Trauma and immune responses in the brain

Guest: Donna Jackson Nakazawa

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[00:00:10] Meagen Gibson

Welcome to this interview. Today I'm speaking with Donna Jackson Nakazawa, an award-winning science journalist, author of six books and an internationally recognized speaker whose work explores the intersection of neuroscience, immunology, and human emotion.

Her newest book, *The Angel and the Assassin: The Tiny Brain Cell That Changed the Course of Medicine*, was named one of the best books of 2020 by Wired magazine. She's also the creator and founder of the Trauma Healing program *Your Healing Narrative: Write-to-Heal With Neural Re-Narrating*, an online narrative writing course for educators, practitioners and individuals.

Her next book, which will be published in 2022, *Girls on the Edge: The New Science that Explains Why Our Daughters Are Struggling and What Will Help Them Thrive,* looks at today's growing female adolescent mental health crisis, examines how trauma affects the female brain and body in uniquely powerful ways, and offers new hope for helping girls to flourish even in the face of adversity. Donna, thank you for joining me today.

Donna Jackson Nakazawa

Pleasure to be here with you, Meagen.

Meagen Gibson

So I would love it if you could tell us a little bit about your health experience and what led you to go down the research lane of trauma?

Donna Jackson Nakazawa

Sure. So I grew up in a family in which everything seemed just fine, and around the time I was twelve, my father developed some complications with an autoimmune disease, and he went into hospital for seemingly minor surgery, and he died due to a physician error. When he died it was, of course, the most traumatic thing that can happen to a child. My father was a writer and a newspaper publisher, and we were very close and obviously I'm a writer, and he was really in a lot of ways, my sole person on this planet, in that he gave me my first book of Shakespeare when I was eleven.

He saw me. He saw me. He knew me. When he died it sort of revealed different fractures in our extended family, and a lot of things came out after that, which were very troubling for a child to go through, in terms of a family imploding. And my three brothers and I cobbled together as best we

could, and I never thought more about it. After I went on and went to College in a grad program and lived in New York City and worked really hard and started to have my own family.

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But along the way, different things occurred, which don't just happen to anybody. I had to have a pacemaker in my mid 20s because I was just dropping and fainting and seizing, and having seizures on the streets of New York. My heart would just stop beating for long periods. I started to develop an autoimmune disease that started as tingling in my arms and legs and turned out to be Guillain-Barré syndrome. I spent six weeks learning to walk again, and then I developed in another time, and that time I was in bed for six months. I could go on with different diagnoses, which are... Some are more troubling than others.

However, at a certain point I was talking to one of my physicians and we were looking at an autoimmune process in my bone marrow. And she just turned and looked at me and said, "I'm just wondering what the hell happened, what might have happened to you growing up that started this Cytokine storm, this fierce autoimmune process, because you've got five autoimmune diseases and a pacemaker", and "what do you think is going on?" And at first I thought she was crazy. Why are you asking me about my childhood now?

To be fair, this was long before the hot buzzword of trauma entered the cultural lexicon. We talked quite some time ago. I'd already been working as a journalist at this intersection, as you said, of neuroscience, immunology, and had cut my teeth in the world of New York publishing and written a few books. And I thought, all right, let's see if there's something to dig into here. And indeed there was.

Meagen Gibson

I'll say. I mean, this book is excellent. It's fantastic. First and foremost, I want to talk about how mental health, and trauma, and autoimmune disease are related, if you can map that out for us because you mentioned cytokines, and I don't even know how to pronounce it yet... Microglia?

Donna Jackson Nakazawa

Microglia, microglia.

Google pronouncer has it wrong. I know you're an interviewer so you looked it up so... True inside publishing story, for anyone who likes these things, is that my books all come out on Audible. And when the book came out on Audible, the producer is just a lovely, lovely person. He had checked a lot of things with me first and then it was produced and it came out and they had gone with the Google pronunciation and had "microglia". It was out for about 24 hours on Audible for every researcher in the world, and every immunologist, and some non-science types, came in and just said, "this is crazy. I can't listen to this. It's so wrong".

And so God bless Audible. They re-recorded the entire thing. So you're not alone and it's gotten out there on Google Translate or whatever you call it. But it is wrong. It's "microglia" because glia are non-neuronal cells in the brain, which, you know, because you've read the book and micro is small. They're the smallest little cell in the brain and also the most powerful. So to go back to your question, how do we map out this relationship between autoimmune disease, mental health and brain inflammation? I think that's where you're starting, right?

[00:06:53] Meagen Gibson

And trauma for that matter. Yes.

Donna Jackson Nakazawa

This is obviously something I teach for three or 4 hours at University. So just to put it in a nutshell as best we can with these things, when we are growing up and we meet a lot of adversity, we call that "chronic unpredictable stress" or "toxic stress", to use the more common nomenclature. "Chronic unpredictable stress" basically means that the body never has a chance to recover from periods of feeling unsafe. When you're growing up, your brain, and throughout your life, it's biggest job is to detect- "am I safe or unsafe?"

That is, as an organism, your brain's job in your body. And you as an organism, you need to know "am I safe or unsafe?". Thousands of messages are coming through all of your senses 24/7, which send you that message. As a child, as you're getting that message, whether you're safe or unsafe, your entire immune system and all of your neural synapses and your brain are forming in response to that message.

It's one thing if there is a trauma and it's dealt with as a family, and the family can talk about anything and move on, and a child feels safe, and seen, and known, and cared for by the adults in his or her life, as they go through this traumatic experience.

But very often in our society, and we know this because of the famous ACEs research, two-thirds of kids grow up with a significant trauma in their lives, and that number is even higher when we bring in traumas outside of family life, like growing up in poverty, racism, sexism, in food deserts, with school shootings, with environmental crises like pandemics, or mudslides, or global warming.

So we know that the average child is growing up, two-thirds of them, with at least one ACE score in their own family life. And we know that number is higher when we look at all the things that happened which caused kids to feel unsafe.

So when we consider that, the question is, "are these stressors toxic in that they are chronic and unpredictable?" And all of the household stressors, and most of the environmental and social stressors we're talking about, they fall in that category. And here's why.

A child never knows when they're going to happen. If you are growing up with a parent with a mental illness or a parent with a substance abuse problem or alcoholism, or you're growing up with parents who maybe don't divorce, but they bicker all the time. If you're growing up watching a family member, or your mom or sibling being treated in a way that's putting them down or physically dangerous, and if you yourself are being put down or humiliated or made fun of in your family life, those are chronic, unpredictable, and therefore toxic stressors.

As you develop, those experiences begin to cause heightened levels of inflammation or inflammatory cytokines and hormones, especially as kids enter and pass through puberty. But everything that happens from birth on, actually pre-birth on, the brain is getting that message. It's trying to answer that question, am I safe or unsafe? Am I developing into a life that will be safe for me or not?

And if not, for lots of reasons I won't go into right now, but we can delve into later, your body begins to turn up an inflammatory response to keep you safe. But unfortunately, the danger doesn't pass, and a

child's body gets set on this cranked up, dialed up stress response, which in turn leads to more inflammation.

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And over time, this heightened level of inflammation, which we can measure on blood tests, begins to shift genes that lead to mental and physical health disorders over time. And this means that we see certain things go together.

Trauma, chronic, higher levels of inflammation, as measured by blood tests, a greater likelihood of autoimmune disease, and a greater likelihood of mental health disorders in the same cohort of individuals.

Meagen Gibson

You literally wrapped that up right to the bow that I was hoping for. And when I think about children and adverse experiences, it isn't necessarily the adverse experiences that are directly creating trauma. It's that it's chronic and that there's no safety created for children to experience those, process them, integrate them. It's that chronic thing that you were talking about and the chronic nature of it that creates this immune response that leads to all these things down the way, right?

Donna Jackson Nakazawa

That's right. And we all know if we're parents, I'm a parent. You're a parent. We all know that we can't wrap our kids in Saran wrap or Teflon coat them.

The world will find them. And we as parents, if we have our own trauma, we're going to have moments where we're more reactive in situations which maybe haunt us, seem so close to something we ourselves experienced, that we're not as well regulated as we need to be.

So a lot of the work that I do now is focused on regulating the adults, the parents, my writing-to-heal courses, the next book on girls. A lot of the focus has to be on helping those of us who help others, whether it's family, or patients, or clients, or students, to find that centered place within, even within our own story, and to see and connect those dots in a way that allows us a kind of self-transcendent awareness and consciousness, coupled with the skills that we need in that moment of dysregulation, to come back to ourselves and also be what we hope to be for the people around us.

And for most of us that starts with our children.

Meagen Gibson

I want to go back to that in just a second because I want to back up and talk about what... We've talked a little bit about society, culture and have talked a lot about what anxiety or depression can look like in children, like this response to chronic stress. And we're talking about chronic headaches, chronic stomach aches, things like that, that are not explained purely by physiological stomach flu and eyesight problems or... Sometimes my son comes home from school and has a huge headache. I ask him about his posture that day, and he's like, "well, I did have a turtleneck", so we're creating some body awareness.

But chronic stress can create these physiological symptoms in kids. And then... Those are the ones that we've talked about. We've been able to recognize that this is what's happening. That's a clue that

maybe your child is experiencing some stress that you need to address, whether that be in the classroom, or in your family system, or in the world at large. But these immune responses are what was so interesting to me about your book, and I was talking to another contributor for the trauma conference.

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He was talking about the hippocampus and the influence of substance use in adolescence on the hippocampus. And I know that that had a tie into your book around neurological and psychiatric disease later in life. So how does trauma and chronic stress contribute to hippocampus damage? And, like synaptic…

Donna Jackson Nakazawa

Well, the hippocampus is one of those target areas of the brain that we have been able to look at very closely in brain scans over many years. And so I would say it's really important. And it is also important to name a couple of other areas of the brain where we want to see synaptic connectivity, not only within those areas, but between those areas, which you can stand back and look at as the connectome of the brain, not just what's happening in an area, but how well are all these different areas talking to each other?

So here's what we know about the brain on trauma. We know the hippocampus is 6% smaller and atrophied in individuals who grow up with maltreatment. We also know the connections between the hippocampus, which I think of as kind of like a neural simulator, kind of like a NASA simulator. An astronaut has to sit in a simulator before they go up to space. Well, your hippocampus is kind of a simulator if you and your kids are watching a scary movie on TV, the reason your kids know that it's not really happening is their hippocampus tells them "I've been on the couch with mom and dad other times, watching movies. So I know this isn't real."

The hippocampus is getting a lot of its messages, actually from the alert center of the brain, which is the amygdala. The amygdala is that "Ding Ding, Ding". It's an ambulance siren going down the street. It's going, "are you safe or unsafe? Safe or unsafe?" If the messages are those of unsafety, that's going to prime the hippocampus to respond more powerfully. The hippocampus is also where our memories and our associations with memories reside. And then the hippocampus is going to ping the prefrontal cortex, which runs across the front of the brain and is where we begin to see behavior, decision-making, mood.

We're going to see a reduction or change in neural connectivity in these different areas, or maybe too much neural connect or too much action. For instance, we know in girls in the left half of the hippocampus, in the left half of the amygdala, when it gets really lit up and there's a lot of activity there, we know that that is a ruminating headstate, of high rumination about self and others coupled with low-action, not taking action. That's a danger sign. So it's all of these areas of the brain.

And it's also the default mode network. The default mode network is kind of like this idling center, like your car engine sitting in your driveway. Idling. But, man, if you need to reverse really fast in an emergency, boom, it's going to get going. The default mode network is kind of where we have our sense of self that forms over time. It's that sense of "who am I in relationship to others?" We have our sense of relational awareness. How am I behaving here? How are others behaving toward me? And all of this together, it's all just got to be singing, right? It's got to be singing.

[00:19:16]

So we've known for a long time that individuals who grew up with adversity, or individuals who faced adult trauma or chronic stressors, show changes in this connectome of the brain that I've just laid out. And those changes are off the norm, and they can be compared on brain scans to the normal, healthy functioning brain. We also know that individuals who have had chronic adversity are also spiking these levels of inflammation. But what we haven't known until very, very recently is why chronic adversity could not only lead to this loss of synaptic activity, but what is happening that's causing these neural synapses to misfire or be weakened or too strong in other areas?

Why would that be happening in the brain? Because we know in the body that when there is a lot of chronic stress, or exposure to environmental insults, right? So those can be toxins, poor diet. They can be exposure to infections, as we see with COVID.

We know that the body will pump up inflammation, and that will lead to our immune system sending out lots of cytokines, which can cause problems. Or even producing not just antibodies, to help fight off an infection, but auto-antibodies which can attack the body itself, and lead to autoimmune disease. We have a very robust understanding of the relationship between environmental insults and shifts in physical health. But how is it possible that these environmental insults would cause these shifts in their neural connectivity and the connectome of the brain?

How, and why? What's the mechanism? So that's really what *The Angel and the Assassin* is about, is how is it that adversity and trauma can lead to mental health disorders? Ding, Ding, Ding. We have an answer for the very first time in the history of science. We know why that's happening. And that's really good news, Meagen, because if we know why something is happening, then we can completely pivot to what to do about it. If we don't know why something is happening, then we're just throwing things at the problem.

Meagen Gibson

You did a great job in the book as well. Of, I would say, like paying respect to this brilliant, sophisticated system that our brains and bodies have built together in order to protect us.

Donna Jackson Nakazawa

That's right.

Meagen Gibson

While also acknowledging that once a system is malfunctioning or over-alerted that we've got to figure out ways to then calm it back down and get it out of reactivity and get it out of unhealthy coping mechanisms for its perceived alert, right?

Donna Jackson Nakazawa

That's right. It's all about, if we know that something's out of whack, whether it's in brain immune health or physical immune health, well, then we have the opportunity to take that and become really the general contractor of our own wellbeing. We get to think about what micro-changes we can make, that we want to make, what we're capable of making, and what approaches we need to bring in that if we have no idea of why something is happening, then we don't have that opportunity.

[00:23:05] Meagen Gibson

Yeah. And it can be so overwhelming, right. I mean, I had this moment. I was one of the people listening to the audible. I was shifting between the book and the audible, depending on what I needed to do. And I had this moment when I was walking and listening to the audible version of the book, and thinking that sometimes the way that we are attacking problems, or perceived problems with our body, it feels like using canned compressed air on your keyboard and expecting your computer to work better.

I'm going to dust this part that's completely... Not really actually related to what... In one sense, it was incredibly validating to read the book and be like, there's just this massive sophisticated system that I am not cognitively in control of. That, I cannot think, take a breath in, take a breath out. All of these systems happen without all of this inflammation, all of this response, all of this sophisticated response to my life or my stimulus and my environment. It's all just happening.

Donna Jackson Nakazawa

And yet we can get in right there, right there. Once we know why it's happening and what we can do about it, we can get right in there and start to reverse the process and bring that nervous system back into a state of safety. There are so many things we can do to return to a sense of safety, so that these inflammatory processes are eased. And then there are so many approaches we can bring in. But I guess now we really have to describe what microglia do and what we're talking about.

Meagen Gibson

I know. I do want to get to some of those approaches that you have, but I feel like it would be a disservice not to actually talk about microglia...

Donna Jackson Nakazawa

Otherwise, we're going, well, there's this thing happening, but we're not going to tell you what that thing is.

Meagen Gibson

It's fascinating. For the first time we know...And I'm not going to tell you what it is.

Donna Jackson Nakazawa

And that's just not how I roll. So what we now understand about the brain, so we can go back for the real nerds in the room, all the way back to the era of Descarte, the French philosopher, who wrote about mind-body dualism. This idea that the brain and body are Church and state. Never the twins shall meet. And we can go back to early anatomy as well. And thank early anatomists for this idea that the brain and body aren't really connected.

They don't talk to each other. Early Anatomists found that at the base of the brain, there's this dense constellation of red blood cells that form the blood-brain barrier. And the theory was, hey, well, then nothing that comes up to your neck can cross into your brain because of this dense constellation. And because the brain has a skull over it, the assumption was, okay, well, in the body, if you were to hit your thumb, it would get red hot, painful and swollen. And those are the terms of inflammation, red hot, painful, swollen.

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Medical School 101. But if the brain were an immune organ, it would get inflamed. And if it got inflamed, it would have nowhere to go. So these were some of the reasons why, across all of neuroscience and immunology, the idea was that the brain was, to use a techy term, immune privilege. Right? The immune system wasn't ruling this one part of your body. Everything else? Yes. Brain? No.

But then some female researchers at Harvard took a closer look at some little ignored cells in the brain called microglia, which were thought to just be these very boring housekeeper cells that went around looking at neurons and making sure that we're happy. You need a sip of water. You need some growth factor, whatever. So these female researchers had this question. Could it be that these little neglected cells in the brain or little overlooked cells in the brain might possibly have something to do with this sculpting away of neural synapses and connections in the brain?

So they spent a few years looking at this. And indeed, they found that when these tiny cells, microglia, are triggered by the same kind of environmental insults that we're talking about, which affect physical health, they stop being these good little angels in the brain, these good doctors dancing around and taking care of neurons, and they morph into these big, fat, Pacman like cells. And then they go and they chomp synapses. They literally eat the synapses of the brain. They can see synaptic material right in the belly of these little cells.

And so this created an entirely new framework for understanding of why it would be that individuals who grow up with adversity or trauma, or face adult chronic stress, would then begin to see changes in the brain, that we can measure on brain scans, that show changes in connectivity in addition to higher levels of inflammation. And why then this would translate with these shifts in connectivity. This heightened neuroinflammation in the brain, to shifts in mood, behavior and anxiety. And so we have 100 disorders, the brain. And we give them all different names.

But they all have this shared pathway of a loss of neural connectivity in these very important areas of the brain due to the response of the immune system to chronic environmental insults and stressors.

Meagen Gibson

That's a lot. I'm like, let's give everybody a minute to absorb... Microglia.

Donna Jackson Nakazawa

I know.

Meagen Gibson

And it's fascinating because one of the things that you speak about is things like Alzheimer's and chronic fatigue, even. And now, as I was thinking, I know that your book came out before COVID, but with the emergence of long COVID syndrome and how the body is staying inflamed. And I would wonder if you could talk about, just for a minute the part of the book where you talk about how that prolonged inflammation and fatigue, that keeps you kind of like bedridden and out of energy, what that was meant to do in the hunter-gatherer days.

[00:29:51] Donna Jackson Nakazawa

Yeah, sure. So I would say that I've probably given a dozen talks now on COVID brain health and the time of COVID. And we know that microglia are at the center of the COVID changes in the brain. They're directly at the center of the story. No surprise there. So across evolutionary time, when you were out trying to get a rabbit for dinner for your family, and you're walking down the little road and you get the rabbit going home, and all of a sudden, big, huge bear jumps out in front of you, your body is going to go into fight, flight, freeze.

We all know what that is, and that's going to pump up this adrenaline and these inflammatory factors in your body. And you might think, okay, well, that's so I can either fight the bear or run away from the bear and be strong and have a lot of muscle strengths. And that's true. That's true. However, your body is also doing something else. Across all of our evolutionary history, across evolutionary time, we developed a strong response to threats in the environment, not just to fight or flee, but also to prepare for what, across evolutionary time, we would expect to happen if we saw a bear or a wolf on the path, walking home with a rabbit.

That is that we would have a wound. We would be wounded. That means that our time and the time you and I have been alive is just one point zero zero milliseconds of human history. The briefest of blinks. So for most of human history, we associated trauma with physical harm, not just fight or flight, but actual physical harm, which meant that the immune system had to rev up. It had to really get going. It had to produce a lot of white blood cells, a lot of different factors to protect you against the possibility of infection.

Now add to that across hunter-gatherer eras, and long before and long after, if you were in any way left out or ostracized by the tribe or dissed or socially made fun of, your body also began to make this same inflammatory response, as if you saw the bear. Because for most of human history, if you were left out in any way or socially dismissed, made fun of, people turned their backs on you, you weren't going to get the same good food as everybody else. You were going to be put at the edge of the tribe.

You wouldn't get the good meat. You couldn't possibly nurse your own children. You would become at the edges of all of the food and shelter and protection of the tribe. This would make you far more likely to be wounded by predators or marauding tribes. And if things went far enough, you would be ostracized and completely set outside the tribe and at the mercy of all of the elements, all of the Wolves and all of the warring tribes. So our body is pretty smart. It evolved over time so that when we meet a physical or emotional stressor, the body develops an immune response.

Meagen Gibson

That's fascinating. It's completely fascinating and partially at least explains why I'm thinking of middle schoolers, right? When they feel ostracized, they feel like they're going to die. It's not just drama.

Donna Jackson Nakazawa

That's right. And that's something I write a ton about in the book that's coming out in September. I wish I could talk more about it, but it really is delving into our understanding of the adolescent brain and particularly the adolescent female brain with again, a real reckoning in neuroscience over the past three years where we now know things we never knew before and just trying to bring those to light.

[00:34:13] Meagen Gibson

It's an exciting time. And while we wait patiently for access to an ability to constantly be scanning our entire bodies for inflammation and treating it in the ways that we would quickly like to. While we wait for that all to catch up, I want to talk about your neural re-narrating program and tools and techniques that we can use now today, without any sophisticated medical intervention.

Donna Jackson Nakazawa

For sure, one of the things that happened, for me, during the pandemic, was that I'd been presenting a lot of keynotes. That's what we do as authors. We write, and we come out after two years being in our attics writing and we go talk at universities and conferences about what we found. And in the process I would also in the afternoons give a workshop that I call *Your Healing Narrative: Write to Heal with Neural Re-narrating*. And it's really a system based on very precise, trauma-oriented writing prompts, mindfulness, breath, drawing techniques, grounding techniques, and put together in a way where we help individuals to connect the dots between the past and the present.

But to do so in a way that we're taking an ever deeper dive. Safely, slowly. To allow these things to emerge in very neuroscience-based ways, come back to the grounding, interior resources for thriving, and to reframe the story from one of loss and trauma, to making a very deep meaning out of one's experiences, drawing in resources that you probably never draw on in your day-to-day life when you're faced with stress, and bringing in these tools again, which are based on how the brain works, and helping people to emerge in a way where after the tears of revelation, there is the ability to bring in this self-compassion.

This grounding, this skill-set, these tools, to literally respond differently in the present moment. For many people, mindfulness alone can score this goal, right? But for a lot of people, mindfulness alone isn't enough to do it. And after working with people for 30 years, it seemed to me it was time to pull together the very best of what we know about the brain, with the very best of what we know about narrative writing, and put them together in a way, with the best of mindfulness, so that we could begin to get your brain to talk to you differently.

And if we can do that, if we can get you to see the connections and start that talk, from your brain to you, to be a very different set of messages and processes, then we reset the nervous system and we begin to see those neural synapses reconnect and regrow in the brain. It's a very finely thought out process again, diving in regrounding, diving deeper, regrounding, and then going through a series of exercises to re-narrate not just the way in which we speak to ourselves, but have the potential to bring in interior resources for thriving that are inside you right now. You just don't use them because that trauma track is so loud.

Meagen Gibson

You've contextualized that so beautifully, and it's become my running internal joke that every time I speak to someone and they suggest mindfulness, I have to contextualize that mindfulness does not work for everyone who's suffering from trauma, just as a tool alone, and that sometimes mindfulness alone can be a very hostile invitation for somebody who's in a trauma...Not spiral... But in a really activated state of trauma. And so I just love the way that you contextualize that- that mindfulness is just a part of it.

And as a writer, I know that the way that we write our stories, the perspectives that we have to take, and how you've said that about getting your brain to talk to you differently. I mean, I'm in. I want to be

part of this program, that sounds awesome. And such a way to also give people more of a sense of control and agency over their stories and what they're capable of...

[00:39:19]

Because I don't think there's a single person that's been through trauma, suffered trauma, and doesn't want all the best things for their life and doesn't want a gentle, loving voice in their head.

Donna Jackson Nakazawa

And doesn't want freedom from the reactions that we have when we're triggered or overwhelmed and to be able to go in and go, wow. Okay. Seeing my stories, giving me a consciousness of the choices that I now have, and bringing in these different skills and tricks. Some of them are tricks. I'll be honest. They trick the brain into behaving differently in high stress moments.

And if we know what those tricks are, shouldn't we use them? Because we can emerge out of moments of real overwhelm and anxiety with a muscle and a sense of "Wow, I've made meaning out of my story. Look at me. I'm with my kid, and I'm able to do this and be this person." That's good for the people around us, whether it's our kids, or our parents, or our students, or our clients.

And it's good for us, because then we begin to rewrite the way in which we see ourselves, slowly over time. And so it's been very powerful to do that work, especially when I started doing it with first responders who during COVID have really been suffering.

So there are so many things that we can do. We're the general contractors of our health, and there's so many micro-changes we can make towards flourishing. The brain is endlessly plastic, and we get in on that. That's for us. Now that we know that the brain is this sensitive immune organ responding to everything 24/7, we can get in on that. And there's so many ways to do it, sure ourselves up and be in the world differently because we just get this one limited time here, guys, and we should really be able to enjoy being in our own skin.

Meagen Gibson

Absolutely. On that positive note, I think we should wrap up. Thank you so much for being with us. How can people find out more about you and your work?

Donna Jackson Nakazawa

So, donnajacksonnakazawa.com. You can find out more about my books and courses. You can follow me on Instagram @DonnaJacksonNakazawa. Twitter @DonnaJackNak. Facebook: Donna Jackson Nakazawa Author. Lots of ways. The courses are on my website. Wherever books are sold, a plug for your local independent bookseller, especially during COVID, and yeah, I look forward to everybody staying in touch.

Meagen Gibson

Thank you so much again.