

THE MODEL HEALTH SHOW

EPISODE 618

The Powerful Connection Between Food & Mental Health

With Guest Dr. Uma Naidoo

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SHAWN STEVENSON: Welcome to The Model Health Show, this is fitness and nutrition expert Shawn Stevenson and I'm so grateful for you tuning into me today. As you likely know, we are experiencing epidemic rates of mental health issues, depression, anxiety, ADHD, schizophrenia, PTSD, the list goes on and on and on. It isn't just because of our recent effects of COVID, these issues have been skyrocketing in recent decades, specifically in the 1980s, there's been mighty jumps in mental health disorders. Now, unfortunately, in our conventional approach to these things, mental health and physical health are often isolated from each other, and in reality, these two things are deeply interconnected.

And the data is affirming that, for example, if we're talking about depression, we're going to see much higher rates of obesity intertwined with depression. So higher rates of obesity leading to higher rates of depression and higher rates of depression leading to higher rates of obesity. We can have this chicken or the egg scenario going on, which one is causing the other, but we know that they're deeply connected, and it really boils down to what's happening with our biochemistry. Our metabolic health is of course going to affect our mental health, and our mental health is going to affect our metabolic health.

Now, let's talk about that part of the equation, because we don't often think about, nor are we educated about the fact that our mental health affects our metabolic health. So how is that even possible? Well, your thoughts create chemistry in your body, stressful thoughts, for example, are going to elicit the action of really important and valuable stress-related hormones that when secreted in abundance and at the wrong times. And even into states where they're chronically happening like Cortisol being elevated or noradrenaline, adrenaline, all these things have their place.

But when they're being constantly pushed out into our system because of our perception of stress, again, we can simply think our way into a dramatic biochemical change. Because when we are in a state of stress and carrying stressful thoughts, maybe it's thoughts of fear, worry, anxiety, it's not just affecting one thing in our bodies. This is going to be a systemic cascade effect that's changing everything from your toes to the very top of your head, every cell in your body is going to be affected because they're all connected.

Every cell in your body is connected. So again, going back to this point of separating the mind or mental health from physical health is one of the biggest illusions in conventional medicine, unfortunately, but this is finally beginning to be unpacked and addressed. And these two things are getting married yet again, they never really broke up, but just in the conventional setting, we've really compartmentalized everything, where we have a specialist for this thing,

a specialist for that thing. It's great to have the ability to specialize in something, but to do that at the sacrifice of understanding that every single thing is connected in your body, that is when we lose track of all manner of human health and real advantageous results, and that's what I want to point you back to.

Look at the results, how is everything going with the way that we're treating things in our society right now? Is everything going well? We can just look around and see the results. We are now experiencing the highest rate of obesity ever seen in human history. Here in the United States, specifically, we are the King of obesity, of chronic disease, of, coincidentally, pharmaceutical drug consumption. About 70% of our citizens are already on pharmaceutical drugs, but these chronic issues both physical and mental are not getting any better, why is that? It's because we become obsessed with treating the symptom of the thing and compartmentalizing thinking we could take this thing is going to address this symptom without affecting everything else. So, the whole concept of side effects is really an illusion as well.

It's not a side effect, it is a direct effect because everything is interconnected in our bodies. If we're taking a drug, a statin to try to address our cholesterol, of course is going to affect our pancreas, of course is going to affect our joints, of course it's going to... The list goes on and on, it's going to affect our cognition. Now, we have peer-reviewed data affirming some of the side effects, for example, with statins, and we've put this up and shared this study many times, but we see clinically now about a 30% increased risk of developing diabetes, once someone goes on a statin, it's just like, why? How is that even a thing? How is that possible? It's because it's all happening within the same sovereign body.

And so right now, there is an explosion taking place. While there is an explosion of chronic disease and dysfunction taking place, there's been an explosion in innovation and a re-marrying or a renewing of vows between mental health and physical health. And our special guest today is one of the people whose leading the charge, and she is a Harvard-trained psychiatrist, who's really a pioneer in the field of nutritional psychiatry and some of the things that she's doing and working on is truly remarkable.

Very, very grateful to be able to share her information and to get this out to more and more people, because this is... It's not even a future, it's here now, it's just whether or not you're in to know, because what we eat, just like our thoughts, it instantly changes our biochemistry. Every single bite of food that we eat changes everything about us, it changes what our genes are doing, nutrigenomics, neurogenetics. These fields of science have so much data that we have showing how our food, the stuff that we eat instantaneously alters our genetic expression, and we have the power, the power isn't just in our hands, it's also at the end of our

forks. So really, really excited about this episode. And one of the things that we talked about during the show, I was asking her about mental-health-supportive food, specifically, I asked her about beverages because it's the fastest medium as far as our nutritional intake to really hit our blood stream. To hit, to kind of spread out and work its way through our system, our gastrointestinal tract, that liquid medium can make or break our health in many different ways.

And coming through the conventional setting with the advent of soda, for example, you could be hitting your system with 20 ounces of Coca-Cola. You're going to be bringing in about 16 teaspoons of sugar in a go, and it's going to just drive its way fast and furiously into your blood stream and elicit this kind of hyper-reaction with insulin. And this is of course, that happening time after time is going to drive insulin resistance. And so again, that is a bombardment of a newly invented beverage that sole purpose is to deliver as much sugar and kind of chemical flavor explosion, synthetically altered flavor explosion into the system.

It's also, as you know, highly addictive, and once this becomes normalized, that's really the issue our guest is going to talk about today. It's not about villainizing any particular food group, but we know what this does, if somebody is having a soda every now and then, maybe a special occasion or a special event. Maybe they're going out, whatever, okay, that's one thing, but when the average American today is consuming soda on a regular basis... In my family, daily, one of the things that my mother did every single day, every day, and I was in third grade, I very specifically remember it.

'Cause he lived on the street called McKean and it was right by this major road, it was a two-lane, each direction. So, it was four-lane road right by Grand and Gravois, and she would send me to 7-Eleven to get her first, it was a Big Gulp, Then the Super Big Gulp and then the Double Gulp came out. Alright, so I had to put the 'D' the double, 'cause it was big as hell, and the containers was so big that they didn't put them in that little cup holder remover thing, the little remover, you had to pull out the box and fold it up yourself.

Alright, and so again, every day she sent me over there, I had no business crossing that, I was always younger in my grade, so I'm like seven, eight years old. And crossing over the street, and of course, my reward was getting a couple of quarters, play a little video game right there, they had Super Mario Brothers was popping off. So, I was over there, get that little quarter, get a couple... A little bit of change have my fun, and so... But this practice was normalized, it was a daily regimen for my mother for many, many years, and so again, this medium can be powerful in transformation. And so, what if we can use it for our good for our collective benefit, what is a beverage that has been utilized for centuries, even thousands of years that have added to human health?

And we talked about one of them, and surprisingly, again, looking at mental health specifically, I was surprised, and even when I was hanging out with her yesterday, that was her beverage of choice. And she knows a ton about this space and what that beverage was, was coffee. A recent study published in the journal, Practical Neurology details how regularly drinking coffee has been shown to prevent cognitive decline and reduce the risk of developing Alzheimer's and Parkinson's Disease.

What? How is this not major headline news. Also, researchers at Stanford University recently deduced that the caffeine specifically coming from coffee, this is not coffee plus sugar plus artificial sweeteners and all that stuff, this is coffee, the caffeine in coffee is able to defend against age-related inflammation. And inflammation is a huge driver of mental health issues, brain dysfunction, and also physical health issues ranging from increasing the risk of heart disease, heart attacks, strokes, autoimmune conditions, the list goes on and on. There's something really special about coffee, but the problem is today, most people are not drinking coffee.

They're drinking a lot of the other stuff that comes along with the coffee, that's what their drive is towards, and she actually shares a unique story about that, that you're really going to enjoy. But the bottom line is, we can absolutely take advantage when quality is honored and take advantage of these mind-blowing benefits of drinking coffee. But skipping on the pesticides, the typical pesticides and herbicides that are used in conventional coffee growing, for opting for organic coffee, and also avoiding the high-glycemic sweeteners and artificial colors and flavors that come along with these conventional creamers and things like that, stack the metabolic benefits in our favor.

And so, I do that every day. Today, I actually had this incredible blend of organic high-quality coffee with Cordyceps medicinal mushroom, plus extra L-Theanine is added into this unique formulation coming from Four Sigmatic. Now, why does this matter? That extra L-Theanine band that's added in, this is a unique amino-acid that has the ability to waltz its way across the blood-brain barrier and help to increase the activity of GABA. GABA helps to reduce anxiety, making you feel more centered and relaxed, and also this is published in the journal Brain Topography, found that L-Theanine works to improve focus, specifically the researchers observed that L-Theanine in intake increases the frequency of our alpha brainwaves, indicating reduced stress, enhanced focus and even increased creativity.

That's what I'm talking about. Head over to, Foursigmatic.com/model, that's F-O-U-R-S-I-G-M-A-T-I-C.com/model, get 10% off all of their incredible coffee blends. And in addition, they also have organic Cacao blends with the medicinal mushrooms or simply taking advantage of the mushroom elixirs themselves. We've done a ton talking about the different benefits, whether it's Reishi or cordyceps or Lion's Mane, the list goes on and on. Four Sigmatic is unique, in that

they do a dual extraction of the mushroom to make sure that you're getting all of the benefits that you're looking for.

And we're talking about like with cordyceps, for example, clinically proven to increase your cardiovascular performance during exercise, by over 8%. That is a sizable increase in performance, and that's because it has this really great resonance with our circulation, and this oxygen exchange, this phenomenon in our body, just helping to extend our performance out a little bit longer, and even there's some data dating back centuries with that circulation... Anything that's going to improve circulation, might help to improve emancipation of your clothing. Alright, we're talking about Libido, we're talking about sexual health, alright? So that's another thing, again, shown in peer reviewed data, benefits of cordyceps, but also long storied tradition. Head over there, check them out, foursigmatic.com/model again for 10% off everything that they carry. Now let us get to the Apple Podcast review of the week.

ITUNES REVIEW: Another five-star review titled, “can't do without my daily dose”, by Ken Eggs. “I try to listen to Shawn's show every day to enrich my life, from physical to emotional or mental health, Shawn produces life enriching shows. Shawn and his guests are masters in their craft, who share ways to live your best life.”

SHAWN STEVENSON: So awesome, speaking of masters of their craft, this is a great segue into our special guest today, because she definitely fits within that guild. Our guest today is Harvard psychiatrist, Dr. Uma Naidoo MD, and she has devoted her career to the study of science and food and the connection with mental health. She's a triple threat in the food space, Dr. Naidoo is a board-certified psychiatrist and the Director of Nutritional and Metabolic Psychiatry, at the Massachusetts General Hospital where she consults on nutritional intervention for the psychiatrically ill and metabolically ill.

But she's also a nutrition specialist and a professionally trained chef on top of that. And she's a creator of an abundance of remarkable videos, training, and nutrition, and also teaches nutritional psychiatry using culinary techniques in the kitchen. To top it off, she's the best-selling author of the phenomenal book, *This is Your Brain on Food*, let's jump into this conversation with the amazing Dr. Uma Naidoo. So good to have you back here. You're one of my favorite people. Welcome back.

DR. UMA NAIDOO: Thank you so much Shawn, ditto, you're one of my favorite people, so I'm really happy to be here. Thanks for having me back.

SHAWN STEVENSON: Of course, it's totally my pleasure. And the first thing that I want to talk to you about is, why does the food that we eat have such a big impact on our mental health?

DR. UMA NAIDOO: Not only is that a great question, I think it's one that many people and many of us have actually missed for quite some time. We've made these connections to physical health; I think you and I have talked about that before as well. We've been worried about a lot of the books out there on self-care and self-help around weight loss. And medically people are concerned about hypertension and type 2 diabetes and obesity in relation to that, but no one has actually factored in mental health. And one of the things that COVID did, is it uncovered the mental health crisis, which was always there.

SHAWN STEVENSON: Right.

DR. UMA NAIDOO: And what it also taught us, is how our metabolic health and our poor... The number of diseases we already have made us susceptible to severe infections, even death, during the acute phase of COVID. Again, I think with uncapping that whole area of mental health and how distressed people were, it also made that link to how we were eating. So, I'll start there because I think for many years, we've just not made that connection, but food is so vitally important to our mental well-being, it's not the only thing. I still do prescribe medications and sometimes it's lifesaving for my patients, but it's not the only solution. And what I feel we are missing is that food actually impacts our mental health and the emerging signs of the gut-brain connection, the gut-microbiome over the last two decades especially has helped bring that forward.

So that's a very long answer to say, how we eat impacts how we feel, but we often don't make that connection. Part of it with not really realizing that these two organs are connected, and I think the more we pay attention, I think there's a way to help alleviate our mental health through, like I like to say, the powers at the end of our fork.

SHAWN STEVENSON: Yes, yeah. I'm so glad that you immediately brought that up, the connection with our mental health and physical health. Unfortunately, in medicine, those two things have become compartmentalized and separate.

DR. UMA NAIDOO: Right.

SHAWN STEVENSON: When in reality, a very strong tangible reality is that you can't separate the two. They're existing in the same person.

DR. UMA NAIDOO: They exist in the same person, and it used to be that, with mental health, it was always from the neck up. We know so much more now, but also why haven't we connected the fact that if someone is having and struggling with their physical health, they may also be a mental health component? Yet we know that individuals with depression, anxiety and other conditions often have comorbid medical conditions, we haven't put those things together. We

cite the research. We know they exist together, but we don't think... Why can we make that connection around nutrition, food, eating healthier, and bringing in lifestyle measures. In the hospital there are sort of checkboxes to asking people questions, but it's not a real part of our evaluation and it's a huge gap.

SHAWN STEVENSON: Yeah. And I love that you're stepping into this role in such a powerful way. You've pioneered nutritional psychiatry. Can you talk about what that is and why it's so valuable?

DR. UMA NAIDOO: So, thank you for saying that it's valuable. I feel much the same. Nutrition is key to mental health. But I've brought this forward because I've seen this in my clinical practice, and now it's followed by no longer any soft science. There are actually real research studies behind it. We still always need to do more research. We always are humble. I think you and I are very aligned on that. We're always humble about whatever new research is coming out. We are willing to discuss it, willing to look at the pros and cons, but also willing to look at the data. But nutritional psychiatry is the use of healthy whole foods and nutrients to improve your mental well-being based on the scientific evidence. And it does not exclude therapy or medications, both of which are hugely important.

And I felt that we were prescribing medications in psychiatry. And we know that some of the most serious side effects are both metabolic and weight gain, connected but also, we know that while you might improve depression or reduce psychosis or help a mood disorder like bipolar disorder, they also cause these side effects. Yet we weren't... Other than testing labs and stuff like that, which is important, we were not really looking at lifestyle, not really getting under this problem. And I feel like that gap needed to be filled by making it a more comprehensive, integrated, and holistic approach to mental health, which... Whereas, I feel the way we practice in the hospital is defensive. You come in with symptoms, and I pull out a prescription pad, and there's a medication. That's how psychiatry functions for the most part, and I think we need to re-examine that.

SHAWN STEVENSON: Yeah, I think so as well. You said this already. You had that caveat. Our wide range of medications that we now have available, have their place absolutely. But unfortunately, it tends to spot treat or target a certain symptom.

DR. UMA NAIDOO: Yeah.

SHAWN STEVENSON: Whereas if you really look at the value of food, it has a whole-system impact that's generally very positive if done correctly, and no side effects, versus this symptom-based treatment that does impact our entire physiology but tends to come along with a wide range of negative side effects as well. And so, I think it's getting to the place where

we understand that food, just like that medication, it's really about altering our biochemistry. Every bite of food that we eat, nutrigenomics, nutrigenetics, changes our genetic expression.

DR. UMA NAIDOO: It does.

SHAWN STEVENSON: It's so powerful. And I love that you mentioned it once being a soft science because when I first went to college, it was optional on a pre-med track to take nutritional science.

DR. UMA NAIDOO: Yeah, yeah.

SHAWN STEVENSON: Right? And it just was kind of like it wasn't a big deal.

DR. UMA NAIDOO: Right. Correct.

SHAWN STEVENSON: And even... But it was also very cookie cutter what was being taught at the time, and we've progressed so much in recent years.

DR. UMA NAIDOO: We've progressed a lot, Shawn. And forgive me if I mentioned it the last time we chatted, but it's still about one in five medical schools in the United States actually teach doctors nutrition. Some schools are doing better than others. But the last time I looked at the data, it still wasn't across the board. Then doctors actually expected to have these conversations, so that in itself is a gap. So, I feel integrating that and placing practitioners of all kinds in the role of understanding nutrition, understanding how to interpret it to people becomes powerful because then, in addition to say someone needs an anti-hypertensive medication, maybe you're having them take it but also follow lifestyle measures can be very powerful. Because you've got to control the blood pressure, but there are other things they can be doing. And I think that that gap needs to be filled.

And I can't say that psychiatrists are practicing this way. And I don't blame them because it's not what we've been trained or taught. What we've been trained on, and how we are taught to think, is using DSM-5-TR, which is a checkbox system. And it's difficult because people don't fall into checkboxes. Human beings may have a little bit of depression and some trauma, problems with focus and anxiety. They don't just fall into one category. And that's another thing that emerged during COVID, that it's always been there, but it became more obvious that people were suffering in different ways. So much so with insomnia being called coronasomnia because sleep has just suffered so much. And I think that trying to integrate a more holistic and integrated way to think about patient can... Like you mentioned physical health and mental health, but also just the whole-body approach. And how can we think about it? How can we think about gut health? How can we help people feel better? And inadvertently,

many of my clients actually lose weight 'cause they're just eating healthier and adopting a healthier lifestyle. But it's not the goal, and I think there's a difference there.

SHAWN STEVENSON: Yeah, absolutely. I think it was such an eye-opening statistic to think that one in five medical schools are really integrating nutrition, any type of training really, because a friend of mine, Dr Will Bulsiewicz...

DR. UMA NAIDOO: Yes.

SHAWN STEVENSON: You know Will. He shared, of course, like 12 years of school and had maybe the accumulation of a couple of months of education in nutrition. And he specializes in organs that deal with the assimilation, digestion, and elimination of food, and yet he learned so little about food. But to expand that awareness, to understand that when we have... When we take on that mantle of wanting to be of service, to work in medicine, which as you know, most folks are getting into the field to be of service and to save lives, missing this key gap, it's really... It might be the biggest domino because it's understanding, as a cardiologist for example, and you are treating your patients' heart and their cardiovascular system. That heart itself is made from food, right?

DR. UMA NAIDOO: Yeah.

SHAWN STEVENSON: Their blood is made from the food that they've eaten, or the lack thereof, the hydration, all these different things. And so again, we're kind of window shopping here. We're not really understanding what we're actually looking at. And so that's what this movement really is, is like... And even this one in five is change because it was probably one in 10 not that long ago. It's starting to... And thankful to mediums like this and other opportunities that a lot of physicians are tuning in and learning off the record, off the books, and being empowered. And you're one of those people because, like you said, you weren't trained in this particular way of thinking. And you had to have the audacity to ask different questions and to start to push things into culture. And you created this entire, really this field of study with nutritional psychiatry, and also having a certain wing in a very prestigious institution where you're treating patients more holistically.

DR. UMA NAIDOO: Right. And you know, I have to acknowledge that that came with support from the fact that if the people around you... They may not be practicing the way that you're practicing, and if they don't support and give you the opportunity to express that and bring that forward, it couldn't happen. And I think that some of my mentors actually did some of the earliest studies on folate and methyl folate back in the '90s. And it seems like so long ago, but actually it's not. Yet, they were making these connections between low folate in the brain and low mood. So now that we know things like leafy greens and just the salads that we can eat

are not just the fiber, which is hugely important, and the other nutrients but also the folate. So, putting these things together has taken time, and there's still more to be done. We are still very early in this area. But I think the food is medicine component of all of this is so important because now every single major chronic illness is associated with nutrition and is one of the major driving factors that can be changed. Yet, I think it's two in 10 Americans eat enough servings of fruit and vegetables in their diet, and we know that. Yet, I think we spend a lot of time counting protein, which is important, but it's often fiber and those other nutrients that we're missing.

SHAWN STEVENSON: Yeah, yeah. So, you said something so profound earlier about the system that, again, it has its place and a certain level of efficacy, which is this kind of checkbox system.

DR. UMA NAIDOO: Yeah.

SHAWN STEVENSON: However, the marketing towards several different medications involved in psychiatry or for "chemical imbalance."

DR. UMA NAIDOO: Yes.

SHAWN STEVENSON: Right? So, can you talk about the conflict there? And how do we get into this place where we have something, this kind of blanket statement like, "Oh, you have a chemical imbalance," and also the new data coming out about the serotonin deficiency theory?

DR. UMA NAIDOO: Right. So new research this year by a group in London has actually uncovered the fact that perhaps we've been basing this so-called chemical imbalance... I actually don't like the term. I'm sure I've used it many times, but again, goes back to how we've been educated in the field of mental health. Really looked at the fact that maybe there isn't a real basis to this. And I think that, for the part of me that is still a clinician and deals with patients, I have to be very cautious about not just saying to people, "Come off your medication. Do this and do that. Let's do this carefully cautiously." But what I think it pointed to is we need more research and more of an understanding as to how we got to this place. Yet, I think the power in this, and what it taught more, Shawn, was... There have been some recent revelations this year about some falsified information with Alzheimer's, that's still being looked at, and theories that we've believed and followed and understood and researched for decades now.

Then the serotonin piece. And it's really gotten me thinking about the power of nutrition more because here's the thing. You can have a side effect from a medication. You may not do well on a medication. We know that studies of, say, anxiety, not everyone is cured when they take an anxiety medication. Many people continue suffering. But if you are willing to be patient with yourself, maybe make some healthy adjustments in your diet, look at how you're eating,

nutrition can be a really powerful tool. Because you said earlier, "You're not going to get a side effect unless you have an allergy, an intolerance, you're not going to get a side effect from food." And when we look at all these theories maybe being uncovered, changed, evolved, and more research coming out, food becomes a natural tool that we can turn to because we're not sure whether Prozac works anymore, and is that actually how it's supposed to work? And it's never been how I've seen it, even though I've been taught that way. I'm not saying that I have a solution or that I know everything. What I'm saying is when I sit with individuals and I have this checkbox system, I always feel a little bit out of depth because I feel like there's a human being sitting in front of me who's telling me how they're feeling. They don't fit into all these checkboxes. I don't think it's necessarily an imbalance. And I feel those words don't fully describe, even in the brain, what's going on. So, if anything, we just need more. We need to do more and learn more and embrace change in how we're doing things.

SHAWN STEVENSON: Yeah. I love that. It's so powerful because when you say that as a person sitting in front of you, really if we can expand our awareness of the fact that... Just something simple. Every two people, their depression is not the same, right?

DR. UMA NAIDOO: That's correct. Yeah.

SHAWN STEVENSON: Two different people... 100 different people, it's 100 different versions of anxiety or depression.

DR. UMA NAIDOO: Even with anxiety, correct. Yeah.

SHAWN STEVENSON: Yeah. So, but what we tend to do, again, is we want to compartmentalize things. We want to place labels so we can have standard of care.

DR. UMA NAIDOO: Standard of care, and with standard of care comes medication care because hospitals are all about how we standardize these formulas for treatment, these protocols. And look, for example, stroke protocol, hugely important to save lives. Myocardial infarction, hugely important. Mental health a little bit different. We have, in the hospitals, ways that we can contain and manage an emergency, and all of those are extremely important. But let's think about this for a moment. We need to be looking deeper at the human being, the human condition, and trying to understand that better. And there's so many different ways that anxiety can present, and sometimes you are treating a completely different symptom. And I have found, in my patient care, that sometimes people are coming in for one symptom, but when we work on gut healing through their diet, we realize that that was being driven, the anxiety was being driven by just probably dysbiosis, some underlying inflammation going on. And the symptoms of anxiety subsided, and we've been able to avoid medications in instances

where people can work in a slow and steady way and sort of tolerate those dietary changes and tolerate the symptoms.

SHAWN STEVENSON: Awesome. This is a perfect segue because... And we'll put this study up for everybody to see. This was a study that you were talking about a little bit earlier. The title of the study is 'The serotonin theory of depression: A systematic umbrella review of the evidence.' and this was published in Molecular Psychiatry. When you just mentioned dysbiosis being a potential component in a variety of mental health issues, why? And if we look at where is serotonin even being produced or stored in the body, a lot of that activity is happening in the gut.

DR. UMA NAIDOO: In the gut, correct.

SHAWN STEVENSON: Itself. So maybe, again, not looking at this being some kind of deficiency or "chemical imbalance" that we're not really checking for but are the systems that are producing and managing these things actually healthy so that we're not trying to treat a symptom.

DR. UMA NAIDOO: I love that. The dysbiosis comes from that remark I made a few minutes ago about the gut and brain being connected. We don't think about it that way. So, we break that down for a second, the gut and brain originate from the exact same cells in the human embryo, the neural crest cells. And when they divide up, they form these two organs and they remain connected by the vagus nerve, which is like a two-way text messaging system, always communicating all the time. But then 90% to 95% of serotonin receptors and serotonin, as well as other neurotransmitters, are produced in the gut. Which is why, when you prescribe or you know or have a family member or friend, someone you know has had one of the SSRIs like Zoloft, Prozac, or Paxil, any one of them, the first couple weeks, they actually might have gastrointestinal distress or discomfort because it's a very common side effect of these medications. Usually, in most people it subsides. But other people, they can't tolerate it, and we have to switch or change the medication. But that's also, now, we understand it's related to where the receptors are.

When you look at that environment of the gut and there's inflammation, one of the ways inflammations gets set up is through how we're eating. So, if we're, say, consuming a fast-food diet and lots of processed, ultra-processed foods, a lot of added sugars, a lot of artificial sweeteners, those types of foods, the environment of the gut flips because there are trillions of microbes, but there are also... It's what we feed the microbes. If we're feeding them fiber through a plant-rich diet and other good sources of food, or we're feeding them a fast-food diet. When you feed them fast foods, the bad bugs thrive. And when they thrive, their breakdown products are more toxic, the gut environment. And when those toxic... Two things

happen, so... Well, a few things happen, but one is the imbalance happens called dysbiosis. But also, the toxic breakdown products start to damage the single cell lining of the gut, and those tight junctions start to move apart because these toxic substances are damaging them. And then leakage happens, so this is how the term leaky gut or intestinal permeability comes about.

And I think that all of the... A large component of the serotonin, the receptors, all of these things are interacting in this gut environment with the gut microbes. So dysbiosis, to me clinically, makes a lot of sense when I see people start to feel better as we improve their gut health, and as they're eating healthier, which is helping lower that inflammation and maybe improve that imbalance or dysbiosis.

SHAWN STEVENSON: You just brought up something so powerful, we haven't really talked about before, which is we have the experience of us eating. We eat the fast food. We eat the Big Mac. But our bacteria are eating as well.

DR. UMA NAIDOO: Yes, we're feeding them.

SHAWN STEVENSON: We're feeding them, and they're getting their munch on, and their metabolic breakdown products... Because we're taking something that's very artificial. If we talk about, for example, a Ding Dong. Do you know what a Ding Dong is, Uma?

DR. UMA NAIDOO: Yes, I do.

SHAWN STEVENSON: We're taking a Hostess Ding Dong, which is something that is completely abnormal. There's nothing natural or real about it. And we're feeding this to an already dysbiotic gut, we'll just say. So, we have this higher prevalence of more pathogenic bacteria now they're munching on this stuff that's never existed before in human history. They're... The interesting thing about humans is that our bodies are so resilient, it's trying to sort us out and protect us. And so, they're even... They're still trying to break this stuff down, but the metabolic waste, the by-products of this, this brings about the situation of endotoxemia...

DR. UMA NAIDOO: Yes.

SHAWN STEVENSON: Right. So, wow, this is like... It's not just us eating, it's our bacteria eating.

DR. UMA NAIDOO: It's feeding them. And I like to say Shawn, a happy gut is a happy mood because if you are taking care of those little gut microbes, and you're treating them, not only is it a part of your body, but part of what you need to take care of. If we're exercising, were we're doing certain say, stretching exercises to make sure that our bodies stay in balance, well, in a similar way, when we're eating, we're also feeding those microbes, they are part of us, just

like we take care of our muscle aches or anything like that. We are almost not thinking about them that way, and the biggest way in which we forget this is how we eat, because those lapses... I like to remind people, that it's not about the food on your plate today or the number, on your scale tomorrow, this is a mouth on an auto sprint, so it's over time. On your birthday, have a piece of cake, if that's what you want have the piece of cake. That's what should not be your consistent everyday diet. That's all I'm saying about it.

Because the other thing we tend to get into... One of my pet peeves is these food wars and diet dilemmas. And then people end up really miserable around food because they're not sure what they can eat and what they can't, but if you have just general guiding principles around healthy eating while connecting the effect of the foods to especially brain health, which is the part I care about, but also physical health, that is much more powerful for a person. So, understanding that the occasional Ding Dong maybe that's what you wanted on your birthday I'm not sure, [chuckle] but you know, but that shouldn't be your consistent diet, because then what you're doing is you're feeding your microbes and you're not taking care of them. And what you can do is lean into those plant rich foods because that's where you get your fiber and fiber is what feeds the microbes.

SHAWN STEVENSON: Yeah. Wow, wow. So, it's something very simple. It's making it the exception and not the rule...

DR. UMA NAIDOO: Yeah.

SHAWN STEVENSON: Right when we're having these... Call it what it is, food-like products.

DR. UMA NAIDOO: Food like products, yeah.

SHAWN STEVENSON: With that said, however, the current state here in the United States right now, about 60% of the average American's diet is made of these ultra-processed foods. So, it is not the exception, it is the rule for people right now, and of course, there are a lot of social issues and structures in place that enables something like that to manifest, and then we look at this kind of vicious circle that we get into, where we are in this state of consuming food-like products, in the skyrocketing rates of every condition...

DR. UMA NAIDOO: Every disease.

SHAWN STEVENSON: We can talk about whether it's a physical chronic disease or mental health issues, everything is up. So clearly something is awry, something is broken here, and addressing it at its core, it starts with really education and empowerment and directing people towards these powerful insights. So, I want to ask you about this because you mentioned gut

inflammation, and you shared a couple of studies recently that were really mind-blowing, and it's looking at the role of omega fatty acids, omega-3s and omega-6s in psychiatric disorders.

DR. UMA NAIDOO: Yes.

SHAWN STEVENSON: Let's talk about that a little bit.

DR. UMA NAIDOO: So, there was this really great study published recently looking at the difference between a diet that was rich in omega-3s versus omega-6s. And here's the thing, we want the balance of those two fatty acids to go on the direction of omega-3s. But if you are consuming a lot of those processed or ultra-processed foods that we just spoke about, so a large, large percentage of us are in this country, which is why it's called the Standard American Diet or the SAD diet. The... Unfortunately, the omega-6s drive inflammation, they're pro-inflammatory to the gut and to our bodies, and it was found that basically symptoms of bipolar disorder were improved if the diet was richer in omega-3s, so the overarching message from that was eating those healthier omega-3 fats and cutting back... My interpretation is certainly cutting back on the omega-6 fats in those processed and ultra-processed foods that are going to cause more Dysbiosis in your body.

SHAWN STEVENSON: Perfectly said. When we hear the term processed food, what are some of the constructs like for example, it's the oils that are used to make them "shelf stable".

DR. UMA NAIDOO: "Shelf stable." So that's a great point. So, when we think about it, let's actually define processed and ultra-processed foods because just like, a client, I always remember this Shawn, came in and said to me, "People tell me that avocados are healthy, I have no idea what to do with it. Tell me what I can do with an avocado", etcetera. So, I think... I don't always assume that someone knows what I'm saying when I say processed and ultra-processed foods. So, it's kind of... It's hard for us in this country to avoid processed foods. But I think it's the type that we consume and trying to consume less of it. Always look at the food label. And when there are ingredients, you cannot pronounce and the ingredient list is a big, big, big rectangle, these are not... These are hints that this is a processed or an ultra-processed food especially if you don't identify what's on the label. When it says cauliflower, that's different, right? Pick up a package of frozen cauliflower. What does it say on the back? Cauliflower, so it's that difference. The other thing people need to understand is, there's a repository of over 250 other names for sugar on food labels in the United States.

SHAWN STEVENSON: Unbelievable. Unbelievable.

DR. UMA NAIDOO: And my favorite is brown rice syrup, because we make that association, or we've been told that maybe brown rice is healthier. And brown rice will be simply sugar. So,

understand that a processed and ultra-processed food has very little actual food in it, and ingredients like that maybe are ones you should be staying away from. But they also contain hydrogenated fats, wrong types of fats, processed vegetable oils to make them more shelf-stable to make them last, to help the processing, they have food stabilizers, dye colorants, all to make it last very long and be shelf stable. But none of these ingredients are good for our bodies, specifically not good for our gut because they're pro-inflammatory and they are sources also for omega 6.

SHAWN STEVENSON: Wow. If again, we haven't really been exposed to things like this, this amount of omega-6 fatty acids in our diet, largely, you mentioned brown rice syrup, right?

DR. UMA NAIDOO: Yeah.

SHAWN STEVENSON: So again, it sounds like it's a healthier syrup...

DR. UMA NAIDOO: That's right it's very tricky.

SHAWN STEVENSON: The same thing with vegetable oil, right?

DR. UMA NAIDOO: Yes.

SHAWN STEVENSON: This very... They're using kind of health washing label to make something that is Abnormal...

DR. UMA NAIDOO: Marketing. The marketing of the food makes you as a consumer think, oh, my doctor told me I should eat more vegetables. This is a vegetable oil.

SHAWN STEVENSON: Boom.

DR. UMA NAIDOO: But when you turn... If you actually look at the label, many of those contain a very large percentage of soy, which is also a vegetable, but that's very pro-inflammatory. So, looking at labels is one of the things I try to teach my clients because it's not something we pay attention to as much. Another one is... We've talked about sugar before. People assume all, they've heard me say, eat your blueberries, add them into your diet. But a fruited yogurt with blueberry, if you consume dairy, like a fruited yogurt, a small half size cup can contain 24 to 26 grams of sugar.

But our food labels are in grams. So, we don't know how to interpret that 'cause when we cook any recipe book has pounds and ounces in it, that's how recipes are written. So, most consumers go to the supermarket. They have no idea what number of grams means. So, four

grams of sugar is one teaspoon. So always divide that by four, then the amount of sugar so that you know, try to go for the plain yogurt and add your blueberry in versus a... Even a fruit juice, eat the orange, skip the fruit juice, 'cause that has the fiber removed and often has added sugar. And again, coming back to processing in ultra-processed foods, those are not the examples, but understand the food label so you know, how to make your selection.

SHAWN STEVENSON: Yeah. One of the things that people might do, and I know that I thought I was doing better for myself by not drinking soda, but instead having 100% orange juice or pasteurized orange juice, 20 ounces of that is 14 teaspoons of sugar.

DR. UMA NAIDOO: Sugar.

SHAWN STEVENSON: 14.

DR. UMA NAIDOO: 14.

SHAWN STEVENSON: Teaspoons of sugar.

DR. UMA NAIDOO: And that's a great example, Shawn, 'cause until I show my clients the food label and we break it down and we divide it by four, you don't realize it. Now if you had a regular glass in front of you, would you really be adding, 14 teaspoons of sugar. So, I think when we think about it and understand that we need to empower ourselves a little bit more and actually help tell our doctors the same thing, have a conversation with your doctors about, what else can I be doing? What lifestyle measures can I be taking along with this medication if I absolutely have to take it. I think those are just equally important now.

SHAWN STEVENSON: Yeah, yeah. And just as a point of reference too, I mentioned 14 teaspoons, a 20-ounce soda of say Coca-Cola is 16 teaspoons. So again, it's pretty close and we can try to justify like, oh getting some vitamins and minerals with this, sure, but that amount of sugar is so abnormal and it's coming along without the fiber.

DR. UMA NAIDOO: It's coming along without the fiber. And I think that if you ate the orange from the outer skin, which you can zest... I love to zest the skin onto a salad, that actually gives you some great nutrients because there's a lot of antioxidants in the skin of an orange. Then you peel it and eat the orange, you slowly, you're getting the natural sugar from it, but you're not getting the 14 teaspoons plus your course getting the fiber with all of that. And so critical to thinking about the whole food versus the processed version of it. Same thing with vegetable juices.

SHAWN STEVENSON: Yeah. I love that you brought up the distinction of ultra-processed foods, whole foods, and also there's minimally processed food like olive oil's been used for thousands of years.

DR. UMA NAIDOO: Yeah.

SHAWN STEVENSON: If you... I encourage people to go to YouTube after you enjoy this wonderful video on YouTube, go to YouTube and look up extra Virgin olive oil making and see how it's literally pressing, cold pressing...

DR. UMA NAIDOO: Yes, cold pressing the olives.

SHAWN STEVENSON: The olives. And that's how you get the olive oil versus look up, how canola oil was made.

DR. UMA NAIDOO: Made, yeah.

SHAWN STEVENSON: And just Marvel, like you get your jaws probably going to be on your desk, watching this, to see the high heat temperature, the deodorizers used and all of these processes that take this very unattractive thing that has now been, obviously these oils are sensitive too. That's another thing.

DR. UMA NAIDOO: Yes. Yes.

SHAWN STEVENSON: Omega-3s and omega-6s are highly heat sensitive and they're already wildly oxidized and damaged and then they're bottled up in these plastic bottles and they're said to be, this is a wonderful health food because it says vegetable oil on it.

DR. UMA NAIDOO: Yeah, yeah. I completely agree with you, it's interesting because... And this is your brain on food. I felt that non-GMO, organic canola oil could be an option for individuals with mental health, if not everyone has access to olive oil or to avocado oil, which is one of my favorites for cooking at high heat. But I really reconsidered that now because of videos of actually watching what's been done to it. And so, I think that if I were to write another book, I would talk a little bit more in depth about the additional research behind that and the fact that maybe... Maybe the non-GMO canola oil is more affordable? That was my reasoning behind it. Because of the psycho-social barriers that people with mental illness face and access and things like that, but I think I want to think a little bit more out of the box for better solutions, because I agree with you, the level of processing is just, doesn't work, doesn't work for our bodies or our brain.

SHAWN STEVENSON: The best teachers, and you're one of those people are eternal students, that's one of the things I admire about you...

DR. UMA NAIDOO: Thank you.

SHAWN STEVENSON: Is questioning things and now adjusting our own perspective as we go along, because for me, again, when I was trying to eat healthier. When I was in college and I was going for organic or organic vegetable oil or organic margarine, as I was trying to upgrade what I was doing, and eventually it brought me just to a place of simplicity, and also, I always ask like What have humans been doing the longest and one other part I left out... And by the way, if you happen to not go and go to YouTube and watch this, also the chemicals used just to kind of wash it, by the way, they're not just taking organic olives, they're taking these oftentimes, genetically modified, and you just said it's another step up that we could say non-GMO but to actually break this stuff down, and so they put in this giant vat and this wash with all these chemicals. It's nuts, I don't want to talk about it anymore. It's like...

DR. UMA NAIDOO: Yeah, yeah.

SHAWN STEVENSON: It's like dirty talk, but not the good kind.

DR. UMA NAIDOO: Right, right, right, I totally get it. And we live and learn, and we try to all up our game on recommendations and also, we as that research comes out as we know more.

SHAWN STEVENSON: Yeah, so you share this, and I missed this. This just came out this year 2022. The title, the study is the relationship between linoleic acid intake and psychological disorders in adults, and by the way, so that's omega-6 fatty acids that our diet, we'll just say somewhere in the early part of the 1900s, and this is from Dr. Cate Shanahan who's like just such a brilliant mind when it comes to this stuff, she's obsessed with studying these oils, she shared that somewhere in the ballpark of about 2% of our fat cells were made of these polyunsaturated fats coming from, you know, predominantly seed, seed oils. And that was what was done when taking a biopsy of a human cell a fat cell and then today, that ratio of proof was largely from these omega-6 rich seed oils. The make-up of the human fat cell now is somewhere in the ballpark of 20% to 25%, it's literally changing the ingredients of what our cells are made of, so it's really fascinating, but it brings us back to this understanding of what are we making our tissues out of, what are we creating our signaling molecules out of that are determining how we feel, how we think all the things.

It really is made from food. So, I want to ask you about this as well. You mentioned... When you mentioned brown rice syrup, I thought about our conversation that we had yesterday when we were hanging out, and we talked a little bit about rice and just how coming from your

culture in India and seeing white rice has been utilized for centuries, the same thing, in Africa, my wife being from Kenya, white rice, other countries in Asia, China, Japan. And the question was, why white rice? All this time and I was sitting at a restaurant when I was again, thinking I'm doing the best thing. And I'm seeing the restaurant owner at this Chinese food restaurant and their kids were sitting in a kind of a corner booth and they were eating white rice and vegetables, and I was just like, don't know, brown rice is so much better with my broken health and trying to figure my stuff out, and so we were just kind of kicking the question like, why do you think our ancestors removed the germ the bran from the brown rice?

DR. UMA NAIDOO: I think you had a better answer to that, and it was such a thought-provoking question. I feel like they must have figured something out because their bodies could tolerate it, no one was getting sick, they could cook it. It would last. Think about how food evolved, when do they have refrigeration, how do they cook these foods, how do they even harvest these foods. So, I think there's huge value to what you're saying, because a very big white, Basmati rice is huge in India, so it's what many, many families eat. It's eaten all over India, I would say the South maybe is slightly more than the North which is more rich in the breads and the naans and the whole wheat grains and those flours and stuff like that, but it's eaten all over. So I have to give credit to the fact that they had figured out something in their wake and before we came along, and also I also feel that it brings up for me, another thing in nutritional psychiatry, which is, which is balance, a sense of balance a sense of moderation about what we're eating, because one of the things I am concerned about is that in the South Asian, East Asian population there's a rising level of type 2 diabetes, so I have to wonder, and ancestrally over all of these years, besides all the junk foods more processed foods more of the wrong types of oils, like omega 6s, what have we done?

And so, I can't blame it on rice, but I think we have to look at what the diet is that in the South and East Asians has caused this rise in these conditions. But I think it's something that, again, I think needs to be looked at, and we need to think more deeply about it, maybe we eat it, but we eat less of it, maybe we add in those extra vegetables, I always, by the way, find it fascinating, in Chinese and other Asian restaurants, what the actual... Either the families there or the staff working there, what they eat versus what we eat when we go into a restaurant... Into the same restaurant, they actually often eat a very, very vegetable-heavy diet. I've seen them cleaning the vegetables, seen them eating the vegetables off hours, and definitely rice is involved, and definitely different proteins and meats and all of that. But very vegetable heavy, that's the other thing, compared to what I order if I might go to a Chinese restaurant, very different. And I think that's also the... Also, how food evolves across cultures, the Americanized version of things too, so...

SHAWN STEVENSON: Absolutely. Yeah, they were not eating the hot braised chicken that I was usually buying them.

DR. UMA NAIDOO: Exactly, that we might be ordering. That's not actually what they're eating.

SHAWN STEVENSON: Got a quick break coming up. We'll be right back. No lifts, no gifts. Here are just a few benefits of building muscle, seen in peer view studies. Building some muscle mass can significantly improve your insulin sensitivity, improve your overall hormone health, improve your cognitive performance, improve your immune system. Protect you against injuries and speed recovery and defend your body against age related degradation. This is just a small slice of what a little bit more muscle can do. Now, the barrier of entry to building more healthy muscle and reaching a state of physical fitness is easier than ever. Having a few key pieces of equipment at your house can absolutely change the game for you. Kettlebells, steel clubs, maces, battle ropes. All of these phenomenal multi-faceted pieces of equipment are readily available to ship directly to your door. Got to onnit.com/model, and you're going to receive 10% off some of the most premier training equipment in the world. Simple piece of equipment that you can do, dozens, if not hundreds of different exercises with.

Plus, they've got incredible programs as well, that teach you different techniques for unconventional training, to truly create more functionality in your health and fitness. On top of all that, Onnit is also one of the world leaders in human performance nutrition. They've got the most remarkable pre-workout supplements and post-workout protein that you're going to find, all sourced from earth grown ingredients, nothing synthetic, and they also have put their own products into real world clinical trials to affirm their advocacy. Again, go to onnit.com/model. That's O-N-N-I-T.com/model for 10% off everything they carry. Now, back to the show.

So just going back, that's one of the things that you mentioned, when we had the conversation about rice. Which it sounds like we're just two total nerds, we're hanging out with each other and talking about rice and... But you were also leaning towards a rice heavy culture, possibly increasing the risk of, again, insulin resistance and rising rates of Type 2 diabetes, and there has to be balance here as well, it's not to villainize any food. And that's what I also love about your approach too, because you said something earlier, you said diet wars...

DR. UMA NAIDOO: Yeah.

SHAWN STEVENSON: And so, there are people who are kind of on the leading edge of a lot of stuff, who are battling about minutia...

DR. UMA NAIDOO: Yeah.

SHAWN STEVENSON: Instead of really looking at all of our intersecting points and being more inclusive.

DR. UMA NAIDOO: Definitely being more inclusive because... I think that... Shawn, what brought me to this place is also looking at this through the lens of mental health. Again, what do people have access to? They're already dealing with psychological issues, let's put aside the chemical balance imbalance question, let's just call it psychological, their psychological health is suffering. And they have enough on their plate, literally and figuratively, to then now saw through, "Let's demonize this food group and that." You know there's also interesting science, which I know you'll be familiar with, around the formation of resistant starches. So, boiling or baking a potato, allowing it to cool and then eating it later, allows for the formation of resistant starch, and it makes it a healthier product and lowers the glycemic index. The same... I've read about regarding rice, and I think that that could be one way, certainly, there's a couple of studies regarding pasta, so I think that these are ways to tweak. I'm not saying it should be the center of your diet, but these are part of many, many people's diets. How can we actually educate, teach, think about studying ways to boil, or let's say, bake those potatoes, cool them and then eat them? Don't eat a ton of them, eat them once in a while, because they will actually be part of most people's diets, rather than saying, "Never ever look at rice or pasta."

I think that's hard for people. I just think it may not be what you eat, or I eat, or someone else, but it's a lot of what people eat, so we have to find better solutions.

SHAWN STEVENSON: Yeah. I love that. So, you've obviously brought up, early on in the conversation, this is so important, you mentioned that with the onset of COVID in our culture, it's really brought forth this conversation in a bigger way about mental health.

DR. UMA NAIDOO: Yeah.

SHAWN STEVENSON: But you said... I believe you used the word, "Exposed," what was already happening.

DR. UMA NAIDOO: Yeah.

SHAWN STEVENSON: This was a growing issue for the past few decades, seeing the rising rates of depression and anxiety, and ADHD, and schizophrenia, and the list goes on and on and on. Something is clearly not working.

DR. UMA NAIDOO: Yeah.

SHAWN STEVENSON: And one of the issues... And we talked about this a little bit in the elevator, is PTSD...

DR. UMA NAIDOO: Yeah.

SHAWN STEVENSON: And it's such a complex thing to talk about...

DR. UMA NAIDOO: Yeah.

SHAWN STEVENSON: In the first place. But even in the context of COVID, there is a lingering post-traumatic stress...

DR. UMA NAIDOO: Yes.

SHAWN STEVENSON: Obviously occurring in our population...

DR. UMA NAIDOO: Yes.

SHAWN STEVENSON: From this. So, let's talk about this, because this is one of the chapters in your book you specifically target and talk about, the topic of PTSD, because of course, this is something you've seen in your work.

DR. UMA NAIDOO: Yeah.

SHAWN STEVENSON: Well, let's talk about the landscape of things right now, and something we can do to start to address this.

DR. UMA NAIDOO: Yeah. So, food can always be a component, but let's look at the larger picture of just PTSD, trauma and stress that's been going on. We know that some of what underlies this, besides the traumatic event, what's happened is also how we're eating and inflammation, so inflammation is definitely a portion of this. But I think that one of the things that not everyone may have realized about themselves is that this whole experience of COVID, whether you were on the front lines or not, there has been an element of trauma for many, many people, even quarantine. There was a very interesting study, and you might know it already Shawn, but it looked at the brains of individuals who did not suffer a COVID infection.

And it showed levels of neuroinflammation, and they looked at markers of neuroinflammation. And basically, what research has said, was that these individuals were still experiencing some type of inflammation even without being exposed, and they looked at psychological stress, quarantine, social isolation, as some of the factors that mattered. So, I think, that even if you

think that you've... And I would want people to also thrive through this, experience that we've all had as a... I don't know... Globally. But realize that you may have suffered in some way that it's not even identified. And with PTSD, I think that I can't enhance enough and emphasize the type of therapy that's important.

But also, food can be important, so just re-thinking your diet, cleaning up your diet a little bit. It's not perfect, you won't get there overnight, but just tweaking things. The research around blueberries, adding in blueberries to your diet would actually be helpful all the time. A, it's a low glycemic food, it's rich in fiber, it has those anthocyanins, the antioxidants are going to be great for your gut microbes, so it's not a harmful thing you're doing, if you're adding that in. These things become hugely important, along with psycho-social support, having friends, reaching out for therapy, finding individuals that you can bring into your circle to also help support what's going on for you.

SHAWN STEVENSON: Wow. So, we're seeing... And we saw already early on, abnormality is taking place with our society's brains. People in our communities that weren't necessarily contracting this virus, but something was going on. Which gets back to the point of your thoughts affect your biochemistry.

DR. UMA NAIDOO: Yeah.

SHAWN STEVENSON: We tend to not respect stress because it doesn't have any calories, in a way... You know what I mean?

DR. UMA NAIDOO: Yeah.

SHAWN STEVENSON: But it can literally eat the same as that physical thing you're putting in your body, that stress that you're dieting on can alter your brain, literally.

DR. UMA NAIDOO: It can... That's such an excellent point. Because I always like to consider stress to be a vital sign, because we think about heart rate, and we talk about blood pressure and pulse all of the time. Stress is like a vital sign. Just because I can't quantify it on a blood pressure machine or something like that, doesn't mean it's not there, but it's doing so many devastating things to the body. And I think that, if anything, I feel like the enhanced stress of everyone during COVID definitely impacted our physical and our mental health, so that has been one of the drivers.

SHAWN STEVENSON: Yeah. So, let's talk about, if you could, I would love, since you are here, to ask you what PTSD is and its core? Again, with the caveat, I know that it's diverse, each person is different, but from a clinical perspective, what is it?

DR. UMA NAIDOO: No, when I've treated individuals with a PTSD or made the diagnosis, it's really been someone who's been exposed to some kind of acute or chronic... May have happened a longer time ago, or it may be more acute, some type of traumatic event. And it could be bullying, could have been someone who was bullied in school, and is only coming to terms with it as an adult. Some of the symptoms that people experience are nightmares, flashbacks, feelings of anxiety, mood disorders can also be... Sort of those overlapping comorbid diagnosis, along with just the PTSD itself. And individuals are often fragile in the sense that, it's not easy sometimes to communicate these feelings.

For example, someone I was treating came in for symptoms of anxiety and wanted to look at trying to lose weight, but really from the perspective that she felt her increased weight was causing her anxiety, and so she wanted to work on dietary measures. But when I evaluate someone, I always go through a full psychiatric history. And what I uncovered was that she had been abused as a child, which she shared as part of the history, because I asked the question as part of the exam that I do, and she didn't really talk about it or go to therapy. And in some ways, when we spoke about it, a lot of emotion came through, and she ended up very tearful, very anxious in the session. And what we really realized, we worked on together was that some of what happened with her is that not really working through the trauma or acknowledging it as an adult at therapy, or early on in her life, even as a teenager when it happened, almost led to this bubbling over of angst anxiety. But that... She really clearly, when I asked her the symptom profile and things, she actually had a lot of symptoms of PTSD, but yet presented with a very different reason that she wanted to work on it, 'cause she hadn't uncovered that for herself. And I think that that's just an example of, sometimes it's...

It's something has happened to a person, and they haven't realized the impact that it's had. That's why I mentioned the example of bullying, 'cause I encountered that a lot in different eras or different age groups of people just being treated badly at school, wasn't maybe we used the word bullying, but it wasn't as recognized now as being a factor that impacts people's mental health.

SHAWN STEVENSON: That's so profound. I think that a lot of us, I know myself, I could be like, I'm fine.

DR. UMA NAIDOO: True. Correct.

SHAWN STEVENSON: Because we can... And even in our minds we can compartmentalize things and like tuck things away and not understand how they're affecting our behavior today. And so, when I mentioned this and we talked a little bit about this, but just from the environment that I grew up in and seeing the things that I saw being exposed to the things I was exposed

to, I had no idea that I was carrying that with me. And that was a result of how I was behaving and showing up in the world myself. I thought they were two different things. And so I was just trying to address the behavior instead of addressing the root cause of it. I remember going to the corner store and coming out and a kid had a gun in my face, and a kid was younger than me. I was probably 12, 13, 12. He's probably, a little bit younger and the store owner fortunately came out, he was trying to get my shoes.

DR. UMA NAIDOO: My goodness.

SHAWN STEVENSON: And he ran off, but that moment stayed with me. Obviously, it's a kind of a traumatic thing.

DR. UMA NAIDOO: Yes.

SHAWN STEVENSON: But...

DR. UMA NAIDOO: Very much.

SHAWN STEVENSON: For me, even in that moment, I really, the next day, I wasn't thinking about it. Like you think you might, I wasn't replaying it because it's just like, this kind of sh*t happens around here.

DR. UMA NAIDOO: Right.

SHAWN STEVENSON: And so, by seeing...

DR. UMA NAIDOO: It's accepted in the environment.

SHAWN STEVENSON: Exactly. Exactly. But it's not normal. It's not okay.

DR. UMA NAIDOO: But it's not normal.

SHAWN STEVENSON: Right. And so, seeing that, seeing the violence in my household and outside my door and my tendency would be to now participate in that violence or completely isolate and hide from the violence. So, I had kind of a choice to make there. So, thinking about my aggressive behavior later on in life, like fighting in school and things like that and solving my problems that way it was really result like this kind of mental disposition that I had was a result of this post-traumatic stress. I was... My biology, I went through traumatic experiences that was showing up in how I was operating in the world. Is that correct?

DR. UMA NAIDOO: That is entirely correct. And I really appreciate what you shared and the examples you shared because it's a perfect example of someone living that environment and the false normalizing that happens. Not through any fault of yours, but because it's sort of environmental, that's, it's kind of normal for that to happen. So, you didn't think about it the next day. But when we look at the exact example, it's horrible. It's horrible for that to happen at any age, let alone a 12-year-old or even a 10-year-old and to have such a frightening experience. Trauma happens in those ways and I think acknowledging it, and this is where therapy can be hugely powerful because the client, I mentioned, Shawn, probably much like as you've uncovered these things for yourself, hadn't even thought that was something she should address.

I think shame is part of it. Abuse victims often carry so much shame about what's happened to them, and it takes a process of really working through it in therapy. If they're open to it, one should never push them. And there's a whole lot of science around that, but if they feel ready or they reveal that, and in that exam with me, so much emotion came forth. And I'm guessing as you worked through this in your own life, some of those emotions would've come forth because I'm guessing your body was carrying that trauma.

SHAWN STEVENSON: Yes.

DR. UMA NAIDOO: And the interesting thing is it carries it on a cellular level, right. And it carries on multiple levels that are chemical in our body. So, one of the things I wanted to share is, people you mentioned earlier about, that I'm very inclusive in my view of food and nutrition. And some of that comes from my own experience growing up, because before I moved to Boston, I grew up in South Africa. I'm sort of Indian descent and an east Asian and south Asian and all of that, but actually grew up in a country that embraced apartheid. And so, in what many people don't realize is that there were only two colors in South Africa during apartheid, there was white and black, and I was not white.

And I remember childhood experiences, which took me... It took many years in therapy to figure out all of this because like you, that was what was normal in my world. It was normal to not be able to do things that other kids had access to, not be able to go to theme park or go to a certain beach or be segregated and excluded from experiences. It was normalized because of how the culture was and my parents did their best to protect us against that. And one of the things that I really felt so deeply about was what it felt to not be included. And it really led to how I think so deeply about food and nutrition, because I never, even though I was actually raised vegetarian, my family happens to be Hindu and they all vegetarian.

I cook anything. My husband eats anything. But part of that really stems from having been excluded from things as a child and realizing how deeply traumatic that was and that my

response to it is I never ever want to exclude someone based on what they eat and to find a way to work with them, their mental health, their health issues, their physical health, and to make them feel included. And that's part of the reason I don't agree with the diet wars that go on and to eat this not that mentality because it excludes people. And on a very deep level, I know what that's like. And I think that food is something that should be very unifying for people. It's the one thing that across many cultures you can talk about and share.

SHAWN STEVENSON: This is part of doing the work like you just mentioned, where you can turn something so painful and traumatic into a gift for others. First of all, the gift is to yourself first and foremost. And so, when mentioned the value of therapy, just even thinking about, when you said it, it just was just like, yes. It felt such a relief to talk about these things, and so I would share just a lot of these stories with my wife and it just like felt... Because I never told anybody except my family at the moment, back whatever 30 years ago, whatever that was. But to share that with somebody today, I didn't realize again that I was carrying it with me. And to be able to voice it, to share it, to get it out of my body, I physically felt lighter. I felt more free. And also, especially to do this with somebody who has the capacity to understand or to be in non-judgment as well, which is a great onset or opportunity with a good therapist. It's just a valuable tool because we don't often realize again that our behaviors today are really driven by things that could have happened 10 years ago or 20 years in our childhood.

DR. UMA NAIDOO: And our experiences. That's right, experiences and they all affect our body, and they all affect our body chemistry on a cellular level. So, it's not just the gut microbes, it's how we're thinking, it's our level of stress, it's what we carry within us. And I think that it's funny, Shawn, because when I mention leafy greens or salads, I try to stay away from just rote food recommendations that everyone hears, but just try to make the nuances in nutritional psychiatry available. And I'll often get the eye roll when I mention, "Eat those salads, eat the seed or what the recommendations are." But I often also get the eye roll around therapy, I have to tell you. And I'm a huge proponent, not only in our program where we trained a psychiatrist to be able to do therapy. It's a powerful tool. It's a hugely powerful tool, and someone has to be ready and all of that, but it's a very big part of whether you're using food, whether you are being prescribed a medication, whether you're using exercise to feel better. All these different components should work together, but therapy is one of them.

SHAWN STEVENSON: Yeah. And the great gift that we have today is that you can seek out a therapist who's aligned with you and your values.

DR. UMA NAIDOO: Yes.

SHAWN STEVENSON: Right. So, people can find folks like yourself and who understand the value of nutrition, for example, and not just wanting to, again, treat a symptom. And also

providing your breadth of knowledge on helping to unpack things and process emotions and all these other valuable entities that oftentimes, again, we just don't have the skill set personally to do it. It's not a part of our culture currently.

DR. UMA NAIDOO: Right. We don't and that's why it's funny. When you are studying psychiatry and you're going through residency and stuff, you're actually encouraged very strongly by your supervisors and your training directors and things, to be in your own therapy. To not only experience it but then be able to use it as a tool, because the belief and understanding, and it's something I actually agree with, I don't agree with everything in psychiatry, but that's something I do agree with. By having that experience, you can share on the power of it, but you can speak to it from a very real perspective and not just a textbook perspective.

SHAWN STEVENSON: Awesome. Well, you mentioned earlier... So, I want to talk about some specific foods that we have some data on being supportive of our mental health. You mentioned blueberries earlier, the anthocyanins, really great source of antioxidants overall. The fiber. What are some other foods? Let's talk about beverages, because a lot of people I think would be pleasantly surprised reading your book that you really are an advocate, or you really value coffee...

DR. UMA NAIDOO: I do value coffee.

SHAWN STEVENSON: For mental health. So, let's talk about that.

DR. UMA NAIDOO: So, it's also a nutritional psychiatry nuance, as I like to say, because not everyone can tolerate coffee, and not everyone with anxiety can tolerate coffee. Studies have shown that consuming less than 400 milligrams a day can be okay in someone who has anxiety, but this is where body intelligence comes in. So, if you have a little bit of coffee and you'd feel jittery and you don't feel comfortable, it's not for you. So that's super important. Yes.

Coffee in a recent study actually, was shown to help focus in adult ADHD individuals, so there are many physical benefits of coffee that've been touted over time. I find that coffee on its own is actually rich in polyphenols, and that's what the research shows. It's caffeine that can be problematic for people, and that's where one has to... You have to be a little bit careful and cautious about it. The other thing that I think is the issue with coffee is what we put into our coffee.

SHAWN STEVENSON: Absolutely.

DR. UMA NAIDOO: When we add in packets of sugar and, or artificial sweetener or a quarter cup of processed creamer, that has the same list of unhealthy ingredients that you don't recognize.

SHAWN STEVENSON: Like vegetable oil. Oh my gosh.

DR. UMA NAIDOO: Like vegetable oils and stabilizers and food doesn't carry the same things. When you're adding a quarter cup, let's think about a 20-ounce cup of coffee that large size that many people do like to drink, or is popular. Let's say, it can have up to a quarter cup of whatever cream is being added. And then you... A few years ago, my patients were coming into the office with a new fancy colorful drink that was the rage at the time. Had multiple colors, and so I tested it.

SHAWN STEVENSON: Are you talking about the unicorn Frappuccino thing from Starbucks?

DR. UMA NAIDOO: The unicorn.

SHAWN STEVENSON: We called it out around here.

DR. UMA NAIDOO: You called it, okay.

SHAWN STEVENSON: Yes.

DR. UMA NAIDOO: So, yes it was. So, I decided, you know what, everyone's drinking it. I'm looking at it and I'm thinking it's not healthy, but I thought, "Lemme... " Because I get push back from my clients, it's like, "Well, you know that I got the non-fat and I got this," and I was like, "Okay, that's fine, I'm not judging you." So, I went, and I ordered the smallest size with the lowest fat version, no sugar added, no foam, no whatever it is. And I did it through my app and it had, I'm going to ask you to guess how many grams of sugar it had? The size 12, which was the smallest you could get. So, no extra topping.

SHAWN STEVENSON: Okay, 12 ounces you said, maybe?

DR. UMA NAIDOO: So, the size was what? About 12 ounces, but what would your guess be the grams of sugar?

SHAWN STEVENSON: Okay. Maybe 20.

DR. UMA NAIDOO: Okay. It had 57 grams of sugar.

SHAWN STEVENSON: 57, of course.

DR. UMA NAIDOO: Grams of sugar.

SHAWN STEVENSON: Of course.

DR. UMA NAIDOO: In that small size. So, then I was able... After I got it on the app, I was able to then share with clients, I said "This is all I'm saying, this is what it actually contains, even without all of those other toppings and fancy ingredients or syrups and things like that." So, I think it becomes important that we know what we're consuming, but when we think about healthy foods, I think the things that often people overlook are the nutrients that are beyond... We talk about antioxidants, we talk about anti-inflammatory ingredients, but just leaning into a plant-rich diet can be hugely helpful to a person. Adding in things... So, when you mentioned beverages, they're great other beverages to have, if you consume dairy, Kefir is a fermented form of milk that is actually good for your gut, the plain version kombucha. Again, watch for the added sugars in it. Coffee, definitely if you tolerate it. Good. Worry about what you add to it.

And water. One of the things that gets ignored, what I've seen individuals with dehydration present with severe anxiety. Poor hydration can also... On my Instagram, sometime ago we shared on a study where dehydration was also associated with low mood and depression. So just remaining hydrated, you know having that water bottle with you, having your glass of water sipping throughout the day becomes usually important.

SHAWN STEVENSON: Yeah. Yeah. In my latest book, in Eat Smarter, I mentioned a study finding that just a mild version of dehydration shrinks the volume of the brain itself, right. And it makes... Of course, it makes sense logically because the brain is mostly water.

DR. UMA NAIDOO: Water. Yeah.

SHAWN STEVENSON: But it's not a joke, like we're looking for these magical things to improve our brain health and our cognition, water.

DR. UMA NAIDOO: Water. Yeah.

SHAWN STEVENSON: It's a primary thing. Primary thing. And by the way, I undershot that sugar amount on purpose.

SHAWN STEVENSON: But 57...

DR. UMA NAIDOO: I figured you did.

SHAWN STEVENSON: That's about 14 teaspoons right there.

DR. UMA NAIDOO: It's huge. Yeah.

SHAWN STEVENSON: Right. So that is so crazy, you're getting the smallest one. None of the bells and whistles, the added accessories and it's still that amount of sugar, and it's just like popularized. Right.

DR. UMA NAIDOO: Advertised, popularized, marketed too as the new thing that everyone should be having. Yeah. So, I think that's what we just need to know what we're consuming. Yeah.

SHAWN STEVENSON: Awesome. Awesome. So, what about tea?

DR. UMA NAIDOO: Yeah. So, tea is one of my favorite substances. I grew up drinking a lot of tea, and I think here green tea is rich in EGCG and L-theanine, so great. I find that it's a great pick me up in the afternoon, so I usually drink my coffee early in the day, and then I find that if I'm having more meetings and something that I have to do in the afternoon, I need a little bit of a pick me up. Actually, a cup of green tea is one of my favorite things to do. There are many teas that actually can be used even for anxiety and sipping on these there's good evidence behind them.

So, one is passionflower, lavender, chamomile, these actually have been shown not to be overlooked in terms of having some good benefit. Again, what you add to it becomes important, and I think it sometimes be overlooked as a mechanism, just like breath work can be for anxiety. So, I will spend time teaching a client breath work when they're not anxious and they're working with me on a regular day and teaching them exercises to help that when that panic hits, they have something that they can actually utilize beyond Xanax. So rather than go to the Xanax, why not we think about how can you breathe? Can you hydrate? What did you drink that morning? Maybe you didn't realize that you had something caffeinated and you're sensitive to caffeine that could have precipitated it.

SHAWN STEVENSON: Yeah. And you kicked it off by talking about body awareness.

DR. UMA NAIDOO: Yes.

SHAWN STEVENSON: Being able to pay attention to what's going on within our own system, which we're so externally focused today that we often ignore or mis-diagnose our body's

expressions, right. And so, you're... A big part of your work is getting us to be able to look within, to pay attention to what's going on with their own bodies, to become educated on what to do.

DR. UMA NAIDOO: Educate ourselves as best we can about what to do, because it begins with that self-awareness. Whether it's understanding that there might have been a trauma you experienced or whatever. It starts with self-awareness, and I think that sometimes we spend a lot of time on healing the outside body, but the inside world and inner world is equally important.

SHAWN STEVENSON: Awesome. Awesome. So, we've got blueberries on the food side, we've got a bunch of beverages we just went through. One other thing, if you could share because we talked about the Omega-3, Omega-6 ratio, so we want to pay more attention to Omega-3s.

DR. UMA NAIDOO: Omega-3s.

SHAWN STEVENSON: So where can we get some of these?

DR. UMA NAIDOO: So, Omega-3 foods are rich foods are things like fatty fish. So salmon is a good one, wild caught salmon is a good choice. There's actually a nice mnemonic for that, for the fatty fish it's SMASH, salmon, mackerel, anchovies, sardines and...

SHAWN STEVENSON: Herring?

DR. UMA NAIDOO: And herring.

SHAWN STEVENSON: Boom, SMASH.

DR. UMA NAIDOO: Yes.

SHAWN STEVENSON: We smashed that together.

DR. UMA NAIDOO: Right. So that's a good mnemonic to know. You know not everyone's consumed seafood. And by the way, I'm going to mention this, so, many people said, "Well, of course, you know, salmon is more expensive and not everyone has access." So recently, I specifically stopped at about two- or three-Dollar Stores, and I wanted to see if any of them kept canned salmon because here's the thing, you may not be able to get a fresher frozen side of salmon, but you can get it canned, and it's still going to have some benefit. And you know, almost every single store that I hit, had cans of salmon. So, understand that there are ways we can get brain healthy food. Not all the foods they had they were healthy, in fact, most of them

were not in the Dollar Store, but they did have canned. They had canned fish and they had canned salmon so to me, it was a note to self.

But other sources, if you like myself are plant based are seaweed, algae, nuts and seeds. So flax seeds, hemp seeds, all rich in the short chain Omega-3s, which are not as well absorbed, but you can take an algal supplement if you want to make up for them.

SHAWN STEVENSON: Absolutely. So, I highly recommend people if they're not doing fatty fish or fish oil. Most of the studies are done using fish oil.

DR. UMA NAIDOO: Most of the studies have fish oil. Yeah.

SHAWN STEVENSON: Krill oil is another option. And also, as you mentioned, at least get yourself an algae oil, at least, 'cause we know the Omega-3s, the DHA and EPA are there. We don't have many studies done yet, but we don't have to wait around. Because again, this is going back, our ancestors for thousands of years has been utilizing algae, sea veggies.

DR. UMA NAIDOO: Yes.

SHAWN STEVENSON: And alike. So, we can always lean on that, and I just appreciate you so much for sharing your wisdom, and could you let everybody know again about your book where they can pick up a copy?

DR. UMA NAIDOO: Thank you. Thanks, Shawn. So, my book is This Is Your Brain on Food, you can find it on my website at umanaidoomd.com. Please follow me, subscribe because you'll get my weekly newsletter where I share a lot of the studies you mentioned and updates. Follow me on Instagram @drumanaidoo and across all social media. So that's at D-R U-M-A N-A-I-D-O-O and communicate with us, we love to hear from people, and we love to get book photos when you get the book, because we share that. That's how we're building a larger community around this, and I feel very grateful for the invitation Shawn, 'cause it's these experiences that help people know a little bit more about the work. So, thank you.

SHAWN STEVENSON: You're welcome. It's what it's all about. And by the way, definitely follow Dr. Naidoo on Instagram, because even if a couple of the studies that we talked about today... I stay, as you know, I stay on top of the data, but I didn't... These were things you brought to me; I didn't even know that these studies have been published. And so, following you, we get a great dose of actionable things, but also up to date, like cutting edge...

DR. UMA NAIDOO: Thank you.

SHAWN STEVENSON: Science and studies. And you do some beautiful things with food as well, there was one video like, you made those popsicles.

DR. UMA NAIDOO: Yes.

SHAWN STEVENSON: Was so good. But yeah, please...

DR. UMA NAIDOO: Love food.

SHAWN STEVENSON: Make sure to follow Dr. Naidoo and pick up her book like yesterday. And again, I just appreciate you so much for coming by.

DR. UMA NAIDOO: Thank you, Shawn. I appreciate you too. Thank you as always.

SHAWN STEVENSON: Awesome.

DR. UMA NAIDOO: Thank you as always.

SHAWN STEVENSON: Dr. Uma Naidoo, everybody. Thank you so much for tuning into the show today. I hope you got a lot of value out of this. This is such an important conversation, and getting more folks educated about this and empowered in this domain. We're talking about mental health and its connection to food specifically, this growing body of evidence is pointing to something that we already knew, which is what we eat truly does matter. We're talking about our emotional well-being, our mental well-being, and we have the ability within ourselves, within our families to improve mental health through what we're putting into our bodies and what we're serving at the dinner table, truly does matter. So, this is one to share up with your friends and family, of course, you could send this directly from the podcast app that you're listening on. And of course, you could take a screenshot, tag me, I'm on Instagram @shawnmodel and tag Dr. Naidoo as well, let everybody know what you thought about this episode.

I appreciate you so very much for tuning in. We've got some epic, absolutely epic master classes and interviews with world-class experts coming very, very soon. So, make sure to stay tuned. Take care, have an amazing day. I'll talk with you soon.

And for more after the show, make sure to head over to themodelhealthshow.com. That's where you can find all of the show notes, you could find transcriptions, videos for each episode, and if you 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.