



MIND & LIFE

Mind & Life Podcast Transcript Melissa Rosenkranz – Mind, Body, World

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Opening Quote – Melissa Rosenkranz (00:54): *Given that my work is so focused on the relationship between mind and body and the skyrocketing rates of all kinds of chronic diseases, I can't help but think about the role that rising rates of polarization and other things that isolate us as individuals play in those relationships. We are living in a moment of extreme polarization, and that increases loneliness and feelings of lack of belonging. All of the problems that we're facing right now I think require an all-hands-on-deck solution, and our ability to really recognize the humanity in everyone.*

Intro – Wendy Hasenkamp (01:36): Welcome to Mind & Life. I'm Wendy Hasenkamp. My guest today is contemplative researcher Melissa Rosenkranz. Melissa holds the Distinguished Chair in Contemplative Neuroscience at the Center for Healthy Minds at University of Wisconsin–Madison, and she's been examining the mind-body connection through the lens of inflammation. We get into this more on the show, but you're probably already aware that inflammation is a huge problem in modern society, and it plays a major role in pretty much all chronic health conditions and leading causes of death today. Inflammation also significantly impacts our brains and our emotions, which Melissa explains much more about in today's episode.

(02:22) Her focus has primarily been in studying folks with asthma, but the implications of her research go far beyond any specific condition. She's also been investigating the role of meditation in modulating our inflammatory responses, and whether meditation can help protect our brains over the long term. Towards the end of the episode, we also get into a conversation about polarization in today's world, and Melissa shares her thoughts on some everyday practices she's been trying out in her own life as a way to build connections and cross divides, and help foster a sense of safety in these times.

(03:00) I'm really happy I was able to speak with Melissa for this. I've been wanting to explore the role of inflammation on our minds and metaphorically in our world for a long time on the show, and she's the perfect person to dive into this with. I also think her reflections on seeing the fuller humanity of those in our daily lives couldn't be more timely. As always, there's lots more in the show notes if you're interested in Melissa's work. I really hope you enjoy this one. I'm very happy to share with you Melissa Rosenkranz.

Wendy Hasenkamp (03:35): It is such a pleasure to be joined today by Melissa Rosenkranz. Melissa, welcome to the show. It's really great to have you.

Melissa Rosenkranz (03:42): Oh, thank you so much for inviting me, Wendy. It's such a pleasure to be with you today.

Wendy Hasenkamp (03:47): Just by way of background, before we really dig into your work, I'd love to hear some of the experiences that shaped your interest in contemplative science and that trajectory, and then maybe you could give us a little bit of a description of how you think about the scope of your work now.

Melissa Rosenkranz (04:03): Yeah. Well, I would say that my interest in mind-body interactions actually preceded my interest in contemplative science. Really going back, I think as far as high school, I was really captivated by the power that the mind has over the body. I had a friend who had a family member who was really struggling with physical problems, and eventually, it came to light that those were largely driven by her mind. And that reality kind of blew my mind.

(04:41) So, I really kept my finger on that pulse and learned as much as I could through college about the mind and what we know about it. And then I had the opportunity upon finishing my bachelor's degree to start scientific study of meditation, and that to me was an offshoot of the relationship between the mind and the body. And I was able to really dig into questions related to the impact that meditation practices can have on the immune system. So, that flourished into the career that I have now.

Wendy Hasenkamp (05:18): That's awesome. I'm really excited to talk to you because I know you've done a lot of work, as you said, on the immune connection to the mind. And we haven't talked about that too much on the show, but it's also a really keen interest of mine. Particularly I know you've focused a lot on inflammation, and how inflammation can show up in the brain and affect our minds, and interactions with emotions and things like that. So, maybe we could start with, if you could provide just a little bit of background for the guests on the inflammatory process and issues with chronic inflammation and all of the things that that can lead to.

Melissa Rosenkranz (05:57): Sure. Well, I think that for all that we hear in the popular media, inflammation is villainized as something to be avoided, but I think it's important to remember that inflammation is an integral part of the immune system and we would die if we didn't have it. It's the first line of defense that our bodies have against invading pathogens. So it's vital that it's functioning well. But when you think about what that means evolutionarily, long ago when we were in situations that are likely to provoke stress or fear or related negative emotions, those were scenarios where we were likely to be injured, or exposed to pathogens. And because our brains largely function to predict what we're going to be encountering in the next second, minute, hour, day, there developed a relationship between the predictions that our brains are making and the ability to launch a preemptive inflammatory response to protect us in scenarios where we were experiencing emotions that would be associated with probable pathogen exposure. For most of our evolutionary history, that was very advantageous for us.

(07:21) Only now we find ourselves in a moment in time where that relationship may not be as advantageous as it was, simply because the types of stressors or scenarios that are likely to evoke those types of emotions are no longer typically associated with pathogen exposure. They're not as likely to predict injury in the way that they were in our evolutionary history. So, most of the scenarios that we experience negative emotions or stress in are social. And so launching a preemptive inflammatory response in those scenarios isn't going to protect us. And because of the frequency and the duration of those experiences, we now find ourselves in situations where high levels of stress are associated with chronic inflammation, that contributes to many forms of chronic disease. Most forms of chronic disease have an underlying chronic inflammatory component. So we've got a little bit of a mismatch here that

developing a better ability to regulate those emotions and those responses is what would be advantageous in our current scenario.

Wendy Hasenkamp (08:37): Right. Yeah. Thank you for explaining that. That's super helpful. Maybe just to give a little more flesh out, I feel like I've heard for a long time too, "Oh, chronic inflammation is such a huge problem," but the number of major disease issues that are associated with it basically run the gamut of everything, right? Like stroke, heart disease, cancer, diabetes. I mean, you could probably name a bunch more. So the really big things that are a health burden and a morbidity burden today, particularly in Western societies.

[\(09:09\)](#) So you talked about the role of stress, and I appreciate you raising the links to the predictive aspects of our mind and how helpful evolutionarily this has been to be able to mount an inflammatory response. But then the fact that most of our current stresses today are social stresses—that hopefully aren't involving bodily harm and injury—leading to this long-term dysregulated states of inflammation. I'd love to dig in a little more to those links between our emotional experiences and the state of inflammation in our bodies and our brains. I don't know if it's worth getting into the difference between inflammation in the body and inflammation in the brain. You were describing how an experience of stress and all of the things that go with that can induce an inflammatory response. Can it also go the other way, where if you're in this state of chronic inflammation, it can trigger those emotional states as well? Can you share a little bit about that?

Melissa Rosenkranz (10:15): For sure. This sort of tracks the trajectory of my program of research too. I initially started addressing these questions because there is a big increase in the prevalence of mood and anxiety disorders in populations that suffer from chronic inflammatory diseases. And as a graduate student, I had the opportunity to start a program of research focused on asthma. So, asthma is a chronic inflammatory disease of the airways. It's very prevalent. It affects about one in 10 people. And a lot of people don't realize that about 10 people die every day due to asthma. I think a lot of people think about it as a disease that we have a handle on. We have medications to treat it, but those medications are not effective in a large number of people. So this is still a condition that causes a lot of morbidity and mortality today.

[\(11:15\)](#) And so asthma also is associated with about a twofold increase in the prevalence of mood and anxiety disorders relative to the general population. So we did experiments where we would study participants with asthma, study their brain and how their brain responded to emotional information, just at a normal state. Then we would expose them to the allergen that provoked their symptoms, and then we would scan their brain again and see how the response to the same emotional cues changed when their body, when their airway was in an inflamed state, compared to when it wasn't. And what we found is that the networks in the brain that receive information from the body—that informs the brain about the physiological condition of the body and integrates that information with the emotional context—were more activated by the emotional cues during an inflamed state. So they were sort of hyper-responsive to that emotional information.

[\(12:26\)](#) So, that gave us a little bit of a foothold on what the underlying neurobiology was that was responding to these changes in the airway. And that is true not just for asthma, but it's true of pretty much every example of peripheral inflammation, inflammation in the body, that has been studied in this way. It's been studied in animals, it's been studied in humans. That research, I had done a few studies in that vein, and then it started to occur to me that it may be that these changes in the way that the brain is responding to emotional information is an epiphenomenon, or a byproduct, of a more pernicious underlying problem. And that is that inflammation in the body was actually impacting the integrity of

the brain, that there was inflammation happening in the brain, and that was changing the way that the brain responded to incoming information. That thought was inspired by a growing list of animal studies that was showing that inflammation in the body provoked inflammation in the brain, and the activation of immune cells in the brain called glia.

(13:50) And so, knowing that, it concerned me that this could be happening in asthma because asthma is so prevalent, and because unlike many forms of chronic inflammation, asthma typically has its onset in the first decade of life. So if you think about a disease like cardiovascular disease that doesn't really get a hold until middle age or late middle age—at the earliest, you don't really see too many people below younger than that with cardiovascular disease—we're talking about a disease that starts at age five, maybe earlier. And so there's a much longer runway for the consequences of that inflammation in the brain to bear out.

(14:34) And one of the consequences of that is cognitive decline and dementia. And sure enough, there is an increase in the prevalence and incidence of Alzheimer's disease in populations of people with asthma. So the work that my lab is doing now is really focused on trying to understand how, in asthma, the inflammation that occurs in the airway gives rise to the changes that we're starting to see in the brains of people with asthma, and whether these functional changes that I talked about earlier in terms of how the brain responds to emotional information are related to underlying structural changes that we've been seeing in our data.

Wendy Hasenkamp (15:17): Okay. One of the things that you said fascinates me, I just want to dig in a little bit more. You were saying that the brain responses of the participants with asthma were hypersensitive to these triggers, and I'm wondering whether... Can that be considered as part of also potentially an adaptive response, evolutionarily speaking, that you would want to be hypervigilant? It's like your body's setting a signal that you're under threat. And so maybe it makes sense to have these more anxious states or hypervigilant states. But of course, like you were saying, it's not so helpful in today's society. Am I thinking about that right?

Melissa Rosenkranz (16:02): Yeah. I think that's an important component of what that increase in sensitivity in those neural networks reflect. I also think it's important to understand that these same neural networks have a role in descending [signals], or regulation of the body. So when the brain is informed about what's happening in the periphery, it has a role then in responding to that, in enabling other physiological systems that direct that inflammatory response. So, engagement of the sympathetic nervous system and the hypothalamic pituitary adrenal (HPA) axis. So those studies where we were provoking an inflammatory response were really difficult to parse because of the snapshot in time that we were measuring in the brain, whether that reflected the brain's response to the inflammation or its attempt to regulate what was happening in the body. Does that make sense?

Wendy Hasenkamp (17:04): Yeah.

Melissa Rosenkranz (17:05): Or a combination. It's likely that it was a combination of both of those things.

Wendy Hasenkamp (17:10): Right. Another question that was just emerging for me, you were saying how asthma begins at such a young age, often under 10. So, you had also described before, chronic inflammatory situations emerging from a chronic stress situation, which is certainly one path. But are there other factors for this population? At such a young age you would think maybe they're not under

such chronic stress in a short life, but are there genetic factors or other things that are at play to cause that to happen so young?

Melissa Rosenkranz (17:41): Yeah. Thank you for calling out that distinction. I do think it's important to understand the different ways in which chronic inflammation can emerge in someone's body. So yes, in a situation with asthma, it does have a strong genetic component. Also, it has to do with exposures early in life—largely exposures to environmental pollutants or what kinds of microorganisms you've been exposed to. So there's a really beautifully elegant program of research looking into microbial exposure early on in life and the development of asthma, particularly the exposure to commensal bacteria that have a protective effect on the development of asthma.

(18:26) So, we're not talking about the airways per se. We're talking about the gut. And so now we introduce another whole domain into the picture, which is the relationship between the gut microbiome and how that relates to immunity in the whole body, but also into the function of the brain. That's a rabbit hole that maybe we want to save for somebody who's an expert in that domain *[laughter]*. But it does have an important role in determining the development of asthma.

(18:57) But also exposure to pollution, exposure to violence, exposure to cockroach feces, are all associated with the development of asthma. The links to early childhood stress and maternal stress are somewhat tenuous in asthma. The research hasn't been super clear on that yet, but there does seem to be some link between maternal exposure to stress, early childhood exposure to stress in the development of asthma as well. But the genetic links and environmental exposures are stronger.

Wendy Hasenkamp (19:37): Okay. Thank you. And then I know you've been looking at the impact of different types of meditation interventions and things like that on inflammatory states in this asthma population. Before we get into that, I just wanted to clarify one other thing, because you were saying the links to dementia and later-stage neural problems that can emerge. So can you also talk a little bit about what we know about the role of inflammation in neurological disease like dementia? And I think Parkinson's is also now being understood to be a part of the inflammatory picture. So what do we know about how that happens?

Melissa Rosenkranz (20:19): Neuroinflammation is part of the cascade of most neurodegenerative diseases. So, you named Parkinson's disease, Alzheimer's disease, also MS.

Wendy Hasenkamp (20:30): Mm-hmm. Multiple sclerosis, yeah.

Melissa Rosenkranz (20:31): Right, has a strong inflammatory component. And we know that brain immune cells have a really important role in that disease cascade. So the brain immune cells that we think about most often are microglia and astrocytes, and both of those types of immune cells act as immune cells in the brain to clear away debris from the brain. But they also have a really important role in supporting neurons and neuronal function. And when microglia become dysfunctional, they're no longer able to play their role in clearing debris and in supporting neurons in that way.

(21:16) We don't know exactly the role of glia yet in Alzheimer's disease. This is an active area of research. We know a lot more about these processes in rodent models, but this work is really difficult to do with humans. So the questions that you're asking now are cutting edge questions that we're currently working on.

(21:40) – *musical interlude* –

Wendy Hasenkamp (22:09): Just as you've been describing the role of stress in inflammation, I'm wondering what you think about folks who might then feel bad or blame themselves for conditions that they might be experiencing in their body. Like, "Oh, it's my fault because I'm so stressed," or something like that? Does that come up in your work?

Melissa Rosenkranz (22:27): It does. It often comes up in the context of talking about my work in asthma to a general audience, an audience of non-scientists, where frequently people who have asthma will be in the audience. Because asthma is so prevalent, usually there are at least a couple of people with asthma in the audience. I often get the question of, "Well, are you saying that I'm causing my asthma?" And the answer to that is a resounding no. As I talked about earlier, most of the causes of asthma have nothing to do with how you relate to the world. But that doesn't mean that how you relate to the world doesn't impact the expression of your asthma.

(23:07) Similarly, there are many triggers for inflammation in our bodies that we have no control over whatsoever. We're going to have inflammation in our body, and how we started out talking about, that's a good thing. We want that to be happening. But what we don't want to be happening is to have that process be dysregulated and how we relate to the world, and the ability to relate to the world in a more healthy way, we should view as a tool to have that regulation be as optimized as possible.

Wendy Hasenkamp (23:45): Okay. So, let's get into what you are looking at and what you're finding about different kinds of meditation interventions for this picture. Can you describe some of your work there?

Melissa Rosenkranz (23:55): Sure. This work for me goes back to the very beginning of my career. The very first study that I worked on, even before I started graduate school, was trying to understand how a meditation intervention—Mindfulness-Based Stress Reduction, for those of you who are familiar with that—impacts the function of the brain and how that's related to the immune response to an influenza vaccine. So all the participants in that study received a flu vaccine after they had finished their [MBSR] training. And what we learned in that very first study was that those who had undergone the mindfulness training had a more robust immune response to the flu vaccine. Now, that might sound antithetical to what I was just talking about as it relates to inflammation, because here now we're talking about a more robust immune response as opposed to a quiescence of the immune response. But the function of the immune system is like a delicate dance. You want it to be engaged when there's something for it to engage. And when there isn't something for it to engage, you want it to be in a quiescent state. Well, when you get a flu vaccine, you want your immune system to respond. That is how it protects you from the virus. So you want there to be a robust antibody titer response to that vaccine. That's what we saw in that first study. And that was related actually to the changes in the brain that we measured in that first study.

(25:30) So after that, I started studying the effects of a different type of immune stimulus, where we exposed research participants to a cream containing capsaicin. Capsaicin is what makes chili peppers hot. So if you've ever cooked with chili peppers and you get it on your hands and then you rub your eyes [laughter] or you do something accidentally, touch some part of your body that is not going to enjoy having capsaicin on it, you know what that feels like. And it generates an inflammatory response in the skin—a particular type of inflammatory response that is caused by neuropeptides being released from sensory nerve endings in the skin. And we studied the ability of a meditation intervention to buffer the effects of stress—a psychological stress that we created in the laboratory—on that inflammatory response. That type of inflammatory response is called a flare. And what we found is that the

Mindfulness-Based Stress Reduction intervention that we used in that study was effective at reducing the effects of stress on that flare response, relative to an intervention that was also designed to promote well-being but didn't include mindfulness components.

(26:51) So you can see maybe where these two lines of research are beginning to converge a little bit. We showed that same effect when we compared long-term meditators to non-meditators, where the long-term meditators also showed a reduced flare response to the capsaicin cream following stress compared to the non-meditators.

Wendy Hasenkamp (27:13): So, reducing the inflammatory responding.

Melissa Rosenkranz (27:16): Exactly. So at that point, I felt like I had enough evidence to see if this could be effective in an asthma population. Because at the same time, I had been studying the relationship between the way that our brain responds to the environment and inflammation in the airway, here we have an intervention that can influence how our brains respond to the environment. So we did our first study where we were investigating the ability for Mindfulness-Based Stress Reduction to not only improve psychological distress—the experience of stress in our lives, symptoms of depression, symptoms of anxiety—but also to improve asthma symptoms. And what we found in that study was that indeed the mindfulness intervention did improve psychological distress, but it also improved asthma control. It improved asthma control on a measure called the Asthma Control Questionnaire, which is an instrument that's used clinically to determine the efficacy of medication, whether the medication that somebody is using is effectively controlling their disease. It is a self-report measure, but it includes things like, how much did you need to use your rescue medication?

Wendy Hasenkamp (28:44): Like an inhaler or something...

Melissa Rosenkranz (28:46): Exactly. How often did your asthma wake you up from sleep? How functionally impaired were you by your asthma in the last week? So we saw significant improvements that persisted to the end of the study, which was four months after the completion of the intervention. But we also saw improvements in airway inflammation, that are measured using something called the fraction of exhaled nitric oxide. Nitric oxide is produced from the airway epithelium. It's a marker of airway inflammation. So we measure that in exhaled air, and we saw a reduction in that in the participants who went through the mindfulness training compared to a control group.

Wendy Hasenkamp (29:33): Oh, awesome. That's a really fascinating finding—just in general to step back and think about a mental practice that can reduce inflammation. That in and of itself is massive. And you were saying, that's interesting about that nitric oxide fraction that you can measure the inflammation in the airways. Are there ways to measure inflammation in the brain itself? That seems like it would be a lot harder.

Melissa Rosenkranz (29:56): It is a lot harder. There are, but they're not great. So, we're doing that now in a study. The way that we are measuring it right now is using positron emission tomography, or PET, which is a form of brain imaging. The way that PET works is that you inject what's called a trace—it's a molecule with a radioactive tag, and that tag is designed to bind to something specific that you want to measure in the body or in the brain. And the form of PET tracer that we are using in this study involves the radiolabeling of a protein, a mitochondrial protein that is up-regulated when microglia become activated. So we're using that in a study now, where we study participants at baseline with this tracer to see what their baseline level of microglial activation is, and then we expose them to their allergen and we measure the glial activation using this tracer again.

Wendy Hasenkamp ([31:00](#)): Oh, cool. That seems like it would be a really important tool in moving forward if that tracks out. That's awesome. So are there other things you want to say about the meditation inflammation connection?

Melissa Rosenkranz ([31:13](#)): Well, the next logical step in that line of research is to determine... So we know that airway inflammation changes the way that the brain processes and responds to information.

Wendy Hasenkamp ([31:28](#)): Making it more hypersensitive, right?

Melissa Rosenkranz ([31:30](#)): Right. And we have some evidence that airway inflammation is related to the structural integrity of the brain, so the deterioration in the structural integrity of the brain. We suspect that is due to its impact on inflammation in the brain. That's the research we're doing right now. I don't have a definitive answer to that, but that's our hypothesis. We also know that mindfulness training can reduce airway inflammation, and that psychological stress—which is another set of studies I haven't talked about yet, but that psychological stress—primes the airway to respond to allergens. So, when you're in a stressed state, your airway is primed so that when you are exposed to an allergen, that inflammatory response is going to be worse.

Wendy Hasenkamp ([32:22](#)): Fascinating. I assume that would apply across the board to inflammatory areas of the body or areas that are affected by inflammation?

Melissa Rosenkranz ([32:31](#)): It has been shown, and yeah, I mean there's a lot of research on the gut, how gut inflammation is worse during psychological stress, and also with dermatitis (eczema), and also in joints in rheumatoid arthritis. My expertise is in asthma and we've done the studies to show that that's true. We know what the molecular pathways are.

([32:58](#)) So, the next logical question is can mindfulness training through its impact on reducing inflammation in the body impact the effect of airway inflammation on changes in the brain's structural integrity? So can mindfulness training actually be protective for some of the neurodegeneration that we think we're seeing in the brains of people with asthma? When you're talking about a disease that spans the whole lifetime like asthma does, these types of interventions are really important. And I don't want to sound like I'm suggesting that somebody can cure their asthma with meditation. We think about these interventions as working with medications that would be used to treat asthma. It's really important to manage the inflammatory component. We do actually have data suggesting that people who use medications reliably use inhaled steroids, their brains are more protected than people who are only using albuterol or their rescue inhaler. So that's a message that's really important to get out there is, I don't want people to think that they should just be meditating and that they don't need to use their medications.

Wendy Hasenkamp ([34:14](#)): Right. Well, that's exciting to think about following this line of work, if meditation interventions could become part of a treatment protocol as a standard approach for people who have a chronic condition like asthma. Are there things pointing in that direction?

Melissa Rosenkranz ([34:31](#)): Yeah. So, one detail of the study with asthma participants that I haven't mentioned yet that I think is the most interesting is, when we went to publish that work, we had a reviewer ask us about changes in medication use. Like, maybe their airway inflammation is improving and their asthma control is improving because they are more diligent about using their medications.

Wendy Hasenkamp (34:55): Oh, because they're paying attention more from mindfulness or something?

Melissa Rosenkranz (34:58): Exactly. So we went back and we looked at data, because we did collect data on their medication usage. And we didn't see any substantive changes in their medication use to suggest that they were doing anything different in terms of how they were using their medication. However, one of the criteria to enroll in this study was that the participants needed to have significant elevations in their airway inflammation at enrollment. So they couldn't have well-controlled airway inflammation to begin with, which meant that whatever medication they were using, despite that, they still had elevations in airway inflammation. Which means that for about half the participants in this study, they were using inhaled steroids, but despite their use of inhaled steroids, they still had active airway inflammation. And it was those participants—the ones who were using inhaled steroids, but still had residual inflammation—that were the ones driving the effect.

Wendy Hasenkamp (36:03): Okay, that had the most benefit.

Melissa Rosenkranz (36:06): Right. So it looks like perhaps the aspect of the inflammation that is not addressed with the steroids may be contributed by psychological factors, and that is what is being targeted by the mindfulness practice where both of them together were the most effective.

(36:27) – *musical interlude* –

Wendy Hasenkamp (37:04): Well, I want to pivot just a little bit. In the course of some of our conversations in this last year, I know you've been increasingly thinking about the state of our polarized society, and ways that these practices and just this whole space that we're operating in might play in. So, do you want to share a little bit about how your thinking has evolved around that?

Melissa Rosenkranz (37:26): Sure. Given that my work is so focused on the relationship between mind and body and the skyrocketing rates of all kinds of chronic diseases, not only in the United States but worldwide, I can't help but think about the role that rising rates of polarization and other things that isolate us as individuals play in those relationships. We are living in a moment, not just in the United States, but in many places around the world, of extreme polarization. That increases loneliness. It increases feelings of lack of belonging. All of the problems that we're facing right now I think require an all-hands-on-deck solution, and our ability to really recognize the humanity in everyone.

(38:23) So it got me thinking about, "What can we do? What is it that will allow us to connect with the humanity of others?" Just in our day-to-day lives, I'm not talking about on a grand scale. I'm talking about while we walk to work, while we ride the bus, while we grocery shop, while we do the activities of daily living, how do we break the silo that many of us are living in? There are some places where that is more true than others.

(38:58) And through that line of thinking, I started to ponder the literature on weak ties. By weak ties, I don't mean the meaning of weak ties that's associated with network building in a transactional way, where we build networks for the connections and what we can get from those connections. The version of weak ties I'm talking about can be thought of more in the context of the people that populate our worlds, the people who we pass every day on the street, the people who we pass dropping our children off at daycare, the people who are bagging our groceries or driving our buses or picking up our garbage or answering the phone when we call to get help addressing some issue. And I have started to make a practice of my own to recognize those people. It's a little experiment that I've been doing in my own life,

but it's based on a literature actually of social psychologists who study weak ties, and how people who describe more encounters with their weak ties in a daily basis report greater well-being.

(40:17) When I think about that in the context of my broader research program, it makes me think about what having a world that's populated with people that we recognize and we smile at and we make eye contact with, maybe we even know some of their names, when our world is populated in that way—rather than populated with people who we pass while we look at our phones, we don't make eye contact with because we're listening to our podcast, or when we just avoid the humanity of the streets, our everyday streets, our everyday sidewalks, our everyday lives—when we view our world as populated by friendly faces, people who we recognize, that sends a message to our bodies about how safe we are.

(41:10) You can take everything that I said earlier about the relationship between stress and immunity and think about it in this context. What is our brain going to be preparing us for when our world is populated with people who we recognize, people who we say hi to, people who recognize us, people who miss us when we don't pass them on the corner, or we don't see them at the bus stop? Versus, what is our brain going to be preparing us for when we don't recognize anyone in our neighborhood, and nobody talks to each other?

(41:49) I think that not only do we start addressing the polarization and how to recognize the humanity and to start making connections across people who we may not feel like we have a lot in common with, as well as addressing some of the conditions that give rise to chronic inflammation as we've been talking about in the context of our everyday lives, by just having a simple practice of making eye contact, saying hello, learning people's names. So, this is a personal experiment. This is not part of my research program, but it's a personal experiment that I'm doing to see how it changes my feelings about polarity.

Wendy Hasenkamp (42:31): Yeah, I love that. It's so, so important today. One of the things that also came up as you were talking is, contrasting if you know people's names—and obviously, it doesn't have to be a deep friendship, but like you're saying, these weak ties—if you don't know anything about a person, it's so much easier to just project our ideas. I think that's another piece of what's so helpful in breaking down the polarity and like you said, seeing the humanity. So, I really love that. Have you seen anything in your own personal experiment in terms of results yet, or changes that you've seen?

Melissa Rosenkranz (43:10): I love that you brought up perceiving somebody as a whole person. Once you start to even do something as simple as knowing their name, they're no longer a monolith of what clothing brand they wear, or a product of their appearance. Right? Now they're a human with people who love them, with wishes and dreams. I feel like in my own life, I've only been doing this really for the last month or two, but I've started to recognize that it brings a levity to my life that maybe I was lacking before, that it makes me feel more hopeful.

(43:57) And it does make me feel like I'm held, even if very lightly, by a broader world than the people who I would turn to confide in, or the people who would take care of me if I were sick. Just knowing that there are people who are going to wonder where I am if I don't show up at a particular place at a particular time like I usually do.

Wendy Hasenkamp (44:22): Yeah, I love that. Are you familiar with the work of Jim Coan?

Melissa Rosenkranz (44:28): The Social Baseline Theory?

Wendy Hasenkamp (44:29): Yeah, exactly. He was on the show recently and it's making me think a lot about that and just the power of social connections on a physiological level, like you were saying, of that feeling of safety. I love that you're describing too in your experience. It's also making me think about, in a traditional loving-kindness practice, you move through these levels of wishing well and loving-kindness usually towards yourself or close loved ones, and then you move into this space of 'neutral' people. Those seem to be the people that you're describing here. It's people that you don't know. You don't really have strong feelings either way about, and continually engaging... or I don't know if you want to describe the practice from your perspective, if that links up to how you're thinking about it.

Melissa Rosenkranz (45:18): Yeah, absolutely. I think that's where the idea came from initially. (And I will put a plug-in for Jim's work. I'm a big fan of Jim Coan's work.) But that is how I started thinking about this practice of cultivating weak ties. It's sort of an active version of the loving-kindness practice, where instead of just calling somebody to mind, I'm actually going through my day honoring or acknowledging, or seeing—really seeing—the neutral people in my world. What I hope this will lead to is my ability to see the humanity in people who are my difficult people, because the next step of that loving-kindness practice is a difficult person. And that is also the next step in confronting our polarization is, how do we connect on a real level, with people who differ from us in important ways, ways that are very challenging to us? Because it's what's going to be required to solve some of the problems that we're facing.

Wendy Hasenkamp (46:31): Yeah. You may have been alluding to this earlier as you transitioned into this discussion about polarization, but it strikes me that the state of society today, you could talk about in a metaphorical sense as being very inflamed. There's inflammatory rhetoric, right? We use these terms. And I'm wondering... maybe it's not a metaphor, right? There are ways probably that it's actually contributing perhaps to our level of inflammation, if it causes stress and causes us to feel a threat or a lack of safety. So, I'm just wondering if you've thought about it in that concrete way.

Melissa Rosenkranz (47:10): I think about that every day, as I talk to people who are stressed reading the news and what the news has to offer us these days. I also think about it as a tool—that fear and threat are weaponized to achieve particular outcomes—and what consequence that is having for our bodies constantly being in this state of fear and of threat. And that amplifies polarization, but it also amplifies the signals that our brain is sending our bodies about what we need to be prepared for. I don't think it is an accident that we're seeing lots of flare-ups in the types of conditions that we've been talking about.

Wendy Hasenkamp (48:01): Yeah. Well, gosh, this has really been so wonderful to chat. Thank you so much, Melissa, for taking the time today. Is there any... stepping back from this work, are there any take-home messages that you take from the space that you operate in, or anything you want to share before we leave?

Melissa Rosenkranz (48:22): I think that what I try to think about is there's always a place to start. People who are struggling with something that's going on in their body, the idea that you have some agency—that the ways in which you're consuming information in your environment have real, material, measurable impacts on what is happening in our body—can be empowering.

(48:49) Similarly, people who are struggling with the contents of their mind and what is happening on a mental level can use their body as a path toward restoration, or as a path toward rebalance, if you will. Sometimes I think we get stuck in one domain or the other, and having different avenues to address some of our struggles I think can be very liberating. Just remembering that there's always a place to

start—that no matter if you choose to start by practices that engage your mind or if you choose to start by interventions that change something about how your body is responding, it can go in both directions.

Wendy Hasenkamp ([49:39](#)): Well, thank you so much, Melissa. This has really been fun, and I so appreciate all of your work in the world. Thank you for sharing it with us today.

Melissa Rosenkranz ([49:49](#)): Thank you so much for inviting me, Wendy. It's been a pleasure.

Outro – Wendy Hasenkamp ([49:56](#)): *This episode was edited and produced by me and Phil Walker, and music on the show is from Blue Dot Sessions and Universal. Show notes and resources for this and other episodes can be found at podcast.mindandlife.org. If you enjoyed this episode, please rate and review us on Apple Podcasts, and share it with a friend. If something in this conversation sparked insight for you, let us know. You can send an email or voice memo to podcast@mindandlife.org.*

[\(50:27\)](#) *Mind & Life is a production of the Mind & Life Institute. Visit us at mindandlife.org where you can learn more about how we bridge science and contemplative wisdom to foster insight and inspire action towards flourishing. If you value these conversations, please consider supporting the show. You can make a donation at mindandlife.org, under Support. Any amount is so appreciated, and it really helps us create this show. Thank you for listening.*