Why Do People Dream?
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[00:00:00] Why do people dream?

[00:00:21] This is But Why: A Podcast for Curious Kids from Vermont Public Radio. I'm Jane Lindholm. When you're asleep sometimes strange things happen.

[00:00:32] You fly through the air like a bird but you don't have wings but then all of a sudden you do have wings and you go all the way to Antarctica and float over the ice watching penguins waddle over the edge and into the water and seals swim just below the surface. Sometimes after you've gone to sleep you travel to a magical place. Sometimes scary things happen. All your teeth fall out, or you're lost, or you see a monster, and then you wake up and you're right back in your bed safe and sound. I'm talking of course about dreams. Everyone dreams and dreams play an important role in the way our brains function. But we don't always remember what we dream. And we certainly don't always know what those dreams mean. Today on the show we're going to answer questions you've sent us about dreams. If you are new to But Why, that's how this show works. We take questions from curious kids all over the world and we help you get answers. I'll tell you how to send in your question at the end of the episode. Our last episode was all about sleep, how our bodies know when to go to sleep and when to wake up, why we need sleep, and how it actually works. But today we're moving on to dreams. The dreams you have when you are asleep.

[00:01:47] My name is Charlotte and I am 6 years old and I live in Burlington Vermont. My question is why do people have dreams when they are sleeping.

[00:01:57] My name's Piper. I am 7 years old. I live in Washington D.C. Why do you have dreams. Hi my name is Laughlin. I'm eight years old. I live in Tulum Australia. My question is how do dreams occur and why do we have them.

[00:02:12] I'm Alice. Hi I'm three. I live in Ohio. My question dreams. What do dreams do in the middle of night.

[00:02:24] Today we're going to get answers from Dr. David Khan. I'm on the faculty of the Harvard Medical School in the Department of Psychiatry.

[00:02:34] A psychiatrist is a doctor who studies the way our brains make us feel and think and behave. And a psychiatrist helps make sure your brain is keeping your mood stable medicine and your emotions healthy. That's often called mental health. Dr. Khan got interested in medicine partly because like so many of you, he was really interested in dreams I dream.

[00:02:55] And I said oh my god i dream a lot. And what is that all about. Why are my dreams so different than when I think during the day. Let's see if I can learn something about it. I'm a physicist by training and so I decided that's a really good new area to investigate. And it's very personal. Sometimes physics can be impersonal. Dreaming is very personal. So I decided to learn more about it.

[00:03:22] Here are a few more of your questions for Dr. Khan.
Hi my name is Colin. I'm 7 years old. I live in Phoenix, Arizona. And my question is why do people have dreams and nightmares.

My name is Luca I am a 7 year old girl and I live in New York City. My question is why do you have bad thoughts and nightmares and why do you have good thoughts and good dreams.

Dreaming is thinking when we're asleep. When we're awake our brain is active and we are able to think. But when we go to sleep, the brain doesn't stop being active. It's just as active and sometimes more active than when we are awake. So Dreaming is the way the brain thinks.

So if dreaming is the way the brain thinks when we're asleep, why does it seem so different from the way we think when we're awake?

I mean I don't know about you but even when I play pretend it's not quite the same as the magical worlds I live in when I'm dreaming. Dreams can be very strange because parts of the brain change compared to the way the brain is when we are thinking and awake. What happens? The emotional parts of the brain are very active when we are asleep and dreaming. Often our dreams therefore, will be scary, or joyful, or affectionate, or even nightmarish. Because the emotional areas of the brain become highly active when we go to sleep and start to dream. However, why don't we say OK this is a nightmare I don't want to have a nightmare. I'm going to stop it. We can't because another part of the brain when we go to sleep and dreaming, the logical part stops working. It's off line.

So in other words I can't tell my brain to stop having a dream whether it's bad or good because that part of my brain is shut down while I'm sleeping?

The part of the brain that's logical and rational and tells you, you should do this you should do that, checks out when you go to sleep and you're dreaming. So right now you're listening and you can decide I'm going to listen or I'm not going to listen to Dr. Khan or I'm going to go and get an apple from the refrigerator or a cookie. You decide. But when you go to sleep and you dream, you don't decide. The dream just goes on as if you weren't there. Of course you are there. But the part of the brain that lets you decide to do this or not to do this, is, off line, checks out is not working.

That might sound a little frightening a part of your brain isn't working. But think back to our last episode all about sleep. Sleep is an important time for your brain and body to recover from all the hard work you do all day while you're awake. And it's also a time for your brain to reorganize itself. So some parts of your brain need a little time to go off line as Dr. Kahn calls it. To get a chance to recover, and clean up. But those other parts of your brain, the emotional parts, are still very active and so your dream continues. And Dr. Kahn points out, that's actually pretty cool.

Anything could happen. Which is not bad because you get experiences that you wouldn't have if you were awake because your logical mind would say oh this can’t be, I can't fly. Sometimes people fly in there dream because they don't know that they can’t fly. When you're awake, you know you can't fly.

So essentially when I'm dreaming, if I'm flying in my dream or if I am a lion in my dream, my brain actually thinks that I am that thing or can do that thing because there's no
part of my brain that's telling me it's wrong? When you're dreaming the part of the brain that knows you're not a lion or you're not a tiger or you can't fly.

[00:07:30] That part of the brain goes to sleep so to speak. Meaning it's not working the way it works when you're awake. When you're awake, If you imagine you're a lion, you can imagine that, but you know that you're not a lion. You can imagine you're flying like superman. But you know that you're not. When you go to sleep and dreaming that part of the brain isn't working the same way and so you believe you're flying, you believe you're Superman or a tiger.

[00:08:07] It's great to have all these interesting experiences when your dreams are good, but if you've ever had a bad dream, you know that they're not always fun. Hi my name is Bridy.

[00:08:18] I'm five years old. I live in Dover Massachusetts and I want to know why we have scary dreams.

[00:08:26] Hi I'm Matt. I'm four years old. I live in Michigan. My Question is why do people have bad dreams? My Name is Brady, I'm four years old. I live in Pennsylvania and I wondered why we get nightmares?

[00:08:50] Why do we have bad dreams that make us feel terrible and sometimes wake us up scared or crying Dr. Khan? When we are asleep and dreaming, the emotional areas the areas of the brain that make us feel good, feel bad. They're highly active and since we can't control what the dream is going to be like, sometimes it's very joyful and we're very happy yay. Sometimes it's scary. Sometimes a monster might be there or a bad person is chasing us. But we don't have the brain that tells us no. There is no bad person like we do when we are awake we look around when we are awake, there's no bad person. But when you're asleep and dreaming all the feelings that can possibly come up, might come up and there's very little you can do about it except wake up. Often when we have a nightmare it's so scary and we can't change it. We wake up. That's how we get rid of the nightmare.

[00:10:08] I used to have a nightmare when I was young and it involved monsters and I had an adult friend who said next time you have that dream make sure you have a fire stick with you because monsters are afraid of fire. And if you have the fire stick the monsters will go away. And I thought oh I can't wait to try to have this dream again so I can see if that works. And I never had the dream again. Are there ways that you can help yourself if you do get bad dreams to either change the bad dream or not have it even if that part of your brain is shut down?

[00:10:42] That's a great question and the answer is yes. Even though the part of the brain isn't working like it does when you are awake. It's not completely silent. Second you can influence what happens when you are dreaming before you go to sleep. Sometimes it works better than other times. So it is definitely possible to say before you go to sleep oh I am going to make sure that the monster turns into a wimp. Sometimes that suggestion works. So yes you can influence what occurs in the dream like you can influence when you wake up by giving your a suggestion before you go to sleep.

[00:11:37] That's kind of cool. Maybe you give that a try before you fall asleep tonight. Give yourself a suggestion of what you want to dream about and see if it works. You might have to try a few times to really test that theory but it will be interesting to see if you can influence your own dreams. Coming up, do blind people see visions when they dream.
And why do we forget so much of what we dream? Can we do better at remembering them?

[00:13:08] I'm Jane Lindholm and this is But Why: A Podcast for Curious Kids in this episode. We're learning all about dreams with Dr. David Kahn, a psychiatrist who studies them. Lots of you have wondered not just why we dream, but how like Remy who lives in Seattle Washington. How does dreams get gain your brain? Hello, my name is Lilly. I am eight years old and I live in Pennsylvania. How do you make dreams in your head? My name is Isabelle. I live in New Jersey. I'm 7 years old. And my question is how do dreams happen?

[00:13:50] Hi, my name is Evan. I'm 6 year old. I live in San Marcos California. And my question is, how do dreams happen?

[00:13:58] To be honest, there are a lot of unknowns about dreams. Remember when Dr. Khan said your brain is very active while you're sleeping? But some parts are less active? The parts related to reason, that allow you to say I know I can't breathe underwater so I know I'm not a fish. Those parts of your brain are quieter while you're asleep and dreaming. But the parts of your brain related to emotion and feeling and experience, they are very active at some points while you're asleep. If you think back to our last episode where we talked about sleep, that when you're in a stage of sleep called REM rapid eye movement your arms and legs are sort of paralyzed and you don't move very much. Well that's the stage where we do most of our dreaming. So one of the theories behind why your body stops moving is so you don't act out your dreams. At any rate, there are a lot of unknowns about dreams and dreaming and why we dream at all. Sometimes people say the things you dream about are your brain's way of trying to resolve or figure out some problem you're having in real life. But is that really true. Dr. Khan says a lot of scientists are trying to figure out if there's a purpose or meaning to our dreams.

[00:15:09] They have done studies to show that dreams sometimes have a very important purpose. This stage of sleep when dreams occur is called rapid eye movement sleep. The studies have shown that when you are in this rapid eye movement, REM stage you sleep, your memory improves. You're able to clear out old memories and put in new memories. And what about the content of the dream during this REM stage? They've done studies to show that yes the content of the dream can help people who are dealing with bad emotions that may have happened to them during the day. So I'm saying two things. When you are in the rapid eye movement stage of sleep which happens four or five times every night mostly in the morning this is gonna help you to learn, clear out the old memories that you don't want and put in what you're trying to learn. And, the dream itself, the content also has been shown in some studies to help you navigate things that are difficult to navigate. To understand things that are difficult to understand and to help you dealing with emotions with feelings that you may have that you don't want to have.

[00:16:48] Can you give me an example of how I could think about that in my dreams? Because let's say I dream that my teeth are falling out and might be because I'm nervous that I might be losing my teeth if I'm you know six or seven or eight or it might just be a random thing and sometimes people say if you're dreaming about your teeth falling out it means this it means that. So how do we interpret our own dreams?

[00:17:12] The person who is dreaming that the teeth are falling out that might mean one thing to the person who's dreaming it and something else to another person who's dreaming his or her teeth are falling out. The person who has the dream is the best
interpreter of his or her dream because only the dreamer knows the history of teeth falling out. Not being present to take a test. Being late. But, the falling out of teeth or the being late can mean different things to different people.

[00:17:55] There is no general interpretation. For it applies to everybody.

[00:18:02] Hello I'm Chaska. I'm from Kissimmee Florida and I'm nine. My question is why do we forget most of our dreams?

[00:18:08] Hi my name is Alana. I'm 10 years old. I live in New Jersey and I have two questions. One. How do we dream dreams? And two, how is it that sometimes I forget my dream in the morning, and sometimes when I'm dreaming I think that it's happening in real life.?

[00:18:28] It's so easy to forget something that we dreamt about when we were asleep when we finally are awake because we are in a very different state. If we are going from sleep to being awake, the whole brain as we talked about before has changed. When you go to sleep the brain has changed and all kinds of thoughts are coming in your dreams and now you're getting up and you're awake. You are now in a very different brain way of thinking. Now you're awake and you're thinking like you're awake your brain is acting the way it does when it's awake and you try to remember, in this wake state what happened when you were asleep and dreaming. The biology change causes us to have an amnesia of what happened when we were asleep.

[00:19:29] There are ways that you can work on better remembering your dreams if you want to. How do you do that? If you really want to remember your dreams, here's what will help. One, want to remember. What I mean by that is be motivated to remember. Give your soul a real believable reason why you want to remember. For example I once remembered because I want to tell my dad my dreams. I want to tell my friend what I dreamt about and really believe that you want to remember your dream. So before you go to sleep you'd say to yourself you're going to really try to remember your dreams when you wake up. Now when you do wake up and you have a dream don't move your body. Think about what you just dreamt about it. Mull it over in your brain. What was that dream? Oh I dreamt that I was running from a tiger and the tiger turned out to be a nice cat. Just think about the whole dream without moving your body then you should have a paper and pencil or a dictating machine and write out your dream or record your dream. A dictating machine is like a voice recorder you can find them on smartphones or sometimes they're separate little devices just for recording things. You might not have one of those but you can keep a pencil and paper near your bed to write down your dreams.

[00:21:06] Just make sure you wait a few minutes and get your dream straight in your mind first, before you move your body. And then you can write it down or ask an adult or another person where you are. To help you record or write down your dream. And that will help make sure that you remember it. Our last question is from Ty who is 9 and lives in Thetford Center Vermont. And I am Wondering if people that are blind can see in dreams? Thank you.

[00:21:34] So can blind people see in their dreams?

[00:21:37] Yeah that's a great question. People who became blind, will have dreams that have all of the visions and visuals images that sight person will have because he or she can remember when they were not blind. However if you were born blind and never saw
anything, you still dream but your dreams are different, they have more of the sounds because blind people rely on hearing, and no visuals because they don't have memories of visuals. So they dream like you and I, but different than you and I in that if they were born blind they have never seen anything. The brain is still working and producing strange thoughts. Their memories, their imagination, who produce dreams though without the visual that you and I have. Dreams are so interesting.

[00:22:50] Do you have someone you like to share your dreams with? Maybe a friend or even an adult? Even though dreams can sometimes be scary. Dr Khan says we should think of them as an opportunity.

[00:23:00] Dreams give us the opportunity to do things in our minds that we can't do when we are awake. You have new experiences, some of them you dream are not very pleasant but some can be a lot of fun. If we dream that we can fly we actually experience flying. If we dream that, oh boy my best friend just gave me his best toy. It really is an experience that we can't always have when we were awake. So the best thing I can say is be excited that you are being treated to a whole world that is not only in your imagination, but you think that you are actually doing it, experiencing it, feeling it.

[00:23:55] When people have those, feelings and emotions and experiences that are impossible, it must also sometimes give people ideas of what they can actually do in their real life that maybe, they needed that rational part of their brain to go away for a little while so they could have more imagination and then maybe things are possible.

[00:24:18] That's exactly right. Dreaming is the state of creativity. We are more creative when we are dreaming state than almost any other state. We can think outside the box meaning that we think of things that we might not think so when we are awake. When we sleep and dream, we make associations between non-obvious things.

[00:24:51] For example, when you're awake if I say hot, you might say cold. If I say dog, you might say cat. But when we are dreaming, we can make associations that can be very creative.

[00:25:05] I say dog. You might say elephant or you might say car. The way that dreams help us be creative is something that is only possible when we are dreaming.

[00:25:26] That's pretty cool. No matter what you dream you can think about dreams as an opportunity to let go of the part of you that says you can't do that or that would never happen. This is the real world! And just enjoy the magical way your brain can make connections and visions. Thanks to Dr. David Kahn from Harvard Medical School for helping us explore the world of dreams. If you haven't heard it yet you might want to go back to our last episode, which was all about how and why we sleep. And here's something else you might want to check out, the new episodes of Brains On, another podcast for kids. Did you know there are clocks inside your body? They tell you when to go to sleep at night and when to wake up. They're not literal clocks of course, but they're your body's natural cycle. That cycle is called your circadian rhythm. Brains On has done two episodes all about circadian rhythms, in humans and in other animals. Check out Brains On where ever you get your podcasts.

[00:26:24] That's it for this episode. As always, if you have a question about anything, have an adult recorded on a smartphone and send the file to questions, at But Why kids.org.
We'll do our best to get an answer for you. But Why is produced by Melody Bodette and me, Jane Lindholm at VPR. Our theme music is by Luke Reynolds. We had extra music in this episode from Blue Dot sessions and Poddington Bear.

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