

MindFIT Podcast – Better in Every Sense: The Surprising Relationship Between Sensation and Wellbeing with Dr. Norman Farb Transcript

Lauren Brown:

Hi, and welcome to the University of Toronto's MindFIT lecture series. On this podcast, we discuss the Buddhist roots of mindfulness along with current issues in mindfulness and yoga. My name is Lauren Brown and I'm the Mindfulness Meditation and Yoga Program Coordinator for the Division of Student Life. Thank you for listening.

Chloe Ellard:

Today's lecture is Better in Every Sense: The Surprising Relationship Between Sensation and Wellbeing by Dr. Norm Farb. So Dr. Norm Farb is currently an associate professor at UTM in the psychology department. He studies in the neuroscience of human identity and emotion with a focus on how cognitive biases shape emotional reactions that determine wellbeing. So we are all very lucky to hear from Dr. Farb today. So thank you for being here and the floor is now yours.

Dr. Norm Farb:

Great. Thanks so much for inviting me. It's my pleasure to be here and thanks for volunteering some of your precious spare time to listen to me. I'll try to make it worth your while. I'm aiming to make sure that we have time to do more informal question/answer within the last 15, 20 minutes of the hour, but you know how professors ramble on, so I'll do my best not to go too long. I'm going to start by sharing my screen, it's always a good technical test, so hopefully you can see the title page now. Perfect. Thanks for the feedback. Yeah, so this has been a variation on the talk I've given more times than I can count at this point, but it just evolves as we do more research. And research moves quite slowly, but over now 10 or getting closer to 20 years, they're starting to build a deeper story. So for this talk I'm going to discuss two areas of research. One is focusing a lot on depression, feelings of depression, but also clinical depression and the vulnerability for that.

Dr. Norm Farb:

And then on the other side of the talking, I'm going to talk about mindfulness techniques and sensation, and try to explain how mindfulness has been able to successfully reduce depression vulnerability or help people be resilient once they've already had a history of depression. So there will be a more hopeful arc after the darkness that comes before. I'm going to start off with the doom and gloom a little bit, which is the modern maladies of our time, which is although we are extremely fortunate, many of us, to not be worried about where our next meal is going to come from or about the imminent threat of violence, there are many other symbolic threats to us in terms of the uncertainty of the future, the uncertainty that we're going to find meaningful roles in life. And also there's new challenges in terms of this feeling that there's so many people around, but it's hard to connect. We're so busy with abstract problems or intellectual pursuits that sometimes it's very hard to feel like you're in it together with other people around you.

Dr. Norm Farb:

And so we have this whole new lexicon around languishing, and burning, and resignation that seem at least more prevalent in the modern age than maybe at other times than we had more practical concerns to keep us occupied. And the question I'm really interested in my lab, in my own career as a researcher is to address two complimentary questions. One is given that really the world for us, many of us is just so rich, even if you're in a lower economic spectrum and have stressors, we're in an unparalleled time in terms of our current security, and our current access to, not just basic necessities but also luxuries. So why is it that it's so easy for us to get stuck in these negative mindsets? And then rather than just understanding that downward spiral, how can we get going again, how can we really start making the most of life and starting to actually encounter authentic moments of joy, contentment, happiness, love, et cetera. And I would like to suggest that although maybe this feeling of just languishing or hopelessness might be, or placelessness, purposelessness might be somewhat new or rising in the modern age.

Dr. Norm Farb:

Its origins are actually really old and it's actually the mixture of how we've evolved to be as human beings with modern stressors intersecting that is really creating a lot of our current problems. So we have old architecture with new challenges. And the old architecture is architecture where things are physically going to try to hurt you. You're in the jungle and an animal comes out of the foliage or you're minding your own business harvesting wheat in a hunter-gather society and then a whole bunch of dudes with spears or clubs come across the plains. And so these are situations where thinking a lot about a problem over a long period of time might help you in the long-term, like to build defenses or prepare. But in the short term, really what you need to do is mobilize a ton of your precious metabolic resources and get ready to either fight, or hide, or run away. And as mammals, that's still really how our bodies react to the perception of threat.

Dr. Norm Farb:

Our bodies' not saying like, "Oh, I have a report due in three weeks, so I should very gradually build up my energy until I reach the optimal level for report writing." If your body just says like, "Oh, you thought of the thing that was due in three weeks," and from the body's perspective all it knows is a bad thing is coming. And if the body knows that a bad thing is coming it goes into this alarm phase, what am I going to do about it? But the report's due in three weeks, so there's nothing, I mean there is something to do. Most of us wish we would just sit down and write the report at that point in time or do that thing that we had to do. But from the body's perspective, it's not really getting us ready to sit down and be calm and think through things. It's saying, are you going to run, or fight, or hide and hope that no one sees you? And the problem then, of course, is that report is still due after that initial response happens, after the alarm phase.

Dr. Norm Farb:

And so that momentary flush of panic, or stress, or a metabolic release and preparing for action then doesn't really have anything to do a lot of the time. And so we end up just keep continuing to have thoughts about these potential threats, real or imagined. And what happens to the body is it habituates to this bombardment of like, "oh, the threat's still here, the threat's still here, the threat's still here", and it moves into what's called a resistance mode. So your blood vessels slowly tighten up and move away from the surface of the skin, your heart beats a little faster and is less variable, and maybe what ideally

be your breathing becomes a bit more constricted. You start experiencing chronic muscle tension. And although all these things are great for getting away in the short term, it's really bad for a body to be locked into this phase. And we psychologically get used to this higher level of arousal until it's hard to see that we're stuck in it.

Dr. Norm Farb:

But what has become quite clear, and after almost a century of research, like 80 years of research, is that if you're in this resistance hypertense phase for a long period of time, it inevitably leads to some kind of breakdown. Either you have heart problems because now your heart's working harder than it should be over years, decades. You have mental problems at a biological level because the stress hormones are actually acidic, they eat away at the cells, especially in the basal floor brains, you start having memory problems, concentration problems, or you have mental problems in terms of the phenomenology of being you. So you start thinking of the world as an unfriendly, unsafe, hopeless place and have problems with anxiety or depression. So the short-term response is actually good when there's an immediate threat, but a prolonged exposure to threatening information locks us into this resistance mode where we're constantly feeling like we have to solve the problem and the threat. We don't actually have the means to solve it, so we never really release the tension.

Dr. Norm Farb:

And that's why when you actually do sometimes have a really cathartic release moment, like a good cry, or a massage, or an amazing yoga session, or whatever it is, sometimes you feel like, "oh my God, I can't even believe I've been carrying ... It's like I've been carrying this weight this whole time and I just got used to it". And then, of course, what we do is we start thinking like, "oh wait, I'm too relaxed. Let me think of all the things again" and we put the weight back on. And so all those stresses and conservative response to threat, just trying to show it again, and it's good for us to have that response. In these days, the threat signals are everywhere, and much of the modern media conglomerate is designed to sell its ability to capture your attention to advertisers. So what they really care about is their ability to hold onto your attention.

Dr. Norm Farb:

And the way they hold onto your attention better than anything else, better than showing you positive happy messages is by showing you threat information and then a little bit of positive stuff just so you won't leave the medium completely. That's the algorithm. And then so you can start feeling like you're at the end of your rope. So being in this resistance mode is feeling like you're stuck in some stressful story. You might still be the main character in your story, but there's no way to change the way the story goes. If you just believe what's in the news, which I'm not saying that is not true, I'm just saying it's a very handpicked selection of truths, you would think that everything in the world is getting worse and there's always something upsetting happening and you always should feel a little bit threatened and worried. And so you get into a "this is fine" sort of mode, not like it's really fine, but what else are you going to do? And that's where hopelessness languishing comes from.

Dr. Norm Farb:

And the reason why this works so well on us, and that isn't the second you turn off your TV, or get off social media, put down your phone that you kind of relax, is that our brains are built to keep track of what's going on in our lives in terms of these narratives or stories. And one of the most powerful sets of connections within the brain is known as this default mode network which shows up. Initially it was discovered when they let people just rest in brain scanners in between doing other tasks, like mental rotation, or memory tasks, or things like that, they'd see a bunch of brain regions turn on. And it's theorized that initially this brain network was designed just to deal with habitual responses at the physiological level to promote homeostasis, like keeping our heartbeat going and our breathing going at the right rate. But over time, any other habits took up some of this architecture and now we have just habitual things that we think about. It's like these ruts that we move into mentally that are just the common things that we think about.

Dr. Norm Farb:

And if you start doing diary entries or mindful reflection, what it is you think about often, you'll notice there are certain things that just make you you, it's part of your identity that I think about these things. And maybe that's changes slowly over time, but from day-to-day, it's the same topics that your mind drifts to. And the most important topic for most of us, especially in the West, are thoughts about the self. And so if you just let people rest in the scanner or you actually ask them to judge, does this word describe you or not, it activates almost the same set of brain regions, right along the midline of the brain. That's what we talk about by the default mode network. So keeping this self story alive, like self-referential, self evaluative thought, like, what am I doing here? Do I like this or not? What does this mean for me? Where is my life going? Why did I decide to go to this talk? Is he ever going to stop giving examples of what the the default mode network is doing?

Dr. Norm Farb:

All of these sorts of inner monologue-y sort of things are using this one network, and this is the same network that's going to hold on to your broadest conceptualization of you as a character moving through the world can expect. So is the world a safe place? Are things getting worse? Is it worth even trying? Are you a valuable person? Are you respected? Are you loved? Are you competent? And so we all have these thoughts, and we need them to understand who we are and how we're going to relate to other people. And this brain network is firing whenever we're not busy doing something else, it shifts us back into holding onto this context of what are the central meanings in our lives or what are the central stories in our lives. In healthy people, the default network's firing all the time. In people who are depressed, the default network has actually expanded to take over neighboring territory for planning, or for judgment, or for controlling attention so that part of the story is attending to the story about what's been going on.

Dr. Norm Farb:

Part of this story is about redirecting your attention to the narrative, and that's part of why people would get stuck even more deeply in depression. But I'd argue a lot of us get stuck in our internal monologues even if it isn't causing enough dysfunction that we get put into the bin of having a depression or anxiety disorder or something like that. So when we get exposed to threats, bring it back to the earlier part of what I was talking about, it's not just the threat in the moment. Continued exposure to the threats means we're carrying the threats around inside us. If they're on our phone,

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they're on TV, they're all around us in terms of threatening information, we even internalized that into our narratives. And so that means that the body really never stops feeling like there's a threat around. It's going to get happier in a little bit, but I just want to explain why we get stuck first. And not all of us show the same level of threat internalization.

Dr. Norm Farb:

You might be saying, I'm fine, I actually don't care about it. I think life's pretty good right now, which is great, happy for you. But we've done some research to try to understand if we show people something stressful, in this case, nothing violent or gory, but let's say movie clips that would make them sad, can we tell the difference between someone who's responding to that sadness in a way that is leading them to dysfunction, to leading them to feeling really depressed, versus someone who might be still feeling sad in the moment but not necessarily letting that sadness cascade into a negative worldview, or hopelessness, or an emptiness that would characterize full-blown depression. We often would try to make sure that we had more of this spread by having people who've done a bunch of mindfulness training to help them stay in the moment and let go of the sadness versus just regular stress. People who are signing up for mindfulness courses because they're stressed, as they probably have that exaggerated reactivity. But even within just people who haven't done any mindfulness training, there's quite a spread in how sadness is represented in the brain.

Dr. Norm Farb:

So if we show people sad film clips like the Champ or Terms of Endearment, the late seventies, early eighties is a gold mine for relatively quick five minute periods that can make you really sad in film. These days, it's more of a action and adventure and things like that, which is cool. But yeah, if you really want to delve deep, head into the early eighties catalog. And we contrast that against Home and Garden television or something like that where it's kind of interesting, but it's not profoundly emotionally evocative. So everyone feels sad when they watch these clips compared to watching neutral clips and they rate that, they'll say, I'm a four out of seven or a five out of seven in how sad I feel, compared to a one out of seven when they're learning about wicker basket trends or something, which I think is actually one of the videos. But their brains look different.

Dr. Norm Farb:

And so we would try to understand when we stress people out, what distinguishes someone who really is showing a lot of mood problems from somebody who's showing resilience in terms of how do their brains look different when you expose them to sadness? It's like an emotional reactivity paradigm we call it. You put them in the scanner and show them neutral and sad film clips. And we've done this many times now, actually, in different studies. So we see two patterns. One is that default mode network really activates the midline in the brain, the storytelling mode, thinking about like, "oh, this reminds me of a sad event of my own life". Someone will see a mom with cancer in Terms of Endearment saying goodbye to her kids and say like, "This is just how I had to deal with my own mom when she was sick in hospital." This is a natural, it's not like, why would you think that? It's like, yeah, you see something sad and you relate it to yourself. So that stuff really, really fires up, but it fires up equally for everyone.

Dr. Norm Farb:

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We really thought that would be the difference, how “self” you get about your negative emotions when we did this research. We don't see a lot of depression related differences between resilient and vulnerable people in terms of telling a story about your sadness and relating it yourself. We found a second pattern. Oh, and I should say, later on, we actually looked at this with people who had a history of depression who actually relapsed and found that same pattern, that prefrontal, central, medial storytelling, self-referential region was predicting future depression. And part of that was explained by how much they ruminate about the sadness, but it was only part of the story, I would say. And that's only people who actually had a history of depression, but in the general population we don't actually see that (predictive? Predicative?) of depression.

Dr. Norm Farb:

The second part of the story though that we didn't really expect to see, is that when you're doing all of this storytelling, all this self-referential evaluation, there's a second pattern in the brain for sensory regions, especially in the sense of what's happening on the surface and inside of the body in the somato sensory cortices in the insula, which is the map of the outside of your body and the map on the inside of your body, if you want to think of it in a simple way, are deactivating. So the more energy you're putting into being like, oh, that's just like me in my life, or what am I going to do about this feeling? And oh, I feel so sad right now, is that okay? All these thoughts, there's an opportunity cost. They're coming at the expense of still actually processing what you're feeling in the moment. And it's this pattern actually that's associated with depression severity. So people who are inhibiting sensation more, when they're exposed to a mood challenge, that's something that makes them sad, they're the ones who are more depressed.

Dr. Norm Farb:

So telling a story, and understanding and contextualizing, and meaning making around a sad feeling, nothing wrong with that, but if it's happening to such a level degree that you're pushing down processing of new sensation, like you're just getting lost in the story and not taking in new information, that seems to be associated, at least correlationally, in this study that I'm showing, with higher depression scores. When we looked at people who had a history of depressive episodes with the same idea, we found that if they were just watching these movies, this is without any mindfulness training, the people who are getting so sad that they're actually not really almost seeing the film clips as much, the back of the brain here is a lot of visual processing. So the people who are really turning off a lot of visual processing are the ones who are more likely to relapse. And people who manage to stay healthy, despite having a history of depression, are ones who are able to stick with actually taking in the visual information from the film.

Dr. Norm Farb:

And you try to explain this effect, a lot of times, the ability to take in more information from the film is associated with high self-reported acceptance, which is things like, “it's okay if I feel bad sometimes. I don't have to do something about it. The fact that I feel bad is not itself a problem that I have to solve”. So you can see in one side, feeling your emotions are problems to be solved and really putting all of your energy into solving them, comes with an unexpected cost of blocking out sensation. And when you block out sensation, that's where you start to see it as a flag. Like, oh, now you're actually putting yourself at risk. So to understand this better, we spent a long time grant writing to get enough money to run a

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larger study. And then eventually, we ran this really big study where we had over 150 people who had a history of recurrent depression. And about half of them agreed to do neuroimaging. This is with Zindel Segal, who's a professor at the Scarborough Campus Psychology program and helps lead the clinical program there.

Dr. Norm Farb:

And so we scanned people before and after doing two forms of psychotherapy, talk therapy, behavioral therapy, so mindfulness based therapy, and also just like a cognitive therapy that didn't have a lot of meditation. And this isn't going to be a talk about how mindfulness is better than cognitive therapy. And so they want to talk about how, in this context where people had a history of recurrent depression, they've been depressed on average three or four times before in their lives, and then they came for help, and we scanned them. And then they did therapy and we scanned them again, showing them these film clips, we were able to again try to discern what is it that predicts who's going to now finally find a way to stay well, at least for the next two years that we checked in with them, versus those who succumb again to the stresses of life and spiral into depression. So this is the first couple of stages, 30 people in a sample, 16 people in the relapse pilot project, but now we have like 85 people scanned twice. We're starting to get really reliable brain signals.

Dr. Norm Farb:

And we find the same pattern again. So the blue here is deactivation. The yellow here is activation. At the top, it's just the response to the film clips. People tend to activate the default mode network on the midline in these two little temporal parietal areas here. And they tend to deactivate a lot of the sensory parts of the brain. The back of the brain does a lot of sensation. The front of the brain does a lot of planning and output. And so you see this broad pattern, and not only do you see this pattern, that bits of this pattern are actually related to how much they're still struggling, even though they've recovered from their most recent depressive episode when they joined this study. So if they have a lot of residual symptoms, for instance, we see more deactivation, especially in this body map. You have an upside down body map of your whole outside of your body that runs as a hairband, from right here down to your ears.

Dr. Norm Farb:

So it's like feet here, and your tongue here, and if you go in a bit from the tongue, you start getting into the internal body map. That's kind of cool. So that body map is deactivating even more when people have leftover symptoms that they haven't quite resolved, even though they're no longer actively depressed. Oh sorry, the screen sharing thing ["didn't hold?" 00:22:02]. Maybe you can't see that. Anyway. And the other thing is the number of past episodes they had, the scars of their past depression predict also deactivation in the sensory region. So it's making stronger and stronger evidence that it's actually the sensory deactivation that's a vulnerability factor for depression. It's not the fact that they're activating all these storytelling, self-referential regions. That seems to be just part of what meaning making is like as a human being. But the imbalance between it, because you have only so much sugar and oxygen to burn in your brain is part of it.

Dr. Norm Farb:

Thinking that the story mode is the most important thing to the exclusion of everything else might be part of how people fall into the sensible but unfortunate trap of letting go of sensation to solve the problem of how they felt somewhere in the past. When we look at the two year follow-up to see who relapses and who doesn't, it can again corroborate the story that sensory regions, motor regions, visual regions, deactivating more. And I should just say, people who don't relapse, still deactivate. This gray line here is showing how it would be neutral, not activating or deactivating these regions. Non-relapsing people who manage to stay healthy despite their past are still deactivating a bit. But you can see they are deactivating twice as much, three times as much in the group of people who end up relapsing into depression. So it is taking it to an extreme of being like, I need to get away from feeling any more things. I already feel bad so I just don't want to feel anymore tended to be part of this negative spiral.

Dr. Norm Farb:

And I can talk a little bit more around the theory about why this is, and I'll try to move on to the more hopeful side. But imagine that you have a negative experience. So someone says something to you at school or at work and it's really mean, and you just like, "I can't believe they said this to me." And you go home and you tell someone else about it and you're like, "Oh, I can't believe they said this to me." And then you think about it some more yourself. "Okay, what did it mean? Does it actually mean are they right about me? What am I going to do if I see them again? I don't like that this happened." All of this time that you're dealing with the problem of having this negative experience, you're actually missing an infinite number of other moments that have nothing to do with this experience. So there are times if someone is bullying you, you do want to think about it and be like, "What am I going to do?"

Dr. Norm Farb:

But other times, people just out of ignorance, out of their own issues, or maybe they are actually mean, like they do something to you and there's nothing you're going to do about it. But if you hold onto trying to solve that problem for four hours, you've just spent four hours of exposing your body to that threat again. And what you've also done, the ironic and the part that's hidden from, I think what a lot of us don't always see, is you've stopped yourself from having other types of experiences that would interfere with that story. If you think about the blue lines like the sensory parts of our brain that are trying to get access to consciousness to get some reflective process in that narrative mode in the middle of our brain, and that's what normally happens, stress is actually putting a stop signal onto that, onto more sensory information, which means the narrative actually has nothing to make it go away. And so we get caught in our own spin cycle. And the crazy thing is it's still just our own internal voice, so it's hard to notice that that's happened.

Dr. Norm Farb:

All you know is you feel bad. And it's not like you think, oh, subjectively I feel bad, it will pass. It's like that's what's there. So the longer you spend in this story, the easier it's to forget that there's lots of other types of experiences out there. So it really becomes the only game in town. So that's the bad part. There's something that it feels like that you can learn to recognize when the story is just running. And a lot of people don't know that this is mind comic, it's actually a longer comic. Like many things in our culture where just a snapshot became a meme. But eventually this poor dog actually realizes that he had this moment, where he's like, the room is on fire, this is not fine. The rest of the comic is him trying

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desperately to put the fire out and being like, why did I wait until I almost burnt to death and deal with it. But this moment when you realize, I'm caught somewhere is actually this really magical moment.

Dr. Norm Farb:

At a meta level even, you're sensing that the contents of your thoughts have become stilted, and stereotyped, and stuck in this one place. And if you recognize that on its own, that's important because at least when this process is happening and you're recognizing it. But even better is to realize, the storytelling mode is not the only game in town. One of the first studies I ever ran as a graduate student, my claim to fame was showing that if you instructed people, start to just process the world back through their senses and they practice doing it for a few weeks, they can shift which parts of their brain are active in the default mode network, which is all your prior knowledge, can be toggled out of. And you can toggle back into this sensory mode and these more lateral and posterior back parts of the brain. It takes some attention and effort, but with practice you can do it. You can do it right now. Maybe we should take a 20 second break.

Dr. Norm Farb:

We've been doing a lot of conceptual stuff. What would it be like just for 10 seconds even, just to notice what it's like to be in the room you're in right now, to notice what it feels like in your body right now. Can feel like a little bit scary because you actually don't know, right? But it's also magical because you don't know. You're not just repeating this story, you're letting information in again. So if you're stuck in a bad place, where does change come from? Our brains are trying to protect, keeping things the same, keeping them consistent, keeping them predictable. So change comes from letting information in from the world. It could be from other people, from talking to them. It doesn't just have to be body sensation, but it has to be coming in from somewhere else to change us. And that's really where we get this idea that sensation can come to the rescue here when we get stuck. So I made this little animated gif, so I'm putting it in every presentation now because I'm like, "Look, I made a gif guys."

Dr. Norm Farb:

But this idea that when our mental faculties have really become so unbalanced that we feel like we're languishing, going into our senses, forging in our senses can help to rebalance the scales. Not that we want to lose track of meaning making and then our narratives, but trust me, they'll still be there. After that 10 second, 15 second exercise, all that stuff probably came back online for you. I don't think anyone's had trouble, lost their sense of identity or something. So it's just about rebalancing the scale. And part of why even really ancient meditation instructions, they won't go into a lot of conceptual stuff, they're just saying just, Hey buddy, just pay attention just for a little bit to what it's like to sense your breath, or what it's like to sense something in your body. Don't worry about why. Worrying about why is part of the problem. And so when we look at the people who've done mindfulness training, for instance, as I showed before where when we showed them the film clips, the people who did mindfulness training show less deactivation, significantly less deactivation in that internal body sensation network.

Dr. Norm Farb:

They're the blue dots here compared to the red dots, who are the people who are exposed to sadness and are more depressed and also haven't done the training yet. So in some ways their benefit from

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doing the mindfulness training is correlated with no longer inhibiting sensation as much when they're exposed to sadness. That bigger study of people who relapse into depression, we don't actually see that response to therapy. So a change that happens pre and post therapy, that's also associated with not relapsing, shows recovery of the sensory regions because I think the scars are deeper in someone who's had three, four episodes of depression. But we do see that people start turning off a part of this conceptual elaboration front part of their brain if they're responding to treatment, to people who end up relapsing don't show that reduction.

Dr. Norm Farb:

And when we look at what this part of the brain is connected to, it's part of a broader conceptual network whose activity is negatively correlated, it opposes sensory processing. So a first step for someone who has a much harder time just going into their body and accessing sensation might be just learn to let go of the story a little bit. It may be over time. We didn't see it in the two months of just putting them through eight weeks of psychotherapy, but over time, maybe eventually then the sensation can start to come back with more practice. But at least take your foot off the brake pedal on sensation, learn to do that, is already protective. And it was a sign that someone was responding to the therapy and was less likely to relapse. And it actually didn't matter so much if it was mindfulness therapy or more of a talk cognitive therapy because they're still taking in new information through cognitive therapy, trying out new ideas. I don't think our research in this larger study actually points to mindfulness being better than cognitive therapy.

Dr. Norm Farb:

Just for some people talking your way through ideas works better and the interpersonal part works better. And for other people the meditation and connection to body sensation works better. I will say a little bit, in about five or 10 minutes, about how there might be some special things about body sensation. I will get to that. So I think it's really interesting that sensation helps at least break us out, maybe of our narratives by taking in new information. And at least we're no longer continuing to inhibit sensation and just lean fully into our narratives. But of course, that's a bit of a partial solution, it's like you're pulling out all the weeds in your garden and then you have nothing. And we're not really trying to get to a place where you're like, oh, I just broke down all of my negative meanings and now the world is just meaningless. That's just **(nihilate?) [inaudible 00:32:16]**. And even in traditional meditation training, that's seen as a near end in the meditation practice, that because we're conditioned to believe one thing, maybe nothing is real or nothing really matters.

Dr. Norm Farb:

I don't think that's really where we're trying to get to. Maybe making it less rigid what we believe, but still having things that we believe and care about, and so growing things in that space you cleared up, would be maybe a nicer end game. So we look in the large depression vulnerability study at what people report on lots of different scales. We boil them down using something called factor analysis to three major themes of change. The themes are, one thing that we call decentering, which is people's tendency to talk about their experience as something that they could almost see, like a meta awareness of what's happening in their minds. But it wasn't like a cold meta awareness. It was also things that loaded onto this factorial, a friendliness, a curiosity, and positive feeling. So looking at yourself in a friendly way almost like, oh, there is that rumination again, as opposed to just rumination is there. And you couldn't

actually separate the positive emotion from the meta awareness, they loaded together. One grew the other thing tended to be growing.

Dr. Norm Farb:

The second thing was a either you look as acceptance or at least tolerance for negative feelings, which is, I think I mentioned before, it's okay if I feel bad sometimes. It's not necessarily something's wrong with me or a problem I have to solve. I don't have to judge myself or always do something to fix myself when I start feeling bad, which is about counterintuitive. But based on what I said before, maybe you can see how all that fixing and conceptualizing is part of the problem. And the third factor of just how bad people felt, residual symptoms. And so I have all the questionnaires actually listed here, but I'm not going to talk through all of them right now. I just wanted to point out the decentering was a mixture of observing and paying attention to experience, but also self-kindness, positive affect, optimism, feeling purpose in life. These things tended to move together. The other ones were a bit easier to classify, they weren't a hybrid factor where it's like not having dysfunctional attitudes, having acceptance, not feeling really judgmental about yourself as part of acceptance or stress tolerance.

Dr. Norm Farb:

And then these are all the depression scales and low satisfaction of life, low feeling of control of your environment is the third factor. And we followed people over the two year follow-up. The first bit here is just when they're in therapy, so actually everything spikes including symptoms because it's really stressful to go through eight weeks of therapy. But then over the following two years, symptoms waffle around and settle back down. But distress tolerance and decentering continue to grow over time. And the more that decentering, especially, distress tolerance also grew, but wasn't quite as associated with relapse. There's justness significance, so there's a trend there. But definitely for decentering, when you really see that continued growth pattern, even after the therapy is done, over the next two years of the person's life, they keep start learning to look in, again at their experience, and be exploring, willing to see their experiences as a source of new information, that was also protective against depression.

Dr. Norm Farb:

And so we got really interested in this question of, well, how do you grow decentering then? That seems really good, you should do that. Is it just how much you practice? And it turns out that if you practice during the follow-up period, the tier follow-up period, it doesn't actually predict whether you're going to relapse or not at all. But if you practice, it predicts that you might develop more decentering. And if you develop more decentering that, like I mentioned, predicts less relapse. We have numbers for it. Oh yeah, there we go. But what predicts whether you practice? Well, do you practice during the course? So the more you practice during the course, the more likely it is you're going to continue to practice after therapy, or after taking your mindfulness course, or whatever the thing is that you're learning. And then if that practice that's become a bit more independent, now you've internalized it, starts leading you to feel like you're getting a better sense of yourself and you're discovering things, that's actually what's protective.

Dr. Norm Farb:

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But once you control for that feeling of discovery, and self-knowledge, and curiosity, just practicing if it's not doing that doesn't protect you at all. It's just not just about being a good boy or a good girl in doing your practice. So a corollary of that would be if you're doing some practicing and you're not getting of the insight out of it, it's not actually helping you probably because this is self-reported insight, self-reported decentering. This all fits in with this broader theory that we've been developing at the same time with this really amazing researcher, Eric Garland, who is originally a social worker. And now, he's a director of a big research center in the University of Utah where we talked about why mindfulness training might be working by this idea that, first you'd go through some training practice that helps you having more insight and open up your mind to be curious, again about experience, develop this skill to stay open in the face of stress. And then the reason that that's helpful is that it helps you then discover new meanings about the world that might help you change that storytelling.

Dr. Norm Farb:

So that even if we're all captured with in our internal monologues a lot of the time, maybe that internal monologue shifts to something that at least isn't making us feel really depressed or anxious. Because it's not really, as I said, about just getting rid of the fact that we have stories, that we have judgments about the self, that we have meanings, but having the able to change those meanings, which we call reappraisal. So over the past six, seven years, we've been studying this a lot, especially with students. And we've found that there's actually a lot of validity to this idea, but it doesn't explain everything. So just to break this down really quickly, if you do mindfulness training, even online mindfulness training that we offer sometimes through my lab, it helps you develop decentering and that helps you develop your appraisal and it does support wellbeing. But just developing decentering on its own also helps support wellbeing. And then there's a whole other bunch of effects of mindfulness training that are not about this pathway at all.

Dr. Norm Farb:

So this is a nice conceptual demonstration, but maybe just going to a group and practicing. Maybe learning how to relax. Maybe just getting through an eight week course and feeling good about yourself, that you're not just doing nothing. Maybe learning to savor positive experiences. Maybe making friends with people that you meet in the classes. There could be lots and lots of other explanations that we still haven't accounted for. All we know is that this process accounts for some of what the training is doing, but only maybe, I don't know, a quarter to a third of it. So still lots more to explore if you want to do this research. So the final bit I want to talk about, because I did promise I would stop talking at some point and let you talk as well. Which is one more set of neuro imaging study about what goes right. When we focus on the breath and on the body and whether there's something special about attending to the breath. So this is research we've just been publishing this year.

Dr. Norm Farb:

And just like we would stress people out or make them sad on the scanner and look at differences, here we would try to get people to focus on their breath and their scanner and look at what were the differences between people who had a really positive, healthy self-reported relationship with body sensation. Like "I trust and value signals from my body, it's a useful source of information. I can go there to help myself calm down" versus people who are like, "No, I don't do that. And I don't like going into my body and I don't like all the sensory foraging." So what was different between those two types of

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people? It's a spectrum, I guess you can put it just to simplify, when they're attending to their breath. At Cynthia Price at the University of Washington, we did a whole bunch of taps, but the ones that I want to focus on was having people watch a circle, also on a screen and track the circle by pressing one button when the circle gets bigger and one button when the circle gets smaller.

Dr. Norm Farb:

That's our control condition versus press a button when they're breathing in, press a button when they're breathing out. It's a really simple distinction. And what we're interested in is, is there anything special about turning attention inwards to the breath compared to just doing the exact same tracking, but with a circle on a screen, it's not in your button. And what we found was that when you focus on the breath, tracking the breath, still, like an active response with the breath compared to tracking the circle. A lot of this higher cortical function actually turns down a bit and it turns down all across the brain, the evaluation regions, also some of the sensory regions. It just seems to have a calming effect that just visual attention doesn't have. We're trying to replicate this now. Right now actually, we're starting pilot scans and we'll be scanning over the rest of the year because it's a bit of an unusual effect that you could just change what sense you're attending to and get this big brain calming effect.

Dr. Norm Farb:

But the people who report a better, healthier relationship, this is using the scale called the MAIA, the Multidimensional Assessment of Interoceptive Awareness, which is associated with better mental health, they don't show that the entire brain is shutting down. Although, they show the broader shutdown effect, the part of the brain that represent your ability to monitor and reflect on information, similar to decentering metacognitive awareness, and also your ability to report on things with language like Broca's and Wernicke's area, which are language areas in the brain, don't turn off while the rest of the brain is shutting down in people who report better relationships, more awareness, more confidence and trust in body signals. So there's a skill there. Everyone can do that broad shutdown thing if they practice tracking their breath, but the people who cultivated or are gifted with this healthier relationship with their body awareness, learn to still keep alive the parts of the brain that notice things and that can talk about it.

Dr. Norm Farb:

And if you look at this noticing region, what it's actually doing is connecting to a whole bunch of other attention regions in the brain. So although the brain is quieting down, you're able to still reflect in this quieter space. So something cool is happening with breath awareness and probably with body scans too. Though we haven't done body scans, we've just done the breath test. When you look inwards, it's maybe not quite the same as the external senses, which points to two facets of why going into your senses, especially the sense of the body might be really helpful. One, because the body sensation is so not a part of our normal narrative about external trending information, it actually tends to have this quieting effect, which is helping us get a feeling of relief and relaxation. And really, probably the first big explosion of people doing body scans didn't come from meditation per se. It came from a medical doctor who studied Eastern traditions and introduced this guy, Herbert Benson, who tried to talk about the relaxation response.

Dr. Norm Farb:

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This idea that you just pay attention quietly to your body or your breath, your body will just relax. And what you're doing, if you go all the way back to the start of the talk, which seems like a long time ago now, so you're just taking a break from exposing your body to threatening information so your body can actually go back to baseline, which is what an animal would do. There's a book in the eighties or nineties called *Why Zebras Don't Get Ulcers*. Only humans hold onto threats when they're not around. So at the very least, just take a break from threatening yourself, like doom scrolling. Why do they call it doom scrolling, it's like you're constantly threatening yourself. You just don't think of it necessarily that way because it's also arousing and we confuse the arousal if something good is happening. But what it really is something important is happening in our body, our body is responding to being threatened. So taking a break from that probably good all on its own, but with practice you can also start noticing.

Dr. Norm Farb:

And that's where I think some real magical things can happen because now you're actually paying attention to, what is this sensory information telling me? How am I doing? Does this sensation show up in some places versus others? A familiarity, a lexicon, an expertise in articulating how you're feeling and what that's connected to can show up, and that's where the new meanings come from. I thought I always felt horrible, but when I spent a while paying attention to my body, I felt like I only feel horrible most of the time and sometimes I feel spontaneously joyful. Isn't that weird? And that's totally different than I feel horrible all the time. Totally different, right, because not condemned to feel that way all the time. Maybe that's a little crack in the door like, oh, I wonder if I could pay more attention to those joyful moments. So in that quieter place, with some practice, you can notice things. And those surprising things you notice, that is the feeling of you changing your narrative.

Dr. Norm Farb:

You can't just talk your way into a different narrative, you have to have different experiences for your narrative to update. And so in a very cliché way, maybe the answer you're looking for is inside you all along. But I think with the right framework and looking at it, you can understand a bit more why it's useful. So just to wrap it all up and then I'll stop, maybe we have a bit of time with Q&A. We talk about doing mindfulness practice and taking care of yourself, I think it's really helpful to think of it not about just being a good student, or a diligent student, or practitioner, but that you're actually trying to develop particular skills. And the skill is not just not feeling bad, the skill is maybe a bit about learning to quiet down and get some relief, but also maybe enhancing your ability to engage in sensations so you can notice unexpected things. If it feels like a little uncertain, then you probably are getting into sensation, even sensation of your sub vocalized thoughts.

Dr. Norm Farb:

That's maybe more an advanced practice because it's easy to fall into the spiral of narratives again, but still you're just like, I don't know what's going to come next, that's a sign that you're no longer just rehearsing. And if you have to pick one first skill to try to develop, maybe it's this decentering skill, this idea of feeling a bit of confidence and friendliness and curiosity as you start exploring, thinking it's going to be okay that it's uncertain. I'm actually willing to have uncertainty happened to me because that's the beginning of change. And meditation can be great. Mindfulness can be great, but there's probably lots and lots of other ways that you can get into these sensory exploration or sense foraging practices. It could be through exercise, time in nature, exposure to art, like it was a virus, but taking in art,

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psychotherapy, maybe even psychedelics or things like that. And I think the important thing is understanding that what you're up to is rebalancing the scales, like I talked about before, and not worrying too much that you're doing the right thing or the popular thing.

Dr. Norm Farb:

As long as it's relatively safe, you're not hurting yourself or someone else, there's probably a lot of access points to putting yourself into this trajectory and rebalancing the scales. So with that, as promised, I'll stop talking, I'll take questions. And I'll just do a quick plug, if you're interested in helping us understand how you're feeling of your body changes across the term and also changes between when you're at home and at school you can sign up for a study. You don't have to be a UTM student, but if you're a student you can sign up. So I'll just leave that there while we do Q&A in total self-promotion of some of our research. But yeah, thanks so much for your attention and happy to talk about anything or hear your responses.

Lauren Brown:

Thank you, Norm. That was fantastic. And yes, please leave that QR up. Chloe and I will take a look for hands raised, but one thing that jumped to my mind when you talk about taking a break from threats and you were talking about how you were ... oh, your QR went down. I can email-

Dr. Norm Farb:

Okay. Okay.

Lauren Brown:

You know what I-

Dr. Norm Farb:

I'll stop sharing.

Lauren Brown:

I can email the slides out or that specific slide out if you'd like to as well for anybody who doesn't-

Dr. Norm Farb:

It's okay. Sorry, I fidgeted. I should-

Lauren Brown:

That's okay.

Dr. Norm Farb:

You go ahead, keep talking.

Lauren Brown:

That's okay. And as you were talking about the news and it's like a curated bad news to keep your attention, it made me think about some of the narratives we have at U of T and the narrative of U of T'ers, and the venting and the circle and focus on this is a highly stressful environment, and all of those kinds of things. I suppose it's not so much a question, but just something clicked for me as you were talking about that, that sometimes our students are super saturated, not just in the stories that are coming at us from the outside, but then those stories that are coming at us from our own community and culture and that type of thing.

Dr. Norm Farb:

Yeah, no, it is an amazing point. I think about this a lot actually and one of the main things we're working on now is developing a way for students to share how they're doing good or bad, and to find a way to make it safe for that information to be shared back to the community. And it's not to then prove that no one is having a hard time at university, but it's more to democratize how this information comes out. Because I think there are people having an awesome time and people having the hardest time of their lives and they're the same people sometimes in the same term. And so buying into like, oh, U of T is like a brain sweatshop and it's just going to suck you dry, is not really a useful paradigm. And at the same time, there are real stressors and sometimes maybe the stressors are too strong around evaluation times. And there is also, I believe, probably some groups that are getting hit way harder than other groups. But everyone's just yelling about how bad it is all the time that.

Dr. Norm Farb:

We can't really see what's really happening, it's like everything's getting churned up. So it would be lovely to celebrate when people are having a great transformative growth experience university. And it's also important for people to understand how you're feeling right now is normal, like around midterms, even if we shouldn't be making midterms that stressful. And it's really important for people to know you're really stressed, and actually, it's not normal how you're feeling. Everyone is stressed right now, but actually you're more stressed and maybe you should talk to someone. So all three of those perspectives are valid. And it could be the same person, as I said, as they go through university. But when I was in first year, I had no idea. I was just like, oh, I'm just constantly dealing with whatever was happening and there was no one there to be like, "Oh, right now you're in a good place. Right now, this is a normal amount of stress. Right now, this isn't normal." And so one thing we're trying to do with this, we're calling it Wellness Buddy.

Dr. Norm Farb:

By next fall we want to launch something where students can just feel free to report how they're doing and it'll show them their own history, but it'll also show them how they're doing relative to other students. And as the platform grows, if it grows, it'll even start to control for like, yeah, you're doing worse than normal, but compared to other first gen students, you're actually doing normal. So it's actually not your fault that you're doing no worse than normal, it's actually something systemic. Or it could be based on your advantages, you should be doing better and you might want to talk to someone because maybe this is something personal about you.

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Dr. Norm Farb:

But it goes back to your point, I think, Lauren, that we don't just want to pretend everything's fine or pretend everything's horrible because ignoring when we have a problem is also not very, very skillful. And it would be nice to just let people have access to this gap between all of our experiences where we suffer in silence and then post on social media when something good happens. And it's just like, how do we make it real? So I don't know, that's just one approach that we're trying to do. But I think Dr. [inaudible 00:51:35], it is really important to remember that we're only seeing a little snapshot even from within our own community.

Lauren Brown:

Right, and I think what you're talking about too is you're talking about cultivating that meta awareness in the moment as well. So it's not only is it appreciating where students are at and giving them that data, but just the factor of the reporting is also cultivating that meta awareness. I see Elia or Eliah has their hand up.

Elia:

Hi, yes, it's Elia.

Dr. Norm Farb:

Hi Elia.

Elia:

I want to start off by saying thank you for your presentation, it was pretty insightful and informative. And just to add to your idea of the program you guys are developing to have students share how they're feeling and put a standard level of stress where students can compare whether what they're feeling is normal or not. I think the intention is great, but one thing to improve it could be maybe not involving the comparison to other students because I do feel a lot of the stress students feel in the first place does come from comparing themselves to their peers and constantly thinking, how do I meet the standard of university. Like the presentation you did today on becoming self-aware, I think that's key, so continuing. I don't have an idea to replace that idea with necessarily, but I feel like if we don't advertise the comparison mindsets, it would be beneficial to students. But speaking their minds and definitely sharing how they're feeling that is a great idea.

Dr. Norm Farb:

Thank you. That's a-

Elia:

And also in terms of your university as a stressful environment, what I think is that you can't necessarily control the amount of stress that's thrown at you in life, but you can choose how to react to the stress. So like you said, the mindfulness really will help you throughout the stress and your experience is what you make out of it. So if you choose to have a good time, if you choose to come to class and

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communicate with your peers and share happiness and feel like you're part of a community, because I feel like that's lacking at UofT, which makes people feel isolated and left out. We are a very diverse group and everyone has great different experiences to share, but not everyone is willing to listen and stay open. So I feel like just bringing a sense of community and lowering the competitive side of university would really benefit everyone to share love and positivity. Yeah, that's just what I think. Thank you.

Dr. Norm Farb:

Yeah, thanks so much, Elia. I think you raised a lot of really good points. As a research question, it was really contentious that we got the grant even to make this program. Some of the reviewers thought it was a horrible idea to share other people's information. They said, people, they'll feel worse, and some people were intrigued by it. And I think it comes down to also just giving people choice. So saying you could have access to this information, but right now, if you're feeling overwhelmed and you don't want to look at this, we don't need to force you to see it. We have done some pilot research on it, but I don't think that's the time to get into all their study description. But it is definitely something we're playing with and I really appreciate that perspective that it's not always good to see that in comparison. Having some chance to reflect on yourself, and we have lots of data about this, is just inherently almost always beneficial.

Dr. Norm Farb:

If you just tell people, think about how you're doing and how you could take care of yourself for two minutes each day, you can see midterm stress goes down like 20, 30% for students who are doing that just because it kept the wheels in motion, you don't have to tell them what to do about it, they know themselves. And then, yeah, the meta awareness can happen at the individual level, but if we're sharing our experiences more, it's almost like there's another meta awareness, it's just like we get to know ourselves as a group. And right now, we can still do that with social media, but that's not the main goal. The main goal is just to have us on the platform. And so it becomes corrupted because it's like, well, how are we going to keep them on the platform? I'm not saying that my lab is the way to do it, but I think there is this big potential for us to have a meta awareness about the diversity of experiences we're having and not just cultural diversity.

Dr. Norm Farb:

But also at the same moment across campus, some people are having the best/worst time of their lives, and that's part of it. And so we're not all isolated, especially when we have these extreme experiences. So yeah, I think those are really great insights. Thank you for sharing.

Lauren Brown:

Are there any other questions for Dr. Farb? I'm just going to scan through the group here. Kelly?

Kelly:

Hi. Thank you for this talk. It was-

Dr. Norm Farb:

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Oh, I think you somehow slipped back into mute partway.

Kelly:

Yes. I think the host muted me, was maybe-

Lauren Brown:

Accidental, trying to mute myself.

Kelly:

... two people trying to unmute at the same time. Yeah, no problem. Thank you for this talk, it was so interesting. I was trying to keep up taking notes because it was just packed with information. But yeah, thank you so much. I was curious, so I'm a student in the faculty of social work. I'm in my second year of the master's program and I'm taking a narrative therapy course right now. And so your talk made me wonder about the possibilities of integrating mindfulness training and mindfulness practice with narrative therapy to almost be tackling the issue from both sides at once, like increasing the ability to attend to and sit with and be open to exploring that internal body sensation while also looking at what are the narratives you have about your life and the problems that you are facing. And are those serving you or not and how can we modify them? So I wasn't sure if that's already something that exists. I'm curious if you know of anything around that or have any thoughts there, but that's what it made me think of.

Dr. Norm Farb:

Yeah, I do think part of my understanding of narrative therapy probably isn't as deep as yours, but my understanding of it still is a hundred percent journaling narrative when you have to write something down and reflect on it. That is a decentering practice because you had the thought, it was in here, it was private, and you put it on the page, and now like, who wrote that? So you're already watching past you having had that experience. So there's already a lot of evidence, I think, that just diarizing. I think the philosopher Fuko wrote a lot about this, how you could just write something down and already you have some distance from it and that's empowering because now you can see it from different angles. So I do think there's something interesting about the body sensation, but for me, it really works for me so I'm biased to think that. And there's probably unique things about looking at a narrative that you've articulated or written down as well. And I think the most important thing is for us to almost normalize that there's no one magic bullet.

Dr. Norm Farb:

It's probably for some people engaging in narratives is going to feel really comfortable and safe, and they're going to make a lot of progress. And for someone else, they won't be able to see outside of their story and they needed some other way to have different things to show up and maybe that could show up in the body or through some other forum. So it's more about realizing we have so many different tools with the common purpose of creating that initial distance where there can be new perspectives and a tolerance also of the uncertainty that that comes with it. And we don't necessarily have to stick them all together to make mega mindfulness, cognitive, narrative, like exposure, psychodynamic

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therapy because it might be too much on the one hand, but it is painful to keep trying things and have them not work and finally hope you stumble onto the right thing.

Dr. Norm Farb:

So being able to take the best of different therapies and combine them would be really cool. And trying to direct people in their reflection of the narrative, not just to meaning of the narrative, but how it's showing up in the moment is a nice way to open up even more to new interpretations. So even if you're dealing with it at a lexical semantic level. So yeah, I don't know. I'm sure some people are playing with it because mindfulness and narrative therapies are both very, I think, rich areas of research. But I think it's also a place where you could probably innovate too, if you're in that place where you're like, what am I going to do? So yeah, it's a really cool idea.

Kelly:

Thank you.

Lauren Brown:

I am mindful of our time and I want to thank Dr. Farb. Norm, thank you so much for being here. Again. You're such a wonderful supporter of our programming, and I just so appreciate what you have to share and the fact that you've come out and do that for us.

Lauren Brown:

On behalf of Mind Fit, the Multi-Faith Center and the Division of Student Life at the University of Toronto, thank you for listening and hope you join us for more.