

Chasing Life

DEC 6, 2022

Smelling Your Way To Love



Speakers

Dr. Zara Patel, Dr. Sanjay Gupta, ARCHIVAL SOUND, TikTok Clips, Tristram Wyatt

00:00:03

Dr. Zara Patel

Some people will walk down the street and smell someone's perfume or cologne, and right away they suddenly remember their high school girlfriend or boyfriend.

00:00:11

Dr. Sanjay Gupta

That's Dr. Zara Patel. She's a professor at Stanford University. She's also a rhinologist. That means she's a nose expert.

00:00:21

Dr. Zara Patel

And that's really one of the amazing parts of smell. You know, Marcel Proust wrote entire volumes of books on the way. That smell can evoke a memory. And it's it's one of the most ancient, I would say, nerves and systems in our bodies.

00:00:39

Dr. Sanjay Gupta

I spoke to Dr. Patel earlier this season about the loss of smell and taste caused by COVID. And during that interview, she brought up something pretty intriguing, the idea of human attraction stemming from our individual scents. Do we all have our own scent? I've heard that like, I mean, if if we could if we were good enough spellers, would we be able to detect someone just by their smell?

00:01:04

Dr. Zara Patel

Yeah. Well, you know, we do. And and some some of those smells are just kind of the way our our bodies give off scents. But some of it is really on a really such a low level that we're only physiologically able to pick up on other people's smells.

00:01:23

Dr. Sanjay Gupta

We're just reflexive beasts, after all is said and done.

00:01:26

Dr. Zara Patel

Yeah that's right

00:01:27

Dr. Sanjay Gupta

Goodness.

00:01:30

Dr. Sanjay Gupta

Truth is, there are many myths and a lot of mystery about the role that smell plays in human attraction. But I was really curious about the mechanisms behind it all. So in this episode, we're going to explore how our noses and our brains are affected by the bodily sense of those around us, not only shaping how we perceive them, but also impacting our search for a partner. We're also going to dove into the latest research on human pheromones. Those are the invisible compounds that are believed to drive some of our most basic behaviors. You're going to be surprised at what we found. I'm Dr. Sanjay Gupta, CNN's chief medical correspondent. Take a moment. Stop. Smell the roses because it's time to start chasing life.

00:02:19

Dr. Sanjay Gupta

The human obsession with pheromones goes way back. I think many of you probably remember the 1960 song Love Potion Number Nine.

ARCHIVAL SOUND 00:02:28 ... and she made a magic sign, she said what you need is love potion number 9.
00:02:35

Dr. Sanjay Gupta But even half a century later, we are still obsessed with the idea of finding that one scent that will make us irresistible to others.
00:02:44

TikTok Clips The girls keep talking about pheromone perfume oils. So of course I have to try it. But tell me why it actually works.
00:02:53

TikTok Clips I just ordered one of these pheromone rollerball things and I'm going to use that when I go to the bars for myself to meet guys, and I'll let you all know if it works.
00:03:00

TikTok Clips So a couple of months ago, this thing went viral on TikTok. I never got it. And finally it showed up on eBay.
00:03:07

Dr. Sanjay Gupta Those are different tiktoks from users hopping on an old trend with a new twist. The idea of a fragrance that incorporates pheromones into its chemical formula. The goal to increase sex appeal is.
00:03:21

TikTok Clips This special perfume that apparently smells different on every single person, and it has pheromones in it. So it makes you smell like, really like tasty.
00:03:33

Dr. Sanjay Gupta And while Tik Tok trends are going to come and go with the changing tides, many questions do remain about pheromones.
00:03:40

Tristram Wyatt I've always been interested in animal behavior, and I was lucky enough to get the chance to do a PhD looking at parental behavior in beetles. But when I finished that, it turns out there were very few jobs in beetle parental care that is researching it.
00:03:59

Dr. Sanjay Gupta That's Tristram Wyatt. He's a zoologist and a senior research fellow at the University of Oxford in the UK. He's also an expert on pheromones.
00:04:09

Tristram Wyatt So when I was looking for a job, the opportunities that were coming up were in animal behavior, but they were looking at how these moths were using pheromones to communicate.
00:04:19

Dr. Sanjay Gupta Scientists like Tristram believe that pheromones could be the key to understanding why we humans are attracted to certain people. But before we go there, let's do a quick pheromones primer from the wider animal kingdom. Pheromones are a series of tiny compounds that transmit information between members of the same species. Information that changes behavior. That's key. Think of it like instant chemical communication. Now there are different types of pheromones that prompt different types of behavior, like alarm aggregation and, of course, sex. And we know that animals have them because they've been studied for a very long time.
00:05:04

Tristram Wyatt The idea of pheromones has been known for centuries. The ancient Greeks speculated that male dogs would follow the scent of a female on heat. And it was only in 1959 that the first chemical identification was made. So it was an extraordinary effort. Now, the amazing thing is that chemistry's come on by leaps and bounds. And so what we've seen in the last 50 years or so is a complete transformation. So we now know the pheromones for an enormous number of species across the animal kingdom.
00:05:41

Dr. Sanjay Gupta What is it exactly? I mean, a pheromones a you know, people will they'll think of love potion number nine. I saw a documentary recently with with primates who had actually rubbed their bodies against these trees to basically indicate that they were ready to mate. And then other primates would come from, I mean, enormous distances away. I mean, it was just it was remarkable just how powerful the scent would be to these other primates. But but what is it that we're talking about here? Exactly.
00:06:15

Tristram Wyatt So you could say it's a chemical signal.

Dr. Sanjay Gupta 00:06:18
A signal.

Tristram Wyatt 00:06:19
It's a signal.

Dr. Sanjay Gupta 00:06:20
But is it a thing? Or like because a signal, like I think of a radio signal or, you know.

Tristram Wyatt 00:06:26
But so this this is it's not waves. It's it's a smell. And-

Dr. Sanjay Gupta 00:06:33
Is it is it is it a chemical? I mean, an actual chemical.

Tristram Wyatt 00:06:37
Yeah. So it's a it's a- but it's more than one chemical so it's more than one molecule. So typically in moths, anything up to six or seven different molecules that are in the precise ratio. And that gives the species specific signal that this is the signal from the female of your species. And then at night you will fly upwind following the smell. Now, we can't smell those, because our noses are not adapted to be sensitive to those molecules. But the male on his antennae has tens of thousands of specialized receptors that are tuned to those particular molecules. And so even in the dark, he can find his way of wind and find the female.

Dr. Sanjay Gupta 00:07:23
A chemical sensory signal.

Tristram Wyatt 00:07:25
Yeah, and-

Dr. Sanjay Gupta 00:07:26
Made up of specific molecules to to whatever that that particular creature is.

Tristram Wyatt 00:07:32
Yeah. And that's true across the animal kingdom.

Dr. Sanjay Gupta 00:07:34
What what are some of the similarities now from what we know about the animal world, the insect world and us humans? Are there similarities in terms of how we think about pheromones?

Tristram Wyatt 00:07:47
Almost certainly. But we should probably go through mice first. Pheromones have been identified in mice. Mammals do have pheromones. And the question then is, have we identified any pheromones in humans? Now, if you imagine working with mice is hard, working with humans is even even harder. We actually know very little about what humans do in the dark when they're in private. Now, each of us knows that as a scientific experiment, we actually don't know that much about human sexual behavior. So you need a behavior that is affected by a smell. And that's really what we don't have.

Dr. Sanjay Gupta 00:08:34
It's a lot to absorb. So after the break, we're going to figure out what do we actually know about humans and those key most sensory signals. And more to the point, I guess, is that new cologne actually going to help you score a second date?

Dr. Sanjay Gupta 00:08:49
But first, we're working on an episode about synesthesia, a trait that melds different senses in the brain. Think about seeing sound or hearing color. Do you have synesthesia? We'd love to hear from you. Tell us about your experience with it. When did you first notice it and how does it present itself to you? If you can record a voice memo and email it to us at Ask Sanjay at CNN.com or give us a call at 4703960832 and leave a message. You might hear it at an upcoming episode of the podcast.

Dr. Sanjay Gupta 00:09:29
And now back to Chasing Life and my conversation with researcher and ferryman expert Tristram Wyatt.

Dr. Sanjay Gupta 00:09:39
Given where we are right now with our knowledge of of of human pheromones and human sex pheromones, what can what can we say at this point? Can we say this does the way that we smell the products that we use to enhance ourselves, you know, the fragrances, colognes, perfumes, shampoos, deodorants. Do those things contribute to how sexually attractive we are to others? Can we say that at this point?

00:10:11

Tristram Wyatt

Not really. But it's.

00:10:16

Dr. Sanjay Gupta

I wear this cologne and my wife seems to go crazy when I put it on, but it's just. It's just. It's just her, I guess. I don't know.

00:10:23

Tristram Wyatt

Well, no, it's it's a learned behavior. And so you've been positively reinforcing that over many years.

00:10:32

Dr. Sanjay Gupta

I keep buying bottles and bottles of the stuff.

00:10:35

Tristram Wyatt

Well, I think don't stop. No, I think where we are is we know that smell is really important to humans. Whether or not all our attraction is down to smell is harder to pin down. I think what we can say is certainly on a negative side if somebody smells awful. For most of us, that's not an aphrodisiac. And that's something that's been true for a very long time. In ancient Rome, there is poetry that mentions in advice to a friend. The reason you're not getting a partner is because your armpits smell like a goat and we know what molecule that is. It's actually named after goats, that particular molecule. Whether or not there is the right person that we choose by smell is something that you read about a lot, especially round about Valentine's Day. And this comes from some experiments in New York done in the seventies on mice. And basically the lab technician was finding that there were mice that were almost identical. They weren't interested in mating. And it turned out the reason they weren't interested was because they smelt all the same. It turned out something was going on with the immune system and this was causing this selection, this attraction to clones that smelt different. So somebody in Switzerland in the 1990s at a brilliant idea, okay, if it works in mice, why don't we try it in humans? Mm hmm. So what the experimenter did was have the men where t shirts have women sniff the t shirts, get the women's rating of how smelly the t shirts were, and whether they found them attractive and then tissue type everybody. The women preferred the smell of men. The immunologically much more different. So a story like the mice. So the problem with this has turned out it's actually been quite hard to replicate. And then the other thing is, if this was a really strong effect, you'd expect it in the wild. And so trying to show statistically that married people are more different than a random pairing when in fact there's so much variability in immune system genes anyway, actually is a really high hurdle. And so I think where we are at the moment is unproven. You know, it's it's a fascinating area.

00:13:07

Dr. Sanjay Gupta

Yeah. Yeah. You know, I keep thinking now is that these are really interesting theories and you keep leading me up to this like, ah-ha, I feel like that's going to be it. And then you say, Yeah, but we haven't proven it and we haven't quite yet. But, but, but the ideas are interesting. And you know the old adage, where there's smoke, there's fire. Maybe, maybe we just haven't been able to show these things yet, you know, maybe we will one day. It's interesting. You, by the way, in your TED talk, you said you have great armpits. Oh, and now what? What did you mean by that specifically? I mean, armpits, their significance overall in this research.

00:13:48

Tristram Wyatt

There were lots of things about armpits. So they're one of the areas that change puberty. They have been suggested to be important in humans because we are bipedal and our noses are where they are. So two humans meeting each other. It's the armpits that you're going to smell rather than being on all knees, on hands and knees like a dog and sniffing bottoms and groins. That's been another reason why armpits have been thought to be important. There is something about shaving your own pits that reduces the smell dramatically, and the reason for that is that most of the smell comes from bacterial breakdown of molecules that are secreted by specialized scent plants into the armpit. So one of the things about shaving your armpits is because the bacteria live on the hair. If you clear cut your rainforest, cut them all down, you basically take away the habitat. Now there is a twist to all this, and it's another example of the centrism of a lot of Western science. So about a third of the world's population has a slightly different gene variant. Most Japanese, Chinese and Koreans and people of that descent, their version doesn't pump out these precursors. Basically, there's nothing for the bacteria to work on.

00:15:16

Dr. Sanjay Gupta

When you are wearing deodorants or antiperspirants, things like that, you're changing the smell for all the reasons you just mentioned. Are you changing the pheromones as well?

00:15:29

Tristram Wyatt

Who knows?

00:15:30

Dr. Sanjay Gupta

We don't know.

00:15:31

Tristram Wyatt

That's a really good question. But the answer at this stage is we really don't know.

00:15:36

Dr. Sanjay Gupta

Do you wear deodorants or antiperspirants?

00:15:39

Tristram Wyatt

Do I? No,.

00:15:40

Dr. Sanjay Gupta

You don't.

00:15:41

Tristram Wyatt

No. But I do shave my armpits

00:15:46

Dr. Sanjay Gupta

So I mean.

00:15:47

Tristram Wyatt

So I can last a day without it becoming unbearable.

00:15:49

Dr. Sanjay Gupta

Well, I mean, not you don't have to answer, but as a pheromones researcher, why don't you wear deodorant?

00:15:55

Tristram Wyatt

Oh, I suppose I try to use as little chemicals on me. As I can.

00:16:04

Dr. Sanjay Gupta

Okay, that's a chemical thing. Yeah. Like, you know, going back to these variants and everything. We meet somebody, okay? You like the way that they smell. I'm simplifying here, but you're like, you meet somebody you like the way that they smell, their scent. Is it then because we like their scent and we associate that scent with somebody that we like? Or is it that we like them because of their scent? Which comes first here? Do you think.

00:16:39

Tristram Wyatt

This would be a great experiment? A really hard to do. And you've also got to get it through the Ethics Committee. I, I don't know. Something I haven't talked about yet. And is the way that each of us smells a different world in your eyes, you basically have four receptors. So you have a black and white receptor in the rods and then in the cones you've got a red, green and blue receptors. If you go to your nose, there are something like 400 different receptors, each detecting a different range or kind of molecule. And what's even stranger is we don't all have exactly the same 400 in our nose and that's down to our genetics. It's highly variable. It might explain, for example, why we like a person or their perfume but not somebody else. It does explain, for example, why some people like cilantro in the guacamole and others don't. And there's a reason for that. It's genetic simply.

00:17:52

Dr. Sanjay Gupta

That is me, by the way. And it's very interesting because my mom falls into the 90%, I guess, where she loves the cilantro. So as a child, that was cilantro, was an every dish growing up. And she could not understand why. I did not like the taste. I would pull the cilantro off of the food constantly. I still do that. It's a it's a it's a sort of family. And my brother's the same way as me, which is interesting. So but my mom, you know, she was she was somebody who was a big cilantro lover.

00:18:24

Tristram Wyatt

Yeah. So I think you need to ask your server to hold back on that.

00:18:28

Dr. Sanjay Gupta

Yeah. Let, let me ask you, you know, we've been talking about pheromones and sex pheromones specifically, you know, the idea of being able to to smell something like fear. Is that real? And, you know, we talk about it with canines for good dogs, for example, being able to smell fear. Can that happen? Can humans smell fear? Is that a real thing?

00:18:54

Tristram Wyatt

There's a growing body of research that suggests that it might well be true, but it's fairly early days now. One of the hard things is knowing whether it's a signal or a cue. We don't know yet at this stage whether it's specific molecules or whether it has to do with more sweat being produced or whatever. One thing that the COVID 19 epidemic taught us is that smell is really important. I think it's been a spur to understanding the sense of smell better and sadly, the sense of smell that's been something of an orphan scents. As I said, the sense of smell really is important in all our lives.

00:19:45

Dr. Sanjay Gupta

Yeah. I think that's a really that's a really good point. I mean, you know, but I but I will ask you this one last question. And this is it's kind of a broader, more philosophical question in a way. We don't know what these had what these pheromones are. We don't know that they exist the way that we think about them in insects, for example. But. With what we do know. How important. Are they? If they exist, how important are they? If you if you have all these senses and we have our umwelt, as Ed Yong writes about in the book. Right. Our our sensory bubble. How important is the pheromones and the sense of smell with with regard to our perception of of another individual? We see them. We hear them, we can touch them. All these things, we smell them. How like on a scale of if it's all adds up to 100. What percentage is small?

00:20:47

Tristram Wyatt

I think it's a high percentage. I think it would be hard to put a number on it, but I think.

00:20:52

Dr. Sanjay Gupta

You see someone that you think is really good looking. Could the smell obviate that.

00:20:59

Tristram Wyatt

Easily.

00:20:59

Dr. Sanjay Gupta

Just turned off.

00:21:01

Tristram Wyatt

Easily. Well, Napoleon is said to have written to Josephine, saying, 'ne te laves pas,' don't wash, I'm coming home. And that was three days out from home. So he was a smell enthusiast and many people like that. I think we can say that smell is important. I think if you ask anybody who's lost their sense of smell through an infection or through a head injury, for example, they will tell you that they really do miss their sense of smell. And as I said, it does affect the interaction they have with the loved ones. Yeah. At the same time, we are also adaptable and the fact that we did learn to do so much online and we could still have loving relationships at a distance, shows that it's possible to do it without the sense of smell. But for myself, the smell of a partner is special and they smell good.

00:22:05

Dr. Sanjay Gupta

I think I think we should leave it at that, sir. Thank you very much. Just really, really appreciate your time.

00:22:13

Dr. Sanjay Gupta

You know, throughout the season, we've explored many different senses and time after time. And it strikes me just how little we know about these very basic features of our biology. We all learn about the five senses in grade school, and I'm finding out now, after all these years, that our understanding of some of them is still very rudimentary, especially our sense of smell, which has become sort of this orphan sense, as Tristram called it, one that just goes on working steadily under our noses, unnoticed and often unappreciated until it doesn't work anymore. We don't know for certain whether there are pheromones that secretly do guide our love life. The evidence simply isn't there at the moment. And although chances are that it does exist, part of me thinks that there should be a sense of mystery in life. There should be a sense of romance. And maybe we don't even have to fully understand it. Some things just are.

00:23:22

Dr. Sanjay Gupta

Chasing Life is a production of CNN's audio. Our podcast is produced by Emily Liu, Grace Walker, Xavier Lopez, Eryn Mathewson and Andrea Kane. Our intern is Amber Alessawy. Haley Thomas is our senior producer and Abbie Fentress Swanson is our executive producer. Tommy Bazarian is our engineer. And a special thanks to Ben Tinker, Amanda Sealey and Nadia Kunnang of CNN Health.

