Mind & Life Podcast Transcript
Zindel Segal – Mindfulness and Depression

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Opening Quote – Zindel Segal (00:00:04): *With mindfulness meditation, we recognize the importance of attitude towards mental contents—allowing and letting be—as a way of approaching with curiosity and kindness whatever shows up in the mind. And so in allowing and letting be, we can develop a different relationship to emotions, and even to sensations in our body. And that relationship is one that I've understood, based on what people say coming out of classes when you ask them, or qualitative studies that have been published—the two big takeaways that people report are, "Thoughts are not facts," and "Depression is not me."*

Intro – Wendy Hasenkamp (00:00:46): Welcome to Mind & Life. I'm Wendy Hasenkamp. My guest today is the renowned clinical psychologist and contemplative researcher, Zindel Segal. Zindel was one of the developers of Mindfulness-Based Cognitive Therapy, also known as MBCT, which we'll hear a lot more about in today's show. For decades, he's used this program to bring relief to those who suffer from depression by training mindful awareness. And in addition to this clinical work, Zindel has also undertaken rigorous research to study the effectiveness of MBCT, and helped us understand why it works.

(00:01:26) Our conversation begins with his early experiences, both in meditation and psychology, and then we get into how he came to develop MBCT and the ways it's evolved over time. We talk about the process of seeing thoughts as thoughts, and the power of cultivating a particular attitude towards our mental experience—one of curiosity, kindness and allowing, and staying with difficult experiences rather than distracting ourselves away from them.

(00:01:57) Then Zindel shares some of the clinical research on MBCT for depression, and we talk about its effectiveness compared to antidepressant medication, and what we know and don't know about how antidepressants work. We also talk about the importance of becoming aware of internal bodily sensations and what he calls "sense foraging." We also talked about this in the episode with Norm Farb. And Zindel reflects on using digital platforms to increase accessibility to mindfulness training, how MBCT can shift our sense of self and identity, and how meditation practice has changed him. Zindel also offers a short guided meditation in this episode, which was a wonderful treat for me in the middle of an interview, and hopefully it will be for you, too.

(00:02:48) If you or someone in your life suffers from depression, I really encourage you to dive into this episode and maybe share it with others who could benefit. There are a lot of great insights here about the key factors and mindset shifts that seem to be most effective—not only in treating clinical depression, but also just dealing with negative thoughts in general, which is something we all

experience. There's much more from Zindel in the show notes, including talks, research papers, and links to resources he's developed for those who are struggling with depression.

(00:03:20) Zindel is truly one of the leaders in contemplative science. His work has had huge impact and he's been in the field since the early days, so it was wonderful to have a chance to chat with him. I hope you enjoy this conversation and get as much out of it as I did. It's my pleasure to share with you, Zindel Segal.

Wendy Hasenkamp (00:03:42): I'm so pleased to be joined today by Zindel Segal. Zindel, welcome, and thank you so much for being here.

Zindel Segal (00:03:48): Pleasure to be here, Wendy. Thank you.

Wendy Hasenkamp (00:03:51): I'd love to hear a little bit of your personal story to begin and how you got interested in clinical psychology, and then more in the mindfulness direction. Where did that start for you?

Zindel Segal (00:04:03): It started at McGill when I was doing my undergraduate work there, and ended up going to become initiated in Transcendental Meditation. And living in two worlds, really—the world of empirical science and evidence and also the world of meditation and somewhat, I think at that time, exotic practices related to Soul Travel and all kinds of things that were sort of in the air. The initiation in Transcendental Meditation (TM) had a flower ceremony, it had a mantra, a secret Sanskrit word, and my courses at McGill had a very different take on things. And what happened was that McGill and the empirical world won out, because in part, I was interested in the methodologies, which were much more pragmatic at that point. And also, because I felt that the experiences that I had in TM, they started to really diverge into practices that were increasingly... I don't want to be judgmental, but they just didn't speak to me experientially around special powers, around achievements, like levitation, and increasing need for deepening practices tied to a financial base.

(00:05:21) So I was able to sort of step away from that with, I think, a bit of an insider understanding of meditation and the prospects of a contemplative view, but really dove headlong into clinical psychology, psychopathology, psychotherapy, and didn't really revisit that very much. I had a fledgling practice, which I kept up with for a little bit, but stepped away from it. And then reentered the world of contemplative practices as a cognitive therapist. And an unusual way in, I think, because it was a rediscovery, in some ways, of some of the aspects of contemplative practice, which were validated ironically because I found them in moments of therapy.

Wendy Hasenkamp (00:06:12): Do you think that your earlier experiences with TM and those kind of practices, did that steer you towards psychology as a way of studying the mind? Did that begin your interest in what's going on in the mind and then you jumped into the more academic path?

Zindel Segal (00:06:30): I think that they were both operating on me and my choices at the same time. I was interested in that whole direction, practicing tai chi and understanding the capacities of the mind, and maybe even some of the hidden capacities of the mind. But I think from a phenomenological point of view, I wasn't really connecting with the promise and prospects of what those paths were able to speak about. I was able, experientially, to connect with the calm, the relaxation, and to some extent a view that's a little bit less striving and doing-oriented. But then they started to diverge. And then maybe

it's because those practices at that point were trying to speak to someone in their early-20s and needed to promise fireworks to keep people still practicing or believing. But the more fireworks, the less credibility.

Wendy Hasenkamp (00:07:28): Interesting. So you studied clinical psychology then, without really any contemplative interaction. And of course you famously have been one of the founders of Mindfulness-Based Cognitive Therapy, a very successful therapeutic approach. So were there other approaches being developed prior to then adding the mindfulness in, or how did that come to evolve?

Zindel Segal (00:07:53): Well, it's interesting, that came out of struggle with different factions inside psychotherapy and inside psychopathology, and inside depression, really. So I kind of stepped away from a lot of the contemplative world in terms of practices. I still read a little bit here and there, and I was aware of it, I was familiar with it. But the energies that I had, when I graduated and started to work in the area, were really to try to validate the prospect of psychological treatments being helpful in depression and anxiety. At that time, the counter-narrative really was that these were biological disorders, heavily brain-based and therefore required brain and physical types of interventions like medications, and that there really was very little room for psychotherapy. And in those days, a lot of the therapies had a very psychodynamic bend to them. And that group of people was always skeptical of evidence and always skeptical of evaluation and felt that many of the truths they worked by were fairly self-evident.

(00:08:55) And so I was, once again, I think fueled by the energy of belonging to a faction that was trying to show cognitive therapy, a talk therapy, in a lot of ways, could be effective in helping these folks to learn how to manage their symptoms, and also to continue to manage themselves and their mood disorder once they were no longer in treatment. And there were some really interesting studies, around the same time I did a postdoc, that showed some hint of equivalence between cognitive therapy and antidepressant medication. And so this fueled a very fertile intellectual debate between the forces of biological psychiatry and the forces of psychotherapy and cognitive therapy, and increasingly melding with questions that I think a lot of contemplative practices take up themselves—like wellness, personal agency, emotion regulation. And those things seemed to provide more of a land bridge, I think, between my interests than I'd previously encountered.

Wendy Hasenkamp (00:10:05): Can you share a little bit about the development of MBCT, Mindfulness-Based Cognitive Therapy and just how that came to pass?

Zindel Segal (00:10:12): Yeah. So there I was, firmly ensconced running a cognitive therapy unit, offering 16 to 20 sessions of cognitive therapy for people with depression, and dealing with psychiatry and some of the narratives that were floating around. And at the time, I received a very small grant from the MacArthur Foundation to develop a companion form of cognitive therapy for people who had recovered and were looking to stay well. Because as we know, depression itself is often a recurrent and chronic disorder that can keep coming back into people's lives. That's one of the difficulties it presents. And a lot of the focus, understandably, was on how to get people better because depression does carry a higher risk for suicide, self-harm, and other outcomes. So you really want to help to restore people to a place of better functioning.

(00:11:07) But then once they're there, there's still a risk for relapse and recurrence. And there was another therapy called interpersonal psychotherapy, which had published an influential paper showing that if you modify interpersonal therapy for people in recovery by giving it to them once a month and

focusing on the ongoing hassles or difficulties that people have, you can keep people well over three years. Not as well as an antidepressant for three years, but better than people who have been taken off an antidepressant and received a placebo. And so Ellen Frank and David Kupfer, who were involved with the MacArthur Foundation for the Mood Disorder network, reached out to me and said, "Can you do the same thing for cognitive therapy? Can you transform cognitive therapy into an approach that can be delivered once a month—maybe cognitive therapy light—and people can continue to do this?"

(00:11:59) And so I got that money. And what I did with it was I actually got in touch with John Teasdale and Mark Williams, and said to them, "Can we work on this project together?" Because John and Mark had been doing some very cool research on mood dependent memory, differential activation of cognitive constructs. And when we sat down, we thought that this would be a fairly easy remix—take the elements of cognitive therapy, throw out the parts that are tied to, say, weekly appointments, and maybe focus on material that can be delivered on a monthly basis.

(00:12:33) But I remember sitting down with Mark and John for the first time. They came over to Toronto. And the question that I asked at the table really was, "When you've seen people who 'get it' in cognitive therapy, what are they getting? What is it that they get that they're then able to do for themselves and continue, in a sense, to become their own therapists?" A lot of the literature would suggest that, well, they're getting a therapeutic relationship, they're getting an alliance, they're getting a bond, they're getting a connection. And that helps to restore hope, that helps to provide them with a kind of moral sense that they can have some impact on this problem that's been with them for many years.

(00:13:20) But we didn't really land on that answer. The answer that we landed on, was that in cognitive therapy when we've really seen it work and people take it and run with it, what they get is the ability to step back and watch their thoughts, to step back and watch their thinking. And that's something which is a very different answer than I think would've been helpful in building just a run of the mill, once a month cognitive therapy type of approach. We thought that if we could design a therapy to amplify the capacity of people to do that very thing for themselves repeatedly—to have it available to them, to bring it online when they need to during emotionally-charged situations—then we could be much more precise in targeting that mechanism, delivering it, and then seeing whether that actually impacted outcomes.

(00:14:14) And so we used the money to try to work off that assumption, and then all of a sudden, a number of very interesting influences appeared when we started to talk about this as being our focus. For example, Marsha Linehan was in Cambridge at the time and was curious, "What are John and Mark doing flying to Toronto to talk with Zindel? What are you guys talking about, what are you working on?" And then when she heard about this concept, which has been called many things—it's de-centering, it's disidentifying from mental contents, it's metacognition, metacognitive awareness—she said, "There's a guy that actually works on this very thing and he's using it in the context of treating people with chronic pain. You should check some of his work out, his name is Jon Kabat-Zinn."

(00:15:02) And that was one of the ways in which the connection was made. But then there were these other sort of subterranean influences, where John Teasdale himself had a fairly active contemplative practice. He was reading works by Georgieff, he'd gone to Quaker house meetings, he'd done some vipassana meditation. Mark Williams himself was an Anglican priest, ordained as an Anglican priest while completing his studies, but had stepped away from it because of the experiences that he had,

which I think weren't self-enhancing in that context. So he'd stepped away from it. And in a way, not that different from my experiences with TM. So John was a little bit more of a magnet.

(00:15:46) And then we wrote a letter to Jon Kabat-Zinn basically openly saying, "We've read your work, we've admired it, would you be open to us coming and chatting with you?" And before we did that, we actually bought a copy of Full Catastrophe Living. We went to the local bookstore, bought a copy of the book and started to read through it. Because the notion of teaching people to meditate as an objective psychiatric treatment for a disabling disorder didn't seem like it was a smart career move for us at the time. And so we wanted to see, when you read Jon's writing... Like, there was an article in the *American Journal of Psychiatry* and another one, I think in a pain journal that we read, but we didn't know what the actual protocol was for teaching this.

(00:16:30) And so in *Full Catastrophe Living*, we happened upon a number of examples that he gave. There was one example of a man who was driven by routines and ended up washing his car in his driveway at midnight because he had to get through his to-do list of the day. And eventually seeing that this to-do list was driving him, but he could stop and observe the thoughts around having to do all this stuff. There was a lot in there around de-centering, there was a lot in there about dis-identification from mental contents. And we thought, "This isn't that far from cognitive therapy. And if mindfulness meditation is a Rolls Royce vehicle that allows you to get there—compared to a rickety car that psychotherapy can sometimes be, that people leave therapy without necessarily developing metacognitive skills, they develop other things that could be helpful—why not see if we can wrap a therapy around teaching people to do this very practice and see what happens?"

Wendy Hasenkamp (00:17:28): Wow. And is that also when you started practicing mindfulness, back to your contemplative path? Or did that come a little bit later?

Zindel Segal (00:17:37): No, I didn't start practicing for a while. And I tell this to people because it's, I think instructive. It took me a long... well, a long time. It didn't take me weeks or months, it took me about a year and a half or two to get there, because our first understanding of mindfulness meditation was essentially akin to relaxation training. We thought that it was something which you teach people to do for themselves and they are able to take it on board. And there were a lot of elements of induction and guided practice and things like that. It was only when I started to run my own groups that I realized how bereft I was in terms of either understanding it, or being able to convey the important elements of it to other people. That was the motivator for me, I realized I was way out of my league. And then I started practice.

Wendy Hasenkamp (00:18:31): And then so how did your own personal experience of practice... did that influence then the way you developed the program moving forward? Did it change your understanding of what was going on with the program?

Zindel Segal (00:18:43): Yeah. It did. I would say there was a version 1.0 and a 2.0. And I think my own practice, and this was also consensual with Mark and John, there were elements that we first put into it that had to do with just training de-centering, just training the ability to stand back and watch thinking. And then with the ability to watch thinking, which we were understanding as an intentional allocation model, so that if you starve processing resources from elaborate cognitive routines like rumination and problem solving, if you can starve those, then you can provide greater access to other ways of working with the same kinds of thoughts, then you can help people from falling into the same depressive habits and routines that they might have. So it was very cognitively oriented.

Wendy Hasenkamp (00:19:38): Okay. Yeah, just to clarify that... So you said your original thinking or approach was that if you're struggling with depression, you get caught up in these thought loops and emotional loops that are taking a lot of brain resources or cognitive resources. And by, I guess for example, focusing on the breath or focusing on something else, you're basically just taking away resources that would normally be sucked into that loop? And that's how you were thinking about it?

Zindel Segal (00:20:08): Yeah. That's how we were thinking about it. There's good evidence of attentional resources and the brain being sort of like a limited capacity channel, where you can only allocate to so many things. And if we could starve the more well-rehearsed, automatic depressive thought patterns, then maybe we could allocate to working with thoughts or having a different relationship to thinking. And that was the emphasis in the first part. And we had diagrams of thoughts and attitudes being fused with emotion, and then eventually being unfused or decoupled. We were trying to use graphics in a way that conveyed these ideas to people, because they were also new to us. And then after that, we had a pretty standard cognitive therapy emphasis on, "Well, if people are able to decouple or de-center, what could they then do with their thinking?"

(00:21:03) And what happened was, the difference between V1 and V2 of the program was that we recognized the importance of attitude towards mental contents and we wrote much more about allowing and letting be as a way of approaching with curiosity and kindness, whatever shows up in the mind, and that that in itself is very much an important aspect of the work. And we rewrote the sections of the book to emphasize that more, that we were not trying to necessarily get people to engage with their thoughts, as much as engage with the attitude of grounding themselves initially, and then from that place, approaching with curiosity, with kindness, their experiences—whether it's in the body, whether it's through thinking, whether it's through emotions that come up.

(00:21:53) And to watch those phenomena, as they potentially change over time, to label their qualities, to notice the flux and the ebb and the flow, in concepts that are represented in the mind as static, never changing, unyielding and continually plaguing them. Those I think were the main points of emphasis that were changed from the first to the second version. And it corresponded with my going on retreat and discussions with John Teasdale and being pushed further and coming back to what the evidence... I guess what we felt comfortable the evidence would allow us to say. Because there were so many voices within the contemplative world that were saying so much more, and we had to titrate how much we could believe ourselves, and seed into a program that could be helpful, and teach in a way that that was credible.

(00:22:47) – *musical interlude* –

Wendy Hasenkamp (00:23:25): So yeah, that's really interesting. I guess what's coming up for me as I'm listening to you describe these processes, it's like the old model, version one (V1) model, was almost thinking of switching train tracks. Like, your mind can be on this one path, but then you take it away and focus on something else—almost like a distraction, a simple distraction. But then I suppose you could just go back, right? Whereas, version two (V2) is really learning to sit with that first path... and through that, do you think that there's a way of undoing, somehow, the habit patterns that exist there, with the allowing and acceptance approach?

Zindel Segal (00:24:08): Yeah, I do. It's not like the V1 work isn't still being promulgated these days. It is. If you look at anxiety bias modification, there is a very strong series of procedures that have been

labeled under anxiety bias modification, where people are trained to, if they see an anxiety cue, to direct their attention elsewhere. It's a very easy to train type of skill. Initially it was just trained in the lab, where people would see words on the screen and they were then asked to direct attention elsewhere, and then these cues had a less powerful hold and grip on them the next time they saw them. The problem is, when they try to evaluate this work in real world context with people that are much more symptomatic, it does not transfer. But that approach had a lot of compelling experimental evidence behind it.

(00:25:01) I think that part of what's happening when people are able to understand allowing and letting be as an approach, is that they're developing a different relationship to these affects. And if you think of the previous relationship they had, it's often to eliminate or to suppress. These are painful, these cause distress, they're not things people want to luxuriate in. And so the rudimentary skills and approaches that they have often emphasize those kinds of options—distract, suppress, eliminate, like "I want to get rid of this, I don't want to feel this anymore, never want to feel this."

(00:25:41) And this is an approach which is not promising that as much as a different relationship—one of familiarity, one of investigation, and ultimately one of kindness. And inside that relationship, there are the seeds of its potential undoing, because you see that things are not really unfolding in the way your mind is predicting that they will. That depression or sadness has moments of fluctuation, that there are ways of feeling relief inside those moments, of being able to ground oneself even in times of intensity. These are messages that would never get through to people if they only believed what their minds were broadcasting about what it is like to feel this way.

Wendy Hasenkamp (00:26:27): What you were just saying about being able to see the spaces where the pattern isn't unfolding necessarily the way that you would predict and things like that... Is that, then, back to what you were originally talking about (about de-centering and observing thoughts as thoughts), and in that process, I suppose, they somewhat disintegrate? Or I don't know how you would describe it. But is that where the de-centering comes in, in the being able to sit with and approach these thoughts with kindness?

Zindel Segal (00:26:57): The centering really, I think, describes this phenomenon of developing a different relationship to thinking. And I think in allowing and letting be, we can develop a different relationship to emotions, and even to sensations in our body that may be intense. And that relationship is one that I've understood, based on what people say coming out of MBCT classes when you ask them, or qualitative studies that have been published, there have been a number of them. The two big takeaway messages that people report are, "Thoughts are not facts," and, "Depression is not me."

Wendy Hasenkamp (00:27:36): That's pretty revolutionary understandings.

Zindel Segal (00:27:39): Yeah, yeah. And I think that those are the ways in which people develop a different relationship to the phenomena that are part of their managing depression in the light of the residual phase of the disorder. And also having a different relationship to their thinking, where they're able to work with it differently than completely believing it, or being commanded by it, or having to act on what pops into the mind.

Wendy Hasenkamp (00:28:08): And so MBCT, you went through the process of formalizing that, and I suppose there was a manualization process, and then it started to be implemented widely and therefore

able to be studied, and has been really very successful—particularly in treating depression relapse. Correct?

Zindel Segal (00:28:29): Yeah.

Wendy Hasenkamp (00:28:30): Which is one of the first things you were mentioning that you were trying to work with. So do you want to share the current state of that research, clinical research on the efficacy of MBCT with depression?

Zindel Segal (00:28:42): Yeah. I think it's important to know that we wanted and needed to conduct an RCT before we were willing to publish the treatment manual.

Wendy Hasenkamp (00:28:51): A randomized controlled trial.

Zindel Segal (00:28:52): A randomized controlled trial, yeah. I mean, these were great ideas and there were bits and pieces of scientific evidence to support them... But for example, the first time I presented the concept of mindfulness meditation in the depression clinic, I presented it to the psychiatrist in chief at the time who was sitting there—and I remember walking into his office and he was sitting at this beautiful, big mahogany desk—but it was like, he was 10 feet away from me. I was on one side, he was the other side. And here we were talking about teaching depressed patients how to meditate, or recovered depressed patients.

(00:29:28) And it wasn't until we actually had data that people started to take this conversation seriously. And so we felt that in order to publish the book and the treatment manual, we needed to have data that would convince people, because it was the only way we were going to be convinced. And so we ran our first study comparing MBCT to treatment as usual and found about a 33% benefit in survival times—meaning time to the next episode of depression—for people who were in MBCT compared to people who received treatment as usual.

Wendy Hasenkamp (00:30:06): And would that include antidepressant medication?

Zindel Segal (00:30:08): Anything.

Wendy Hasenkamp (00:30:09): Any other treatment.

Zindel Segal (00:30:11): Anything. Yeah. It was unconstrained. And so we ran that study and then we published the treatment manual, and then we ran another study that replicated that finding. And then over time there were about nine other studies that were conducted in other places in Europe. And then I ran a study where I compared MBCT to antidepressant medication and to placebo. And so in our study, we treated everyone to remission. In other words, they were depressed, we got them better on an antidepressant, and the folks who got better went into one of three groups. They either 1) stayed on their antidepressant for 18 months, 2) they came off their antidepressant and they received eight sessions of MBCT and another four follow-up sessions, I believe. Or 3) they came off their antidepressant and they received a pill, which was a placebo, so it wasn't active.

(00:31:03) And what we found was that, in people who were in recovery but had a bit of a bumpier ride—in other words, sometimes they had symptoms that peaked a little bit, and other times they were well—in those people, MBCT and antidepressant medication were equally effective, and both were

superior to the placebo group who had a much higher rate of relapse. So if you were taken off your antidepressant, given placebo, you were relapsing at about 70%. If you had either an antidepressant, or you had an antidepressant, came off it and got MBCT, you were relapsing at about 30%. And that was a very important finding, not because it had ability to talk about antidepressants and MBCT, one being better than the other, et cetera, et cetera, but because it provided more options for people for whom an antidepressant might not be feasible. If you're in the first trimester and you're pregnant, you may not want to start an antidepressant. If you have difficult side effects, you may have to come off your antidepressant. And here's something that you can do for yourself that may provide a good measure of protection.

Wendy Hasenkamp (00:32:14): Yeah. That's so interesting. And I remember when that first study came out, that was a really huge finding, as you said, that these were basically having the same impact, because I suppose for so long in the world of clinical treatment of depression, antidepressants are the gold standard, are the best thing that we had. So that was so exciting to have this other option, a non-pharmaceutical option, and working more with, as you were saying, the way we approach our thoughts. So it gets me thinking about mechanisms there across the two types of treatment. And so I'm just curious what your current understanding is of, or what the field is currently thinking of the mechanism of antidepressant medication. I know it's not fully understood, but where the thinking is now about how that is causing the same improvement and help that this kind of cognitive therapy might be.

Zindel Segal (00:33:08): It's a great question, and it's a question of perennial debate. I think four weeks ago or something, there was an article that came out in... was it *Nature Neuroscience Reports* or *Science Reports*... where I think this is an academic at University College London basically said the neurotransmitter monoamine hypotheses or other serotonin hypotheses of depression actually don't hold water. And so SSRIs are a bit of a hoax, in the sense that the theory underlying how they work doesn't seem to really add up when you look at the studies.

(00:33:42) And so I think when we speak about antidepressants, it could be a hot button issue for some people, but I think we need to distinguish between efficacy and the theoretical background between them. I think the efficacy is there. I think they work. I think they work for people as you increase the severity of the depression itself, I think you increase the likelihood of a therapeutic response to an antidepressant.

(00:34:06) And as far as if it's serotonin transporter uptake changes or other things like that, it's still a little bit murky. But it doesn't mean that the whole thing is false. And I think that for me, the best evidence that I've seen is a study that Helen Mayberg published in, what, 2004 I think, where she compared cognitive therapy and antidepressant treatment for depression. And what she found, this is a PET study. And we were involved in providing the cognitive therapy and she was involved with the neuroimaging and the antidepressant. And what she found was that there's this region of the brain called BA... I think it's 25 or 26, where if people respond to treatments for depression, that region becomes more active. And the antidepressant medication seemed to activate this region by moving from the bottom of the brain to the top of the brain. So by activating limbic structures and activating more subcortical structures, leading to activation of BA25.

(00:35:11) Cognitive therapy, on the other hand, activated BA25, but it took a different route, it went from the top down. So it utilized, I think either hippocampal structures, maybe cingulate-related structures, to blaze a path down towards BA25. And if you think about it, the activities inside an antidepressant versus the cognitive-heavy activities inside cognitive therapy, it makes sense that they're

leveraging different parts of the brain, both of them trying to activate BA25. And if you look at studies of deep brain stimulation, where they implant an electrode into this region, it's BA25 that they're trying to activate. And when they turn on the current, people do report a significant change in mood, a significant change even in perception, of seeing colors more broadly. And so I think there are different pathways to activate parts of the brain that are involved with regulating emotions and maybe even regulating some of the neurovegetative features of depression. They may not be the same because the procedures differ.

Wendy Hasenkamp (00:36:20): Yeah. That's fascinating. I had forgotten about that work about the, I think it's called the subgenual anterior-

Zindel Segal (00:36:25): Subgenual cingulate. Yeah.

Wendy Hasenkamp (00:36:27): Yeah. So that's interesting, in that it puts a pinpoint in a region of the brain that seems to be really relevant. And at the same time, I think so much of these cognitive patterns that anyone experiences with any kind of rumination or thought patterns, are just widely distributed right across the whole brain. So that's so interesting, how one specific region could be affecting something that actually is such a global phenomenon.

(00:36:56) I heard about that also recently, that there's thinking now that the serotonin hypothesis around depression is being overturned, or it's not as solid as they thought. Maybe just to flesh out for the audience, I think that that hypothesis developed because many effective antidepressants acted on the serotonin system in a way that increased the amount of serotonin available for processing, so therefore, it made sense to think that maybe the problem was some sort of deficit.

Zindel Segal (00:37:24): I was just going to say that... I mean that narrative is there and it's also been promoted by pharmaceutical companies to have a very shiny explanation for why antidepressants are going to be effective. And I think it's a double-edged sword. So for some people, it's destigmatizing to think about depression as a chemical imbalance. And if it's a chemical imbalance, then Prozac is the perfect antidote, because it restores the balance. So there is that marketing-tinged narrative, which as I said, it's got both sides. And it's allowed a lot more people to come to treatment with antidepressants, it's a lot allowed a lot more people to see their depression as not being a personal weakness. But when you actually look at the studies of changes in serotonin and the time interval by which antidepressants start to have their effect, it could be that serotonin changes happen a lot sooner than the four to six weeks that are usually required before you see someone starting to improve. These are discrepancies in the narrative, and that's just one feature of the whole discussion.

(00:38:34) – *musical interlude* –

Wendy Hasenkamp (00:38:56): Maybe we can talk a little bit about specifically why MBCT and mindfulness might be helpful in the case of relapse. Is it just a different setting after you've reached wellness, a clinical version of wellness? Is it a different container, I suppose, the way that you might precipitate into another episode of depression rather than the experience of being in an initial episode?

Zindel Segal (00:39:22): Yeah. I think one of the questions that we ran into when we were developing MBCT was, well, "Why not just do more cognitive therapy? Because we know that it works and we don't need to go through this whole hoopla of teaching people to meditate and do this and that." And I think

one of the ways of understanding it is, that people find themselves in a different phenomenological state when they're in remission from depression.

(00:39:48) So if you think of cognitive therapy, you often need negative thinking and harsh judgmental thoughts and very rigid attitudes to be present as the grist for the mill of the therapeutic work. When people are in remission, they often don't have these kinds of thoughts about themselves floating around. They may be more integrated, they may be more functional in the ways that they want to be, they might have extended periods of feeling well. But I think the risk is that for people who are vulnerable, setbacks can sometimes tip them into a way of thinking that resembles how they view themselves when they were depressed. And when vulnerable people get tipped into that way of thinking, it can come on very quickly and very suddenly.

(00:40:37) So of course they can always just pull out their cognitive therapy worksheets and their therapy materials and get to work and address their thoughts in that way, but it could have been nine months ago. It could have been two years ago. And how much of that is going to stay with them?

(00:40:57) With mindfulness, you're actually practicing it every day, and you do not need the negativity, the failure, the judgements to be what your mind is working with. It can just be whatever shows up as you intend to watch your breathing, or walk with intention, or engage in an activity and pay attention to it. As your mind is taken away elsewhere, as your mind wanders, there is the opportunity to recognize that and return, and strengthen that capacity for being grounded and present with whatever shows up. Even when you're at the bank in a long line—although who goes to the bank these days, because so much of this stuff is done online... *[laughter]* I've got to stop using that example.

(00:41:43) If you're waiting to fill your car up with gas (which we still do), and you notice the irritation, that can become a focus to work with. And so you're keeping these skills fresh and accessible and practicing, let's say, on low intensity stimuli. So if something really does come at you as a setback, as it does in all of our lives, those skills are still available, and they would have been, I think, a little bit more finely tuned than having to dust off the CBT approaches and reapplying them. I think that's one of the beauties of the mindfulness approach that we try to emphasize to our folks.

Wendy Hasenkamp (00:42:21): I like that. Keeping it fresh. Yeah. I also love how the skills translate—you can work in daily little experiences and then you've got those tools and skill sets just ready for more destabilizing experiences.

(00:42:38) I know you've done a lot of work too with Norm Farb, who I've also recently spoken to for the podcast. I don't know if you want to share anything about your collaborative work with him, maybe around brain networks and default mode, interoception, anything like that. And also, I know you're working on a book with him, too, so I'd love to hear about that.

Zindel Segal (00:42:58): Yeah. So I guess here's where I go rogue a little bit.

Wendy Hasenkamp (00:43:03): Great!

Zindel Segal (00:43:04): Yeah. *[laughter]* And I'll tell you where that comes from, because it's really connected to the last thing we talked about, which is practice. So when we developed MBCT, I was hardcore about, "40 minutes of practice. A body scan that's less than 40 minutes is not a body scan." And there was that attachment to an ideal of how practice should take place. And I've stepped back

from that. But in the early days, I would say that if I was running a group and we got to session eight and, "So what do people think that they're going to be able to do as their ongoing practice?" And a lot of people would honestly say, "I just can't see myself practicing 30 or 40 minutes a day. I mean, I might do that once or twice on the weekend, but I just..." And my heart would sink and, "Oh my God, this person's not going to be able to benefit from the sunshine that this practice provides to them in their lives," or, "Have I done a bad job as an instructor?"

(00:44:01) And it didn't last for long, but I did step away from that. And I think part of the reason I stepped away from that is because I was routinely seeing how little people practice formal mindfulness meditation after the course was over. However, they did do other things, and what they did was subscribe to informal practices. So the three minute breathing space is probably the most widely subscribed practice after an MBCT class that people say they will carry on.

Wendy Hasenkamp (00:44:31): Okay. Can you describe that briefly?

Zindel Segal (00:44:34): Can I guide you in it?

Wendy Hasenkamp (00:44:36): That would be wonderful!

Zindel Segal (00:44:37): Okay. And then we can see what you think about it.

Wendy Hasenkamp (00:44:39): Okay, great.

Zindel Segal (00:44:40): Okay, so just take a second to maybe fully arrive, and find a way of sitting that's comfortable and supportive. *[silence]*

(00:45:01) And then when you feel ready, perhaps shifting your attention from sitting into looking into the mind, perhaps asking yourself, "What is my experience right now? What thoughts are here? What feelings are present? What bodily sensations are making themselves known?" And as best you can, simply allowing all of these elements to be here—watching, observing them from one moment to the next. *[silence]*

(00:45:51) And now seeing if you can let go of the contents of mind and bringing your attention to a single pointed focus on the breath of the belly. Feeling breathing right here in this part of your body. Feeling the belly rise as you breathe in. Feeling the belly fall as you breathe out. And just giving the mind this one thing to do. As best you can, staying with this gentle rhythm of rising on the in-breath and falling on the out-breath, moment by moment, breath by breath. *[silence]*

(00:46:48) And now seeing if you can expand your attention around your belly, around your breathing. Allowing the attention to radiate outwards into the whole body. And feeling the whole body sitting, feeling the whole body breathing, from the crown of your head to the soles of your feet, one whole breath, one whole body. *[silence]*

(00:47:32) And then when you're ready, just opening up your eyes and returning your attention to the room.

Wendy Hasenkamp (00:48:20): Thank you, Zindel.

Zindel Segal (00:48:21): You're welcome.

Wendy Hasenkamp (00:48:22): That was wonderful. I've never been able to meditate in the middle of a podcast interview, so that was lovely.

Zindel Segal (00:48:28): Well, that's the three minute breathing space's virtue. People have said they've gone to work and sat in a bathroom stall and done this very thing because they can just insert it in the middle of their day. And it's a very brief but also compact way of moving these attentional foci, in very broad and very narrow and in very broad ways again, over a period of a couple of minutes.

Wendy Hasenkamp (00:48:55): Yeah. There's a lot in there in a very short time—the awareness and acceptance of whatever's happening, and then a narrow focus, and then a broadening focus. Yeah, very calming. Thank you. That was wonderful.

Zindel Segal (00:49:11): So I think this gets back to going rogue with Norm. So I've really learned, I think, that because very few people continue with the practices as such, in MBCT, the longer formal practices—many people continue with some of these three minute breathing space or other everyday mindfulness practices—that it's really important to provide people with access points to practice. But something bigger than access points... Not necessarily to practice mindfulness, but if we move back and understand one of the common features of many, many, many contemplative practices, is that there is a way of which they connect people to sensation. And sensation is such an important feature that we were thinking, Norman and I, of seeing whether sensory processing can be made available to people more broadly. And not just through the practice of mindfulness, or not just through the practice of yoga, and not just through a lot of the ways in which contemplative practices have been popularized.

(00:50:20) And so along with that, there's some very new and interesting science around interoceptive awareness, or science of interoception, that suggests that when we are able to connect with sensation—and I'm talking about ambient ubiquitous sensation, not any particular type of sensation—there is this natural quieting of midline prefrontal structures that are ordinarily working and dominating the brain's processing and taking away activation from lateralized sensory processes more at the back of the brain. And so most people think of the brain in terms of left-right dichotomies, and we're trying to promote a back-to-front dichotomy, where there could be a rebalancing of the flow of information so that more of the sensory processing from the back can be amplified, rather than subdued before the front parts of the brain decide what has to happen with that. And that people can just dwell in some of that [sensory] input before deciding what to do with it, or before it's naturally taken up by the more frontal parts.

(00:51:36) And then when you do that... We've just published a paper in *NeuroImage Clinical* about, what, three, four months ago, showing that people who are depressed tend to have an exaggerated pattern of relying much more on prefrontal regions when exposed to sad emotion in the scanner. And that people who are able to step back from that, had a much lower rate of relapse over two years. And people who were able to connect and feel some of the sensation, or sensory aspects of the sadness that they were feeling, had better relapse outcomes, compared to people who, when they felt sad, just fell back into the usual emotion regulation strategies.

Wendy Hasenkamp (00:52:19): Oh, that's exciting. So just to highlight what you mentioned, so folks with depression who were more able to shift their focus to internal sensations had better outcomes, in terms of less relapse?

Zindel Segal (00:52:34): Yes. We have one correlation with insula activation being inversely related to Beck Depression Inventory scores.

Wendy Hasenkamp (00:52:43): Interesting. Yeah.

Zindel Segal (00:52:45): So how do you do this for people who are not going to sign up to meditate, who are not going to sign up to practice mindfulness? And that's the question that comes out of finding access points, and helping people to forage for sensation—which ironically is right in front of them and often obscured. And that, and some of the research on the insula and the present moment pathway, seem to suggest that these could be ways of offering an alternative place to stand when confronted with phenomena. So those are the tentative outlines of the book, but that's what we're going to try to communicate.

(00:53:22) – *musical interlude* –

Wendy Hasenkamp (00:53:53): I know you've also done a lot of work using digital platforms and ways to allow these practices to be more accessible to more people. Do you want to share the current state of what you've been involved in with that?

Zindel Segal (00:54:07): Yeah. Thanks for asking. It's been really interesting because the starting point for a lot of the digital work, once again, comes down to access. And when you have a disorder that's as prevalent as depression or anxiety, and you see that it's so large, there's always going to be a mismatch between the number of people who need care and the number of people who can provide it, even if you end up training a lot, a lot, a lot of therapists. And so I've worked really beautifully with Sona Dimidjian to digitize Mindfulness-Based Cognitive Therapy so that people could access it via a browser-based program, and watch sessions that require about an hour and a half of seat time. And we've tried to replicate the experience that they would receive if they were coming in person to a hospital or a clinic or a private practice.

(00:54:58) And it's been challenging in a way, because there is a romantic tendency inside the meditation community to say that, "Things cannot be codified. Workbooks are objects of suspicion. This has to be something which is constructed in the moment creatively." And I understand that, but if that's all that it is, it's going to be really hard to communicate it to the next generation who might want to take this on. And so we were very careful when we tried to digitize MBCT to get input from people like Sharon Salzberg and Jon Kabat-Zinn and others who reviewed and took a look at our materials. And what we kept at the heart of it, was really the practice and the inquiry, unpacking the practice so that people could see, "What's the relevance of eating a raisin for my struggles with depression? What's the relevance of focusing on my left knee for my struggles with depression?" And so they get to practice and they get to watch myself and Sona in a group, where we lead people in answering and discussing some of these same questions.

(00:56:07) It's been very interesting. And we've evaluated the Mindful Mood Balance approach and found in a study that we published in 2020, that just adding it to the usual depression care that people receive in an HMO led to about a 30% decrease of depression scores in people who are already receiving either an antidepressant or work with a behavioral health specialist. And so we're very encouraged by the fact that it could be made more accessible.

(00:56:41) Now, I think one of the problems is that technology changes, and I think some people might feel that a browser-based program is a total dinosaur. Because people want things either on apps, or they want to have their content broken up into 10 minute chunks... And yet you know that the integrity of the material itself and how it needs to be taught can't really be... I don't know, can it be taught in 10 minute chunks and still have its effectiveness? I think really clever minds are going to have to struggle with that going forward.

Wendy Hasenkamp (00:57:14): Yeah. That's great. So you haven't turned it into an app?

Zindel Segal (00:57:18): No.

Wendy Hasenkamp (00:57:18): It's still browser-based, okay.

Zindel Segal (00:57:20): No. It's still old school browser. *[laughter]*

Wendy Hasenkamp (00:57:21): Yeah. I was thinking about young folks today, and we hear so much about the really striking increase in anxiety and depression in that population. And I'm just wondering if you have specific thoughts about the challenges that they're dealing with, or if you've interacted with that community around these mindfulness approaches.

Zindel Segal (00:57:47): I think they're growing up in a different environment. You know, when I was starting out, you would get something to read in a brown paper bag sent to you from Menlo Park, California. It could have been pornography. *[laughter]* It turns out it was Soul Travel. And maybe that's like spiritual pornography, I don't know. But it was hidden. And maybe the hiddenness was part of the attraction, I don't know. But these days, that's not the case. People are growing up—meditation, mindfulness, yoga, wellness practices, apps are part of the landscape.

(00:58:23) And I think that's really, really good because it's not stigmatizing to access these things to do them for yourself. I think the prospects of doing them for reasons related to health, rather than reasons [related] to spirituality, are seen as equally valid. But I think that when you dive a little bit deeper into the usage and user statistics, what you find is that the vast majority of people skim the surface of utilization. Only smaller amounts of users actually move past the first couple of pages and stay with the program.

(00:59:00) And yet I think that this is more a feature of our time, where people prefer to read headlines versus a full news story, where people prefer to get sound bites compared to context. And so I'm not saying that that's a bad thing and it has to change. I think we have to find a way to work inside of that context to come across in ways that message the real profound potential of all of these practices.

(00:59:26) And maybe what I've noticed is with younger populations, sometimes it's much better to start with movement rather than starting with, "Sit on a pillow and close your eyes," because sometimes that doesn't get any traction. And that's where I think access points related to sense foraging can play a huge role, because sensing and sensory experiences are something that anyone can have access to. And it can sometimes take away the pressure for people to find the thing inside meditation that they think other people want to hear about, or that they're looking for. And if we can maybe make it initially as a conversation about sense foraging, finding points of access, it can lead to further practice down the road. And I think what's needed are these kind of portals into people's engagement.

Wendy Hasenkamp (01:00:19): One last thing... I know we're coming up on our time. I'm just thinking about the concept of self—so central in Buddhist philosophy, and certain practitioners of mindfulness will go down that path about deconstructing the self. And identity feels like a really central part of depression, or the experience of depression. So I'm wondering if MBCT, or your approach, goes there at all with the concepts of self, or is that kind of a different plane than that works on?

Zindel Segal (01:00:54): What would you guess?

Wendy Hasenkamp (01:00:56): I would guess it doesn't go there explicitly, but it might be happening implicitly.

Zindel Segal (01:01:00): Yeah. I mean, there's nothing in our curriculum that talks about not-self. But there's a lot in our curriculum that talks about not identifying with mental contents. And so as you start to see that the ideas put forward by the mind are sometimes not really experienced in that way when you're investigating or exploring sensations or emotions, or even beliefs. You can do that at the level of individual thoughts, or watch individual thoughts that have a strong emotional charge and then see yourself... watch them kind of enter the mind and float past without you having to do something about them.

(01:01:42) If you build up enough of those thoughts, one on top of another, I think you start to get at a concept like self, you start to get at a concept like identity. And then if you can step back from that in the same way, then you start to see that self itself (ha, self itself, right?) is a construction of sorts, is a thing that is also being presented by the mind, that may be different than how you're living. So it does come through in that way, but it's not really touched on, and I think for good reason, in terms of the curriculum anyways.

Wendy Hasenkamp (01:02:14): Yeah. That makes sense. And I'm also remembering what you said in the beginning about people who come out of this practice, that one of their big takehomes is, "Depression is not me, " which, that's a self change.

Zindel Segal (01:02:25): That's already... Yeah.

Wendy Hasenkamp (01:02:27): That's really interesting. I'm kind of curious, just to ask you before we sign off, how you feel that your practice and your engagement with all of this space has changed your life and your personal experience, if you have reflections?

Zindel Segal (01:02:42): Yeah. That's a great question. I mean, I still practice. I still sit in the mornings. And sometimes when people ask that question, if I get it at trainings or retreats, I think they want to hear about dramatic changes. And I can't say that I've noticed dramatic changes. I'll say, I noticed some things have fallen off. And those, I think, are connected to right speech—so, being critical of other people, being judgemental of other people, it's far less reflexive than it used to be, and it's far less comforting. I've noticed that. I'm not a saint, but I've noticed that. And I also think there's just more of a sense of a responsibility to take care of other things that I can take care of, locally or... to be helpful. So I think there's something of a right view that informs a lot of my behavior. Sometimes if I'm running around and just doing, doing, doing, I can remind myself to be more deliberate, and that's also a big change. I'd say those are the things that are salient to me. I think on the outside, I don't know what other people would say.

Wendy Hasenkamp (01:04:06): That's always the test. Right? *[laughter]*

Zindel Segal (01:04:08): That is a test. It's a test of sorts. Yeah.

Wendy Hasenkamp (01:04:10): Yeah. Well, thank you so much, Zindel. This has been really wonderful to chat. And thank you so much for all of your groundbreaking and very important work in this field. And thank you for taking the time to be on the show today.

Zindel Segal (01:04:25): Thanks, Wendy. It's a pleasure to talk about all of these topics because they intersect in such interesting ways, and it's always great to discuss how that happens. Thank you.

Outro – Wendy Hasenkamp (01:04:40): *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. And if something in this conversation sparked insight for you, let us know. You can send an email or voice memo to podcast@mindandlife.org.*

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