



HOME DEMO NO. 30

Don't Be Nerve-ous

Do you like being able to tell the difference between a hot piece of pizza and a cold piece of pizza? Well, without your skin you couldn't tell the difference between hot and cold, thick and thin, or rough and smooth. You wouldn't sense touch at all without the nerve endings that are packed into your skin! These millions of nerve endings send billions of signals to the brain every second. That's a lot of information for our brains to process, even if we're not touching millions of pieces of pizza. How does your brain keep up? It ignores things.

The brain uses a process called habituation (ha-BIT-choo-AY-shun) to keep itself from overloading. It's from the same word as habit. Sharp sensations, like stubbing your toe, or new sensations, like cold water splashed on your head, get the brain's attention. Normal everyday things, like having shoes on, don't get your brain all excited. You have nerves in your feet, and they're sending messages to your brain, but your brain isn't paying much attention. It's in the habit of letting those messages go. Habituation lets your brain deal with what's important at the time.

Now, test your **NERVES** at home.

What you need:

1. A pair of socks

What you do:

1. Make sure you're wearing pants or shorts. If you're wearing pants, roll up the legs. Take off your shoes and socks.
2. Spend a few minutes doing an activity that requires a lot of attention, like building a house of cards.
3. Now put your socks back on and, with your eyes closed, try to locate the tips of your socks by pointing at them. You will probably be pretty close.
4. Keeping your socks on, go back to building the house of cards for a while.
5. After a few minutes, close your eyes and try to point at the tips of your socks again. This time it will probably be much harder to do than before.

What's happening?

The first time you put the socks on it was a new sensation for your brain. Your brain was really paying attention to those socks, so it was easy to feel the tips without looking. Your brain stopped noticing the socks when it started concentrating on a new thing (building the house of cards), making it much harder to find the tops of the socks the second time. The same thing happens with things that you taste or smell for a long time. All of those messages from the nerves really "sock" it to our brains, making habituation (and science) a good habit that's hard for our brains to break!