a big part of the reason that people in different countries like different foods, it's because they eat them every day and are used to them. So if there's a food you don't like, try eating a little bit every time it's served. Be patient. It may take 10 or 15 times before you notice a difference but you might learn to like it better.

[Jane] We've been talking about humans, but animals eat food too of course and Ben wants to know the difference. He's 6 and he lives in Kent, Connecticut.

[Ben] Do animals have the same taste buds as people have?

[Leslie] Hi, Ben. It turns out that animals and people do taste things differently. For example, did you know that cats cannot taste sweet things? That's because the part of their tongue that detects sweet molecules is broken. But they can taste bitter things. Other animals that can't taste sweet include sea lions, spotted hyenas and harbor seals. We also know that dolphin, which swallow their food whole, so really don't need a sense of taste, are unable to detect sweet, bitter, and umami. So just like people animals are all different too.

[Jane] Thank you so much for all of your food and taste questions. Earlier we heard some of your favorite foods. Here's what you told us about the foods you really do not like!

[Kids] "Eggplant casserole, because I don't like eggplants that much." "Probably sweet potatoes. I just really don't like sweet potatoes." "Vegetables, because they don't taste

good.” “My least favorite food is peas.” “I don’t really, really like mac and cheese.” “I don’t really like oysters because they’re kind of tasteless.” “Mashed potatoes. I just don’t like the texture.” “When I don’t like foods, I just chew it a lot. And then I try not to eat it, but I keep chewing.”

[Jane] At the beginning of the show, Alex told us he really likes to cook. Now cooking is part of everyday life for a lot of people and it's something that everyone should learn how to do. But some people take it further and they make a career in the food world. To find out what it's like to be a chef, I met up with a guy who has a restaurant in downtown Boston.

[Matt] I am Matt Jennings the chef owner of Townsman in Boston and I am here with my family in a woodland retreat. Coleman, who is three, and Sawyer, who is six, and my wife Kate,

[Jane] And they're actually eating lunch right now. What are they eating?

[Matt] We just made them one of their favorites, grilled cheese. These guys are, have a high caloric intake right now, because they burn it all off so quickly. So this is a grilled cheese with bacon.

[Jane] So if you were advising Alex, who likes to cook food and likes to eat it, on how he could work on his repertoire at home, of cooking. What are some things that you think he should try cooking.

[Matt] Well, the first thing I would tell Alex is that, and this is just coming from me and my kind of personal beliefs about cooking and food is that he should try to find the best ingredients that he can find. And whether that's stuff that his mom and dad can help him acquire or that he can go out in the woods or to an orchard someplace and pick or if he doesn't live near an orchard, maybe he goes fishing and he can find a great fishing hole. But it's all about fresh and it's all about finding the best quality and the kind of the rest of the food is dictated from there.

[Jane] So fresh ingredients are important. Knowing where your food comes from and then what might Alex experiment with?

[Matt] I would say more than, maybe experimenting, kind of working to continue to focus on taste and flavor. I think that's so important and determining what his likes and dislikes are and being able to use those as a place to jump off from to be able to taste new things.

[Jane] What were the first things that you learned how to make when you were young?

[Matt] So I grew up in New England, I'm from Boston and in the summertime we would spend a lot of time at the coast, so my earliest memories of cooking were around seafood. My father was a big fisherman and so we would go fishing quite a bit and we would catch blue fish and striped bass. And I remember cooking bluefish with mayonnaise and lime and a little sprinkling of gin on the grill, which I don't advise for Alex but maybe his parents. And then also striped bass and we would make delicious striped bass sandwiches for lunch and all sorts of things so. And clamming, I would go clamming as well, we'd go clamming all the time and that sort of thing. So those are really kind of my fondest memories of food growing up.

[Jane] When did you know that you wanted to be a chef?

[Matt] I think that I knew I wanted to be a chef before I, before I went to college I graduated from high school and I had been cooking throughout the summers, for a summer job during high school, and I had always loved it. And then decided to go to normal quote unquote "liberal arts college" for a year in western Massachusetts and that just didn't work out as my thing. So I took a little bit of time off and went back to cooking and kind of realized that that was that was probably really going to be it for me and ended up enrolling in culinary school the next year.

[Jane] Would you advise young Alex into your world? I mean it's odd hours, it's a lot of hours, if you're a chef, you're working at night when other people are enjoying their evenings. And if you're owning a restaurant like you do there's a lot of work and a lot of stress. But you think it's worth it?

[Matt] Yeah, I mean, I think that for me personally it is. It's very rewarding and I am now fortunate enough to be able to be in a little bit of a different place in my career where I can really be a leader for my team and I can help support them and help them grow and it's wonderful for me to be able to have that be part of my job, to watch them grow and have that be as important as my own personal growth. But that being said, I think that the cool thing about food right now is that there's so many different jobs in the industry that you can have it doesn't mean you have to work 16 hours a day and come home when the sun is going up. It means you can do product research for a food company, or you can do marketing, or you can do social media, or you can do all of these other things that I think also allow you to have somewhat of a balance which didn't really exist as much when I was probably Alex's age.

Keep cooking, Alex, and keep tasting and don't stop experimenting, it's how chefs become great is to immerse yourself in as many experiences as you possibly can and I would say that probably goes for life too.

[Jane] That was Matthew Jennings, chef and owner of Townsman, a restaurant in Boston.

And that's it for this episode. Thank you so much for all of your food questions.

As always you can send questions about anything, food, or history, ethics, friendship. Have an adult record your question on a smartphone and send it to question@butwhykids.org. Don't forget to tell us your name, how old you are, and where you live. If your family likes this show, would you give us a review in iTunes or wherever you get your podcasts? It helps other people find us because it boosts us up in the rankings. iTunes uses a strange algorithm, so a few new reviews makes a big difference. And if you send us a screenshot of your review, we'll send you a nifty *But Why* yoyo.

But Why is produced by Melody Bodette and me, Jane Lindholm, for Vermont Public Radio. Our theme music is by Luke Reynolds and we also had music this week from Podington Bear.

Thanks to all of you who shared your favorite and least favorite foods with us at our listening party a few months back. And thanks to our friend Erin Wertlieb for recording many of the voices we heard.

By the way, we have a special episode coming out this week to mark the Thanksgiving holiday. It's all about how turkeys used to be walked from Vermont to Boston to get to the markets. Picture thousands of turkeys swarming the roads and roosting on barns and bridges and people's houses. Be sure to look for that one as you are whizzing along the highway to get to your Thanksgiving dinner.

And we'll be back in two weeks with a new episode, until then, stay curious!