Ep 159: Your Brain on AI: The Hidden Cognitive Cost of Using ChatGPT Transcript

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Introduction to AI concerns

Hi, everybody. It's Dr. Laura with Connecting the Dots. Truth bombs. Thanks for tuning in. As I promised, I'm going to talk about AI. And one of the big reasons that I do want to where it's being built with all the information that you and I and others have put out on the internet like this truth bomb, like a podcast or a newsletter or blog or any other information.

How overreliance affects brain development

not always constructed information either. So what's been going on is that they want to have a 10-year window where they are not responsible to give anybody any type of thank you for your information for 10 years.

Now, Congress is fighting and I'm glad they're. I believe where it sits right now is lastly in the house, but it was voted on 99 to one that there must be some kind of boundaries over AI.

We need to look at how putting something like this into our culture is going to have an impact. And one of the places it's going have impact is on your brain.

If you don't rely on you brain to do the work, You lose it. All right, let me give you a couple of examples. When I was growing up, learning how to tie your shoes was just part of growing.

How many kids today do you see that actually don't have tennis shoes with laces?

The homunculus and sensory-motor mapping

Some of them don t even have shoes laced. Most of em are running around in crocs. they have lost the ability to learn that fine motor control. And I'm talking about kids, eight, nine, 10, 11 years old.

So if we don't practice something and use it, we are going to lose it. The same thing is true about using a pencil versus a computer. Learning actually to write with any writing instrument.

That has a very unique neuron. So I want to tell you about an image I wanted to go look at called a homunculus. If you look at it, and I want you to remember this as well, it is your body's map laying over the sensory motor cortex that is over, the parietal lobe of your brain.

Now remember that, pariotal Lobe. This is where your is mapped out and was being mapped even when you were in the womb.

Research on ChatGPT and cognitive debt

And we need that for sensory-motor connection. So when we don't get our bodies using instruments like pens and pencils, we're not using the real estate that the hand and the arm are laying over that sensory motor cortex.

Now let me go one step further. We are in a technology crossroad right now that has very high cognitive consequences. I want to tell you about a piece of research entitled Your Brain on Chat GPT Accumulation of Cognitive Debt When Using an AI Assistant for Essay Writing Task.

Wow. So they looked at those using the AI versus those not using AI. And what it showed was a lack of robust connection and synchronization between the frontal lobe, your executive function, and your parietal lobes with that

body map exist.

Impacting a couple of things is what this piece of research focused on.

Memory, quoting, and closing warning

Semantic encoding. Connecting sensory information to memory. We require this for everyday tasks. Information from our senses to encode this information in a meaningful way.

And I can't tell you how many kids have no idea where they are in space. And then the other one was source memory retrieval, recalling the source of learned information, the when and the where.

And it also ties into what's called correct quoting, where it's the precision of that recall of the information. Big picture idea. If we allow somebody else to write our paper, some computer, you're gonna lose the ability to do it for yourself.

Think about it. Thanks for tuning in.