

EPISODE 340

Cognitive Enhancement Through Exercise & How Your Brain Actually Works – With Guest Dr. Wendy Suzuki

Shawn Stevenson: Welcome to *The Model Health Show*. This is fitness and nutrition expert, Shawn Stevenson, and I'm so grateful for you tuning in with me today.

This episode is a real treat. It's with somebody who I admire so much, and I learn a lot from personally, and I'm on the road here in New York City.

I actually just came here. I left Jamaica for our Phenomenal Life event with Eric Thomas, with C.J., and the rest of our team.

Which C.J. has been on the show as well, and of course you've got to know who E.T. is - Eric Thomas, the greatest speaker walking around on the planet.

And I was just- Phenomenal Life to say the least was an incredible experience. That was my first time in Jamaica, and yeah, it's cracked up to be all that all the people talk about.

You know, it was really, really amazing, and I had a great time, and just a big shout-out to everybody who came out to the event, and all the love, and the hugs, and all the stuff we learned that we talk about.

I did a very special session for everybody, and I just want to give a big shout-out to everybody who came out. And listen, do not miss the next event. Alright?

Make sure that you are there. There's something really special that happens at a live event. You know? Our podcasts, and the books, all of that is incredible and amazing and life changing.

There's nothing like being there face-to-face. So make sure to come out to the next event and I'll keep you guys posted on what's coming next.

As a matter of fact, what's coming next is Bulletproof Conference. I'm going to be speaking at Bulletproof Conference.

This is going down in L.A. and this is going to be April 5th through the 7th, and you could stay up to date, check out the website.

Bulletproof Conference, and you can come and see me, hang out with me. I'm going to do a very special talk there as well. So we're definitely going to have a good time.

And also listen, being that I'm traveling, being that I'm on the road, you know I'm coming equipped. Alright? I don't want to just be a victim of my circumstances. I want to be a creator of my circumstances.

And so I want to do things to make sure that I'm ensuring my health and fortifying all of my nutritional bases in the best of my capabilities when I'm travelling and I might not have ideal circumstances.

So this is a true story. One of the things that I've been doing lately because I love it so much, and I literally- this is when I'm at home, I have this every day.

And I was like, "Well when I travel, I'll just do without it," but I'm not doing that no more. I'm packing my baby up real nice and putting some nice covering on it so it doesn't explode in my luggage, but I'm bringing my MCT oil with me.

I absolutely love the Onnit emulsified MCT oil, and listen, MCTs are- this is one of the things that you're going to continue to hear about long into the future because of all the incredible things that MCTs can do inside of the human body.

So these are medium-chain triglycerides, and so one of the things is the thermogenic effects that we see with MCT oil because they have the ability to positively influence our metabolism.

And part of the reason is that they're so usable as energy by our cells because MCTs can go- because of their size, they can go directly through the cell membrane and they don't have to go through the liver for additional processing.

Basically a lot of food that we eat will just- say you're eating some chicken, alright? That's how my oldest son, Jordan, used to say chicken.

For years it was 'shicken' and it was the cutest thing so I never corrected him. Alright? So he was probably like in middle school when he was saying 'shicken,' and probably kids were making fun of him. He's like, "It's shicken."

But you know, so you might- when you're eating some chicken, that goes into your gastrointestinal tract, and that- it's in the chicken currency, it's not in human cellular currency.

So it has to get converted in a sense. It's kind of like the dollars and the Jamaican dollars. I traded in like \$300 for Jamaican dollars. They gave me back like \$187,000 Jamaican dollars. I just don't get it, right?

So that conversion has to take place, and that takes time. Right? MCTs go directly to the cell and feed your cells, you know cellular energy, without that conversion because it's already in that human currency, if that makes sense.

So we've got that, we've also got the benefits of supporting our gut health, which we know that this is the real true final frontier when we're talking about human health and wellness.

Today we're going to be talking about the human brain. The gut is often referred to as the second brain. Could be called the first brain at some point.

There's so much going on there. We've got thirty neurotransmitters in your gut, just like what we see with your brain. It's just amazing. It's amazing.

But this connection, this interaction is super important, and we know we've talked about this many times on the show as well.

So MCTs have a particular capability of combating harmful bacteria, viruses, and things of that nature. So it's just good on so many levels and it taste good.

And the emulsified MTC oil specifically, guys. Like if you're getting MCT oils from Company X, whatever random- like, "Shawn talked about the MCTs," then you see it somewhere.

If it's not the emulsified, you're not getting that extra love. You're not getting that extra joy or party in the mouth experience. Alright?

The emulsified MCT oils is like a coffee creamer. And so literally, like I'll pack it up in a freezer bag, and I'll put it in my suitcase, and I bring it with me because I enjoy it that much, and it really does fuel me for a lot of the time.

Sometimes my days are really busy, and to be able to get that kind of nutrition, because another little thing I want to share with you is that the MCTs also support- you know a lot of people are doing a ketogenic diet, or cyclical keto.

MCTs, you can have this, and it supports that approach because it triggers your body to produce ketones, which is phenomenal.

And so being that it's that kind of fuel if you're doing like intermittent fasting, this is supportive of that because it's kind of like a fast mimicking source of nutrition.

So, so many great benefits. One of my favorite things on the planet. Check it out right now, www.Onnit.com/model. That's www.Onnit.com/model, you get 10% off everything that Onnit carries from their incredible, incredible nutritional products, to the fitness equipment, and so much more.

So pop over there, check them out, www.Onnit.com/model for 10% off. Now let's get to the Apple Podcasts review of the week.

ITunes Review: Another five-star review titled, 'Best podcast out there by far,' by JustineDellP.

"Hi Shawn. I've been meaning to leave this review for quite some time. The Model Health Show is the first podcast I really started listening to, and continues to be my favorite.

As a clinical social worker who works in the mental health field and has worked with eating disorders for many years, I really appreciate how this show never promotes restrictive eating or a one-size subscription to nutrition and exercise.

I have loved seeing how the podcast has evolved over time and how the topics for health and wellness have expanded so much, showing us that our health and wellness includes taking care of ourselves as a whole not, just focusing on what we are eating or how much we're exercising.

Personally as I continue my journey to improve my health and wellness overall, I know I can listen to *The Model Health Show* and learn something new, feel inspired, motivated, and never feel ashamed for not having everything figured out already.

Thank you, Shawn, for all the work you do. You are truly an inspiration. Love, a devoted fan, Justine."

Shawn Stevenson: Justine, that has just filled me up so much today. That's truly filled my cup. Thank you so very much. That's the mission and why so much is going into this is exactly that.

And that's what model health really is. It's having health in all areas of life, not just physical fitness, which there's a difference between fitness and health in and of itself, but having health in our relationships, having health in our finances, having health in our careers.

All of these things we want to bring to the table because all of those in fact impact your health-health, you know? They impact your physical health as well.

So all of it matters and bringing on the very best people in the world to provide you a template and a model for you to create your own model, because that's what it's really about, because you are something special.

You have a specific unique gift, talent, capacity, and as you are going through it and pulling these different things and creating your own story, those things are going to be able to truly shine through.

So thank you so much for leaving me that review, and everybody if you've yet to do so, please pop over to Apple Podcasts and leave a review for the show. I would appreciate that so very much, and let everybody know what you think about the show.

And on that note, let's get to our special guest and topic of the day. My guest today is Dr. Wendy Suzuki, and she is a professor of neuroscience and psychology at New York University Center for Neuroscience.

And she's also a popular science communicator. She's out there giving talks, she's speaking to the masses, she's making a big impact, and that's where I first met her actually was at a conference.

And she's also the author of 'Healthy Brain, Happy Life: A Personal Program to Activate Your Brain and Do Everything Better.'

It's definitely one of my favorite books, and we're starting this episode off a little bit differently because we're going right into the conversation.

We were already talking about some cool stuff and I wanted you to be able to join in on the conversation as it's happening, so check out this interview with Dr. Wendy Suzuki.

I feel better with her here. Mark is alright. Thank you. I appreciate it. Apparently it's from Fiji. I don't know. I don't know. We trust a lot in our culture.

Dr. Wendy Suzuki: Yes.

Shawn Stevenson: This could straight up be from Wilmer's toilet. I don't know.

Dr. Wendy Suzuki: Oh no. Hopefully not that. I like that one. I actually think it tastes good.

Shawn Stevenson: Yeah. Fiji is pretty good.

Dr. Wendy Suzuki: Yeah, I like Fiji too.

Shawn Stevenson: But you know it's plastic.

Dr. Wendy Suzuki: I know.

Shawn Stevenson: It's BPA free, but there's other things with plastic besides BPA.

Dr. Wendy Suzuki: Still. I just went to this morning seminar on new technology in plastics. How do you get rid of plastics? And you know who's the leader in that, is Finland.

Finland is the technological leader in developing ways- other kinds of plastics. It was fascinating. So how they create things that will literally degrade in six weeks.

A plastic container made out of their stuff put into a dump will degrade in six weeks, and new kinds of paper cups that can take - this was the big thing - can it take alcohol, you know?

It could handle water, but you have to be really strong as a paper cup to handle alcohol.

So now these kinds of cups are being-

Shawn Stevenson: Wait, this sounds like the mystic arts here. You know? This is some Dr. Strange stuff.

And speaking of Dr. Strange, but strangely amazing, it's so great to have you here with me.

Dr. Wendy Suzuki: Thank you.

Shawn Stevenson: And I haven't seen you since Chicago.

Dr. Wendy Suzuki: I know. When was that?

Shawn Stevenson: That was maybe-

Dr. Wendy Suzuki: Four or five years ago?

Shawn Stevenson: I think was three years ago.

Dr. Wendy Suzuki: Three years ago?

Shawn Stevenson: Yeah, well it flew by. And to be honest, I mean, you were the highlight of the event.

Dr. Wendy Suzuki: Well you were my highlight of the event. And then we sat next to each other. It was like, "Oh my God, I love you."

Shawn Stevenson: So we had a great time and it was also awesome, I had you on the show a couple of years ago now. That was literally a couple years ago too.

Dr. Wendy Suzuki: Yeah.

Shawn Stevenson: And I'm sure- and I can't wait to get into this, just your life has changed so much. I know that you had the second biggest TED talk last year.

Dr. Wendy Suzuki: Yeah, 2018.

Shawn Stevenson: Bananas in pajamas right there. And I can't wait to dive in and just talk about what you've learned over the last couple of years.

Dr. Wendy Suzuki: Yeah.

Shawn Stevenson: So what's been going on?

Dr. Wendy Suzuki: Gosh, so many fun things. I have really expanded my research to really ask what can my research- how can my research help you as a person individually?

You know, how much can my science studies that's published in these fancy science journals really help the individual?

Because I give these talks and people say, "Okay, well just tell me how much. Tell me how much exercise. I just want to know the magic formula."

And I realized I was never going to be able to answer that question unless I actually did that, asked that question directly.

And so that has led me to a different way to do my research, which is through the mechanism of a startup. So we are developing new ways to actually individualize exercise prescriptions so that you at your gender, at your age, at your fitness level, we will be able to tell you what workout is maximizing your memory, what workout is maximizing your mood.

And so I could answer all those people. That was the number one question, "Just tell me how much."

Shawn Stevenson: And that speaks to like people think differently too, you know? For you, I'm definitely more of like a 'why' person. You know?

I tend there, just like, I just want to know the why and what. If I just find out something fascinating, I'll figure out the 'how.' Just give me a little bit, and I'm doing it.

For other folks, they really just operate in that language. 'Just tell me how. Just tell me what to do. Give me the thing.'

And so that's one of the things that I see with- you've come from the very kind of prestigious academic space, and then getting out and communicating it with people is a different ballgame because you have to speak to different ways of learning.

Dr. Wendy Suzuki: Right.

Shawn Stevenson: And so I love that you're doing that now, that's really awesome.

Dr. Wendy Suzuki: Yeah, no that was great. And so that's been a lot of fun. I think it was almost exactly a year ago January 15th, though not that long ago, I fulfilled one of my childhood dreams, which was to perform on stage.

So the first line of my book 'Healthy Brain, Happy Life,' is long before I wanted to be a scientist, I wanted to be a Broadway star.

And so I don't know if you're familiar with this venue down on Clinton Street in New York called Caveat, but it's a science nightclub.

Shawn Stevenson: Wait, hold up. A science nightclub?

Dr. Wendy Suzuki: It's a science nightclub.

Shawn Stevenson: Sounds like an oxymoron.

Dr. Wendy Suzuki: No, no. They have science-related programming seven nights a week and beer on tap and wine. So they are being so innovative, and one day I got an email from them and said, "We're bringing together science communicators and theater directors to try and create something new."

So I went down, it was like speed dating. So we had to all get up and say, "Hi, I'm a scientist, I do this." And then the director said, "Hi, I'm a director, I do this."

And then we had to rank who we wanted to work with most. And I matched with the person that also said she wanted to work with me the most, who is an amazing director name Laine Rettmer, and she directs operas, like small scale operas here in New York. Very cool.

You know, she's the kind of person that could create a whole vision with zero budget, really talented people. And so she helped me tell my kind of personal science memoir in a theatrical way.

Shawn Stevenson: Oh my goodness, this is amazing.

Dr. Wendy Suzuki: And so I got to perform this. Yes, it was so much fun.

Shawn Stevenson: When was this?

Dr. Wendy Suzuki: It was January 15, 2018.

Shawn Stevenson: Oh, is it recorded somewhere?

Dr. Wendy Suzuki: No, because it was just a pilot. So they were just putting people together, see what comes out, and so it let me fulfill this, this fantasy.

Shawn Stevenson: Yes. That experience, that's magical. That's beautiful. Oh my goodness, I love it.

So of course I want to talk about some of the new insights for folks, but there are going to be a lot of folks who haven't listened to their past episode yet, which is in the show notes.

Definitely go listen to the whole episode but just give us a little snippet for new listeners about what you do with your work, and the kind of epiphany that you had with your first book and that data around exercise.

Dr. Wendy Suzuki: Yeah, so the theme of my whole science life has always been what's called brain plasticity; how the brain can change in response to your environment and what you do.

And so for many years I studied memory because that's one of the most common ways that we change our brain; we learn something, we remember something. That actually changes molecules, it can change structure in the brain.

So I was happy doing that and really focused on that, but as I worked really, really hard to get tenure at NYU, I found myself suddenly 25 pounds overweight with no friends outside the lab because all I did was go to a lab and then go get takeout, eat it at home, and then come back to the lab.

And I knew I needed to do something, and I was also just really stressed out. It's a very stressful thing to try and get tenure.

So I didn't know how to make new friends, but I did know how to get myself stronger at least, so I went to the gym, and I noticed immediately that mood boost.

It just- it was exactly what I needed. I felt exuberant, I felt so up after every workout. And so, I kept going and I got really, really regular, and it was only a year and a half later that I realized, "You know, I think my memory is better, and I think my focus is better because I'm able to write my grants - my NIH grants - better and longer and it makes it flow easier."

And that was huge for a scientist because that's the main thing that we do. But the other thing that really made me sit up and take notice was not only what was improving in myself, but right at that time, my father had a sudden and precipitous drop in his memory and attention.

Suddenly one day he came home and told my mom that he couldn't remember how to get to the 7-Eleven that he had been driving to for the last 30 years to get his coffee.

And I realized that everything that was improving in me suddenly went down in him. And as I started to research the effects of exercise, because that's the only thing that changed in my life as I noticed these improvements, I realized it wasn't only a powerful way to improve my own cognitive function today, but it had the potential to protect brains from aging, including from dementia and Alzheimer's disease.

Now it was a little bit too late for my dad because he was on the frail side at that point, so I couldn't just send him off to the gym to pump some iron.

But it really made me realize that I had the potential to use my science knowledge to explore something that had the potential to transform millions of people's lives.

And so that's what made me switch my research to the effects of exercise, and that's what inspired me to write the first book, which is all about how I did that, and what I noticed in myself.

And it's kind of a coming- not coming of age, but coming of direction story for a scientist.

Shawn Stevenson: Yeah. Oh my goodness. One of my favorite books.

Dr. Wendy Suzuki: Thank you.

Shawn Stevenson: And you know, it was so awesome for me because I love ideas that just give legs to other things in our lives. Like people go to exercise for the physical benefits, but then you get a better brain, you get better relationships because your hormones, you get endorphin, whatever.

Like things that influence other things, and you kind of knocked over the first domino for me, you really studying this, and I've done masterclass episodes since on the various forms of exercise and the impact they have on our brain and performance.

But it started with you, and now of course having a couple of years since, and you've also traversed into some other areas like meditation.

Dr. Wendy Suzuki: Yes.

Shawn Stevenson: So let's talk a little bit about that.

Dr. Wendy Suzuki: Absolutely. So I must give credit where credit is due, and this was an undergraduate that was in my lab that said, "I know we study exercise, I love

exercise, but I'm really interested in meditation. What if I propose a study and write a little university grant?"

I said, "That's a great idea." And right as she got that grant, I happened to meet the director of a meditation studio - Journey Meditation - that said, "You know, I'm actually interested in supporting that research, and you can use my form of meditation that is a very kind of classic form of breath and breath awareness and body awareness meditation."

I thought that's fantastic, and so we paired together, and so this paper was just published last year, and we looked at a very doable kind of meditation.

It's not like, "Okay, now you have to start meditating an hour each time." It was literally 13-minute guided meditation that they listened to every day, seven days a week, compared to 13 minutes of a podcast that you'd listen to every day because you're listening to something, you're trying to pay attention.

And we got great adherence. People really stuck to it, and we got significant improvements in mood, and stress responses went down in the people that were listening to the guided meditation versus the podcast.

Focus went up. So this was my first little foray into meditation and really got me interested in how similar some of the effects of exercise and meditation are on your brain.

Shawn Stevenson: Awesome. So how are you tracking that?

Dr. Wendy Suzuki: So we track both things in the same way. They are sensitive cognitive assessments that we take. These are standardized cognitive tests that many, many, many researchers have done before.

We know exactly what a particular score will mean, and we know what a good score is for your particular age group, for example.

And so we test stress, we test mood, we test memory, we test focus; there's so many different things that we can test with these standardized tests.

Shawn Stevenson: So it's so fascinating to see, and I don't know if you've- Dr. Daniel Goleman?

Dr. Wendy Suzuki: Yes.

Shawn Stevenson: And he had a recent book, 'Altered Traits.'

Dr. Wendy Suzuki: No.

Shawn Stevenson: Where it's just really focused on meditation and changing potentially our genetic expression, just like amazing this inner technology that we have access to.

Dr. Wendy Suzuki: Yeah.

Shawn Stevenson: And we spend so much time trying to search in the outer world for some kind of like magic potion. I've said magic a couple of times because your stuff is magic.

But you know, the reality is it's coming from the inner world for all of us. And so having this kind of inner technology and also making it approachable. Right? That ease of yes.

Because if you're like, "Okay, you've got to do a silent retreat. You've got to get your data." But you know, having that versus another study group of just listening to a podcast for the same amount of time, and seeing those improvements. Powerful.

Dr. Wendy Suzuki: Yeah.

Shawn Stevenson: But just a shout-out, podcasts can be meditative too.

Dr. Wendy Suzuki: Yes.

Shawn Stevenson: Alright? So just saying. Awesome, so let's talk a little bit about- for you personally, and taking that on, like why did you say yes?

Dr. Wendy Suzuki: To meditation?

Shawn Stevenson: Yeah.

Dr. Wendy Suzuki: Well you know, gosh that's an interesting question because somewhere in there I started my own personal meditative practice after years of trying, and starting, and Deepak Chopra, I would try that and I would get into it.

I said, "Yes, I'm a meditator," and then I'd give it up. It really didn't stick. I was trying, and trying, and trying until my fiftieth birthday when I took a trip and I went to Bali with my best friend.

And at the beautiful resort we're staying at, there was a monk who was a special guest there, and they said, "Would you like to do a tea meditation with the monk?"

And I said, "Sure, I'm on vacation." So I went the first morning and sat down, the monk didn't say very much, but he started to brew tea in a tea pot, and he served it to five of us that were sitting there in silence.

We drank the tea, it was kind of a big bowl, so I was kind of proud that I finished the whole bowl. Eight bowls later was when the meditation ended. But it was like it went like that. It was so quick.

Imagine, we were outside in Bali. We had the smells and the sights and the calm of that, and we were drinking just delicious tea that was being freshly brewed for us in handmade ceramic bowls.

And every day for the rest of that stay, I got to sit in meditation with that monk, including a day I was the only guest there, and so it was just the monk and I in this silent morning tea meditation.

And every day since I got back from Bali, I've done that on my own, and that became my meditation practice.

Shawn Stevenson: Oh my gosh. I don't know if you know about this kid's Lego cartoon called Ninjago by chance? It's like my son's- my youngest son's favorite show.

And one of the main characters is Sensei Wu - and shout-out to everybody that watches Ninjago or their kids do - and he's just all about his teapot.

Dr. Wendy Suzuki: Really?

Shawn Stevenson: He's like this master of this martial art, but his tea pot is his thing, it's how he does his meditation, you know? So I think you were with Sensei Wu.

Dr. Wendy Suzuki: I might have been.

Shawn Stevenson: That might have been, and I was curious immediately. I was like, "Okay, so it's it seems to be a lot more of a transition or maybe 'easier' to be in that meditation there in Bali. And I was wondering what you brought back with you.

Dr. Wendy Suzuki: Well yeah, Bali was absolutely beautiful, but what I realized that helped me go from I'm just really not that into it to I really enjoy this every day, was the ritual of making the tea.

The ritual of boiling the water, of pouring it out, of waiting for it to brew, and then pouring it in my cup, drinking it, and doing it all over again.

Somehow that ritual made it seem- at first it reminded me of those mornings in Bali, but it became like my own personal tea ceremony, and it allowed me to create this sacred meditation space where I don't have to try not to think of my emails.

I don't have to try not to think about what I have to do that day. It really for me just opens up that open space that you want in meditation.

Shawn Stevenson: So would you define that as more in the category of mindfulness?

Dr. Wendy Suzuki: Yeah, I mean I define it and I've described it in things that I've written and in my second book in as open monitoring meditation. It's just feeling what's going on, being aware of your body.

I've added - and this was a really important add that I learned from a podcast - loving kindness meditation. I always add a loving kindness meditation, which I was taught- I don't know how you were taught a loving kindness meditation.

But I was taught think of something that is just easy to love, like a little baby or a puppy. So it's like you can feel that loving kindness, and then move on to your sworn enemies.

But what I started doing is doing loving kindness towards myself. Like can I be the super mentor that is my dream mentor but to myself for just a few minutes of the day?

And those podcast people were right. It was the woman who wrote the book 'Quiet.' It's 'The Power of Introverts' from - it's on my list - and from listening to her I want to read it, but she was the one that recommended it, and I'm very grateful to her.

Shawn Stevenson: Oh man, I love that so much. And this is- for me when I hear that, it just like brings up this super powerful opportunity we have to channel those things.

Because a lot of times our feelings are just on automatic and our thoughts are on automatic and we're just kind of seemingly at the mercy of them.

And to be able to channel something like you said, like doing that ceremony channels that experience with Sensei Wu.

And having that because for a lot of us unconsciously, we're doing certain things, and we're channeling feelings and experiences, and we're doing them through methods that aren't serving to us as love and kindness for ourselves or the things that are moving us forward.

So for example, somebody might start off getting high with somebody in college, and it's just that feeling of like togetherness, and life is amazing, and then next thing you know like they're just in their late twenties and they're just going to get high in their car just to try to get by.

But the feeling is- like the scenery is not actually there anymore. They're doing this in a negative way in a sense that's not moving their life forward.

So with that said I just wanted to reiterate how powerful it is if we can consciously create rituals and practices in our lives that move us forward that can draw in all those good feelings.

Dr. Wendy Suzuki: Exactly. I'm with you. That's a beautiful way to state that. And I think I was craving rituals in my life, and that's one of my favorite ones.

Shawn Stevenson: Well, it's definitely one of my favorite ones as well. I think it's about maybe- I'm just throwing this out, maybe fourteen years I've been meditating. So you do the math.

But yeah, it's just been- and I've said this many times in the show that for my mother-in-law when I first met her, it was just my girlfriend's mom, I went over to meet her, I think was the second time actually.

And she was talking about stuff, and my girlfriend was just like, "My mom is super weird, just ignore her. We're in and we're out."

But she wasn't weird to me. It was like- because I was very interested in how can I be better at that point in my life. You know?

I had just kind of overcome this health issue. I still wasn't 100%, I was still dealing with these small things. And she said in a statement one day, she was like, "If I can give everyone one in the world one thing it would be meditation."

And when she said it, this is the exact thought that I had. I was like, "Give me a million dollars. Like why would you say that? You know, what is wrong with you?"

But I had no idea. I literally was so blown- like it changed- it's more valuable than a million dollars, it's more valuable than a billion dollars. It is- in a sense it's like freedom. You know?

It's true, true freedom and self-awareness and man, it's just such a powerful tool. If I could say one thing has been transformative in my life besides my family, it's meditation for sure.

Dr. Wendy Suzuki: Yeah.

Shawn Stevenson: So great. So I want to talk about the cognitive enhancement through exercise.

Dr. Wendy Suzuki: Yes.

Shawn Stevenson: Alright? So obviously we know through your work, we see an increase in activity in the hippocampus, this memory center in our brain, but what's the connection with cognitive enhancement?

Dr. Wendy Suzuki: Yeah, yeah. So cognitive enhancement refers to the good stuff that the brain does. Can we make that better? And so what does exercise do in that realm?

Well probably number one it is improving your ability to focus, focus and shift your attention, an issue for anybody that struggles with ADHD and just anybody because we're just bombarded with so many different things and it's a great value to be able to choose what you focus on and let everything else go.

That is enhanced with exercise. Why? Because the growth factors and the hormones and the endorphins that are surging in your brain after exercise and that go up as you increase your cardiorespiratory function, help the prefrontal cortex work better.

They help the synapses make new connections, and some studies show even that the axons are growing and are getting stronger and you're basically strengthening these neurons in the prefrontal cortex.

So that's one area of cognitive enhancement. The second is what you mentioned is the hippocampus. So the hippocampus is one of only two brain areas in the adult where brand new brain cells are born in adulthood, and the only thing that you can do today that will enhance that is to up your physical aerobic exercise.

Because aerobic exercise enhances growth factors and it's those growth factors that really seem to go up specifically in the hippocampus, and they help the brand new neurons that will grow even if you're a couch potato, but they'll help more of them grow and integrate and those new neurons work better than the old neurons that have been in your hippocampus since you were born.

They're kind of like teenager neurons. They're all excited and they get all into joining different memory circuits and they help your memory work better. So you want as many of those as possible.

And the third major area is mood, and mood is one word. Of course mood is positive mood, negative mood, everything is going on there. And what exercise is doing is stimulating the release of serotonin, dopamine, or adrenaline endorphins that are all hormones and neurochemicals that are enhancing good mood. And so who doesn't want more of that?

Shawn Stevenson: Right. We have access to that. Again, it's just so inspiring to move some, and specifically aerobic exercise for this one. And when you say these growth factors, one of those is BDNF? Is that one of them?

Dr. Wendy Suzuki: Yeah, one of them is BDNF. It's called brain-derived neurotrophic factor, and that's the one we know the most about, but that is not the only story.

There are a number of other growth factors that we're still learning about that may be more important, not just for the hippocampus, but for other areas like the prefrontal cortex that we know is being enhanced.

Oh, and let me just say that for the hippocampus, there's evidence that it's the aerobic exercise, so you really have to get your heart rate up.

Walking is good enough for mood, which should make everybody go out and take a walk just to start to enhance your mood and get familiar with that.

And this is going back to meditation, self-awareness. Can you be self-aware enough to know, "You know, that really did improve my mood," and be able to- this is where you get to do a little bit of self-experimentation.

What is that walk that is best for my mood? Does it change if I do it in the morning? At lunch? In the evening? What if I go a little bit faster, make it a power walk? What if I walk with friends?

All of these things can be explored and kind of refined for your own lifestyle.

Shawn Stevenson: You know, something that came up for me when you were talking a little bit earlier, and talking about the different parts of the brain, and how it creates this amazing network, and you mentioned the synapse and you mentioned axons, you know the axon terminals.

And another part is the dendrites. I've got you here. Listen, can you explain to people what is going on there with those different aspects of what our brain is doing through these connections?

Dr. Wendy Suzuki: Sure. So you have just kind of outlined the main structures of the major working unit of the brain. So the brain is very, very complicated, but it's only made up of two types of cells; neurons and glia.

Neurons are the workhorse and they are the ones that have synapses and electrical communication. Glia are support cells.

Now more and more is known that they were thought to be just kind of a wall decoration, but they're doing much more. We know a lot more about neurons, and it's the neurons that are kind of the stars.

One thing I can say, they're prettier than the dendrites. They're more expansive, they have a cell body, they have kind of- they kind of look like a tree where the cell body is a little bit like a trunk, and then the leaves are the dendrites.

That is where the neurons are taking in information, it's receiving information at the level of the dendrites, at the leaves of the tree, and then it has an output which is kind of like the roots of the tree, and that is the axon.

And those axons go to dendrites of other neurons and provide input there. And so neurons communicate through brief bursts of electrical activity called action potentials, and everything that we know about what our brain is doing.

So right now you are looking at me, you're listening to me, you're comprehending my language, you are nodding your head so you have motor functions.

All of that is being done by these neurons and their brief electrical activity; the action potential. And so it sounds simple there, but to really understand what's going on, more than many, many lifetimes of work.

Shawn Stevenson: Oh my goodness. Like even when you were describing what's going on with me, I was like in a trance. Like, "She's talking about what's happening in my brain right now." It's just so cool. So cool.

So thank you for sharing that because this gives us a little bit of understanding.

Dr. Wendy Suzuki: Sure.

Shawn Stevenson: So what I would love to do is to talk a little bit more about exercise, and I want to know what you do, and we're going to do that right after this quick break. So sit tight, we'll be right back.

We are back and we're talking with one of my favorite humans, Dr. Wendy Suzuki, and before the break I asked her, and I wanted to talk about what does she do.

She's the scientist who's put this information out about how impactful exercise is for our brains, our memory, but what do you do? Let's talk about that.

Dr. Wendy Suzuki: Yeah, so I have recently set myself new goal for 2019 exercise, and that is seven days a week, first thing in the morning, minimum half an hour, increase the weights.

So I had- I'm great at aerobics. I teach an aerobic kind of class, those are my favorite kinds of classes to go to, but I need more weight bearing exercises.

And I always hated pushups, I hated sit-ups, I hated all of that, but now I'm kind of getting into it. And so I- and also I do all online.

So I do it all at home now to really maximize my time spent and make sure that I use every minute effectively. And yeah, so I just choose my weights workouts, and I mix it up.

And even if it's too hard, I stop it and I go slower, and then I turn it on again, and I love the- I do it shorter so I can do it seven days a week.

But I love the ritual that I create in my life of that is first thing I do. So actually I first do my tea meditation about 45 minutes, and then I do my exercise, and then I eat breakfast. So that's what I do seven days a week.

Shawn Stevenson: I love it. I was wondering about the seven days a week, and I was like, ritual. That's the thing.

Dr. Wendy Suzuki: Like you can't skip it if it is part of your daily ritual. I used to go to the gym, and I would go to the hour classes because that's what they have at the gym, and I couldn't work out the next day, I was too tired.

And I needed to rest, which was fine, but it was messing up my ritual. And so now I do shorter workouts, and so I can do it every day, and I'm definitely getting stronger.

So- and I can work harder because I know it's not going to last as long as that hour. So for me, I'm really loving this new formula.

Shawn Stevenson: I love it. So you're going to be the one trip with the grocery bags. One trip. You're not going back to the car, no help.

Wendy: That's right. Oh yeah. Of course. I live in New York City. I have to go blocks carrying my groceries.

Shawn Stevenson: That's so nuts. You know, those are those small things that you don't think about. But you know, this is also- I've been here several times now at this point, but that's one of the things that I admire.

It's like everybody is so- they're just moving, and the way that they move is like, "I have somewhere to go, I have somewhere to be. And if you're in the way, you've got to be careful."

Dr. Wendy Suzuki: That's right. That is right.

Shawn Stevenson: So it is so interesting. So that aspect for me personally- on the other side with me, it's something in the morning.

So this might be the strength training, because I go hard when I do that. Or it might just be jumping on the rebounder. But I do some form of physical activity every morning, even on Sundays.

If I just grab the rebounder, jump on that bad boy for ten minutes, watch Wendy Suzuki's TED talk while I'm doing, feeding my spirit before I start my day and go out the door, whatever I might do.

So yeah, it's just the ritual having that built into- so your brain starts to come to expect it, and then it will start to feel weird if you don't do it.

Dr. Wendy Suzuki: Right. Exactly. That's the trick. That's the trick.

Shawn Stevenson: So that's with those axons and dendrites.

Dr. Wendy Suzuki: That's right.

Shawn Stevenson: So cool. So cool. So I want to talk a little bit about some research that you've kind of been into right now with the EEG and like long-term changes to the brain potentially. Let's talk about that.

Dr. Wendy Suzuki: Yeah, yeah absolutely. So one of our most exciting recent discoveries has to do with the changes that happen after a three-month exercise regimen that we're really trying to get people to increase their cardiorespiratory function.

And these were low fit people, and we asked them to start going to spin class three times a week, and they did three to four times a week, and for this three-month period, and we not only looked at their cognitive function.

So their mood improved, their memory, their recognition memory got better, but we also asked could we see any difference in the general electrical activity of their brain.

And the most sensitive point that we found was what we called baseline measures. So just taking- and this is non-invasive. This is EEG - electroencephalograms - where you put a little cap on your head.

You might have seen it in hospital pictures, and you don't feel it at all, yet it's able to measure very broad electrical activity that is being generated by your brain.

And we are measuring just as you're either staring at a crosshair on a computer screen, or just closing your eyes, just mind wandering either at the beginning of this three-month period, or after you have completed your exercise regimen.

Or the control group there was video game playing, but this isn't first shooter video game. It was very competitive video Scrabble that they were playing for three months, the same amount of time.

What we found is during these baseline measures, a particular pattern of electrical activity associated with relaxation, it's called the alpha wave.

When you're relaxing, getting ready for sleep, you have higher levels of alpha.

And so what we found is after the three months of exercise compared to those video Scrabble players, the people that exercised had higher resting levels of alpha, which basically meant that their brain was more relaxed at baseline when they were in this mind wandering period, which is consistent with the better mood that they had, and also the better stress.

We didn't look at stress response in particular, but other studies have reported that exercise can improve your stress response, and also many people noticed that in themselves.

Shawn Stevenson: There's definitely so much anecdotal evidence for that one. But also those- alpha is also associated with the ability to focus, if we want to.

You know, it's more of our relaxed intention. Like it's just a good place to be in mentally, and knowing that exercise is one of those tools that can get us here easier, oh my gosh, that's super valuable.

Dr. Wendy Suzuki: Yes, it is.

Shawn Stevenson: That's so awesome. There are so many different things I want to talk to you about, but I would like- I would really love, since I have you here, and I know that you've got some stuff on the horizon, which we have to do this again. Let's just commit now.

Dr. Wendy Suzuki: Okay. Okay, yes.

Shawn Stevenson: That we are going to see each other more.

Dr. Wendy Suzuki: Okay. Yes, let's do that.

Shawn Stevenson: You're getting into this space which is really an epidemic now, and folks dealing with anxiety.

Dr. Wendy Suzuki: Yes.

Shawn Stevenson: And the title of the book itself says a lot, and it's already intriguing to me. So can you share a little? Just a little teeny bit of flakes?

Dr. Wendy Suzuki: Absolutely, yeah. So my next book is called 'Good Anxiety, Bad Anxiety,' and it's going to come out in September 2019. I'm really excited about it.

And I have to say that- so the basic idea is we help define what bad anxiety is. Most people understand what bad anxiety is.

But we also define what good anxiety is. And the extra little kicker is that we identify ways that you could actually turn the core features of everyday anxiety.

Now this is not hospitalization level anxiety that we're dealing with. This is everyday anxiety that you and I feel, which is why I'm an expert on everyday anxiety, as you are- as we are as a general population.

But how does the feature of everyday anxiety end up turning into a superpower that you can use? And so I think that that also intrigues everybody.

And I'm going to tell you how we ended up going that that route. Because first it was just good anxiety, bad anxiety, and I was ready to jump into writing this story, and really getting into- I had outlined all the different brain circuits that I was going to describe as part of this book.

And I was literally days away from starting the first draft of it, and I had a tragedy in my family.

So my younger brother who was only fifty years old died of heart attack, and it was last May, and it devastated me in a way that I never would have- it devastated the whole family.

I mean, my brother was such an athletic fit person. He's the last person that you would expect to succumb to a heart attack.

But he had one, and it not only plunged me into just grief, but a level of depression and anxiety that came with it that I'd never experienced before. And it was awful.

I mean, I couldn't do anything. I just went home, spent time with the family, started to slowly heal.

And soon after my brother's memorial, or right after my brother's memorial, I went on vacation with the same friend that I went to Bali with, which was lovely.

And I started to realize then that while it was the most horrible thing, I'm not the only person that had a sibling pass away unexpectedly, but I started to realize that it really changed something in me, and it allowed me to appreciate the love of the people that were left so much more than I ever did before.

Partially because I wish I had appreciated my brother more when he was actually here, and I realized, "Oh my God, that's a superpower. I just discovered a superpower in myself that was born out of the most horrible anxiety and depression and grief that I'd ever experienced before."

And I realized it's not just switching bad anxiety to good anxiety, because then I had to go into- I had to write the book because I already had a contract and I had to get it written.

But you can find a through line to superpowers for all of those good anxiety features that we had originally identified, and the book got transformed, and I got so excited about writing it because it was like, "Okay, maybe this was some little good that came out of that horrible experience that I had."

Shawn Stevenson: Wow. New meaning came from that, and that is super motivating I'm sure on so many levels. Thank you for sharing that. And I cannot wait.

And you know I know- thank you really for sharing that because I know so many people have experienced loss.

Dr. Wendy Suzuki: Yeah.

Shawn Stevenson: And for many of us, it might have come at a time where maybe we don't really recollect, or maybe we haven't experienced that, but this is a part of life that we don't really talk about. It's kind of taboo.

Dr. Wendy Suzuki: I know, it is.

Shawn Stevenson: And it's like because we don't want to look at it, and it's hurtful even to think about. And I'm even right now, I'm hurting a little bit thinking about it if somebody I would lose.

You know, but I have had loss, and I'm thinking about my grandmother. And since- there was a beautiful thing that was born out of that again, because I- same thing you just said.

I cherish the relationships I have now even more, and I'm paying more attention, and I'm asking questions.

Because the one thing that I feel that I miss was there are so many things I want to ask her, you know? And now I just feel like- and you can choose your own belief system, but just believing that she's speaking through other things in a sense, you know?

And I'm just grateful. Just like- it's just one of the things where it's just like, "It doesn't seem like there's a silver lining here," but there is, and I can't wait.

I'm going to be the first to get the book, I would imagine, so can't wait for that.

Dr. Wendy Suzuki: Thank you.

Shawn Stevenson: And you know if you could- again, there are so many things I want to talk to you about, which I will save some for the next time.

Dr. Wendy Suzuki: Yes.

Shawn Stevenson: But on your first interview with me, we talked about- because you mentioned you teach.

Dr. Wendy Suzuki: Yes.

Shawn Stevenson: Not just the intellectual science stuff, but the aerobics.

Dr. Wendy Suzuki: Yes, I do.

Shawn Stevenson: But it's a specific flavor that you're known for. Talk a little bit about that.

Dr. Wendy Suzuki: Yeah, so I teach a form of exercise called intenSati. Inten stands for intention, and sati is a Poli word that means mindfulness or awareness.

And this is an exercise that was developed by an amazing fitness instructor here New York City. Her name is Patricia Marino.

She still teaches here in the city, but I was very lucky to be trained by her, and because this was the form of exercise that motivated me the most.

I loved going to this class. And so I taught a free intenSati class at NYU for six years, twelve months a year, once a week, all year round. And then my schedule got too busy, so I now teach it for the lectures that I give.

So I give a lot of lectures for big corporations, small corporations, lots of different venues, and so I just got to teach at a beautiful yoga studio in Miami called Sacred Spaces at one of the invited talk that I gave. That was so much fun.

So I gave my academic talk to the group, and then all 25 of them came to this beautiful Sacred Spaces, and we got to do a whole intenSati session, and then we had a vegan lunch, which was delicious.

Shawn Stevenson: Wow, that's so cool. And I love just the evolution. This is why I love talking to you, and knowing you before, and seeing all the things that have happened since.

And just our ability to kind of navigate and decide, because for you, like that was a lot. Six years for free in addition to- and then having this be a new path. That's so cool.

Dr. Wendy Suzuki: Yeah.

Shawn Stevenson: So intenSati is what? What is it?

Dr. Wendy Suzuki: Oh, sorry. Yes. So intenSati pairs physical movements from kickboxing, dance, yoga, and martial arts with positive spoken affirmations.

So every move- like if you're punching back and forth, just front punches, and kickboxing, you would pair that with an affirmation.

For example you would say, "I am strong now." And another affirmation could be, "I'm inspired now. I believe I will succeed. What I give is what I get. I feel great."

Any affirmation that you want, you can kind of string them together in what's called a series, and of course your series that you create for yourself are based on what you're going through.

So struggles or just celebrations, and it's a great therapeutic thing for the teacher, but the amazing thing is that all of these positive affirming aspirational kinds of affirmations that you put will mean something different to every single person in your class, which means that you see them all doing it as an instructor, and you see their energy coming out, and you know that it's all positive, but it's kind of coming from all these individual beautiful places, and it creates this classroom that is just so much fun to be in.

Shawn Stevenson: That's so awesome, and you're so awesome.

Dr. Wendy Suzuki: So are you!

Shawn Stevenson: Thank you for hanging out with me today.

Dr. Wendy Suzuki: Thank you.

Shawn Stevenson: And if you could, can you let everybody know where they can find your first book, and where they can connect with you online?

Dr. Wendy Suzuki: Okay so first book, 'Healthy Brain, Happy Life,' you can get it anywhere, Amazon. It's published by HarperCollins.

You can go to my website, www.WendySuzuki.com to sign up. You can get my second book, it is soon going on pre-sale on Amazon, and it'll be out in September. That's by Simon and Schuster.

And if you want to sign up and do some interesting and fun brain assessments, you can go to my other website called www.BrainBody.io, which is my new start-up company.

Shawn Stevenson: So cool, so cool. Final question for you.

Dr. Wendy Suzuki: Yeah?

Shawn Stevenson: What is the model that you're setting for other people with how you live your life personally?

Dr. Wendy Suzuki: It really is about finding and appreciating and offering the gifts that you have to others in the world.

So what is it? Because when you're really offering your unique gifts, that is one of the most satisfying things that you can do.

And so I think I've spent the last few years really refining that, and also learning. What is it that I can give the world? And at first I thought it was I am a professor.

So I teach in this way. But then I learned that I could speak to a wider audience in something like a TED talk, and that I liked to do lots of other forms of communication like a podcast, or a performance.

And so I love it, and the more you love it, the more you bring to it. And so it's finding out what I love and finding out what I can share with others.

Shawn Stevenson: I love it so much. Thank you so much. Wendy, you are the best. Thank you for coming.

Dr. Wendy Suzuki: Thank you.

Shawn Stevenson: Awesome. Everybody, thank you so much for hanging out with me today. I hope you got a lot of value out of this, and definitely pick up her book and keep an eye out for the new book that's going to be coming soon.

And you know, it's so interesting, the first time I heard about intenSati, which it's intensity, it's close, it's like there's a double entendre there.

But it was from Wendy, and hearing about this- because affirmations are something that has been a part of culture, and it's even something that could be kind of funny,

but it's also something that's used as a tool that's been very effective if you actually look at some of the science behind it because words are very powerful.

And when you're imbuing words with movement, just think about you dancing to music, and how you know songs right now from when you were like five. Right?

The music and the movement, it just imbues it even deeper into your cells in a sense, and we're talking physical.

Like this is so, so powerful, is that our thoughts aren't just thoughts. There's a physical reality to those, and having somebody like Wendy on the show to communicate some of this stuff is just super remarkable.

And so if you ever get an opportunity to do intenSati, or to see Wendy in person, definitely, definitely do that, and just leave this today as a catalyst for creating a routine for you revolving around exercise of whatever type so that you can get some of these brain benefits.

Even if it's just walking, we get those mood benefits. And we've talked about this a lot on the show, make sure to check out the Muscle Brain Connection episode because it's a masterclass on all the different forms of exercise, how it impacts your brain and performance.

But the first domino was Dr. Wendy Suzuki for me personally. So I appreciate you guys so much for hanging out.

If you got a lot of value out of this, please share it out with your friends and family on social media, and you can tag me as well, let me know what you thought about the episode, and I appreciate you so much.

We've got some great stuff in store, so make sure to stay tuned. Take care, have an amazing day, and I'll talk with you soon.

And for more after the show, make sure to head over to www.TheModelHealthShow.com. That's where you can find all of the show notes, you can find transcriptions, videos for each episode, and if you've got a comment you can leave me a comment there as well.

And please make sure to head over to iTunes and leave us a rating to let everybody know that the show is awesome, and I appreciate that so much.

And take care, I promise to keep giving you more powerful, empowering, great content to help you transform your life. Thanks for tuning in.