How to Apply Mindfulness to Your Life and Work

The Neurobiology of Mindfulness:
How Being Present Can Change the Brain

a TalkBack Session with
Ron Siegel, PsyD; Joan Borysenko, PhD; and Ruth Buczynski, PhD

National Institute for the Clinical Application of Behavioral Medicine
# Table of Contents

(click to go to a page)

- What Stood Out Most ........................................................................................................................................ 3
- OWN – An Approach to Introducing Meditation ................................................................................................. 6
- Self-Care: How to Reduce Stress and Build Resilience ......................................................................................... 7
- Practices to Increase Self-Integration .................................................................................................................... 9
- Mind-Wandering and Mindfulness ...................................................................................................................... 11
- About the Speakers ............................................................................................................................................. 13
Dr. Buczynski: That, again, was quite a session – it always is when we are doing one with Dan Siegel.

I am eager to hear what you think and what your takeaways were. Let’s start with you, Ron. Let’s hear what your insights and takeaways were.

### What Stood Out Most

**Dr. Siegel:** First – and this often happens when I listen to Dan – I am just impressed by the breadth of integration.

He points out that integration is a sign of health.

He is a master integrator and he really puts together insights from attachment theory, insights from neurobiology, insights from mindfulness practice, and he shows how these all both parallel and interrelate with one another.

And yet at the same time, I thought it was very interesting that he is willing to tackle certain distinctions that most people don’t make.

I hope, for example, we will have a chance to talk about the distinction between presence and mindfulness, for example. Presence and mindfulness are somewhat separate.

Another issue that comes up often is, “Wait a minute – isn’t Buddhist practice about becoming more detached in some sense or not attaching to things – and how does that relate to attachment theory?” which is an interesting question that he tackled a little bit.

**“He is willing to tackle certain distinctions that most people don't make.”**

By the way, I think there is an elegant solution to that, and that is to change the name of “attachment theory” to “connection theory.” If we see attachment theory as connection theory – how people connect to and get support from one another – then it is quite consistent with...
Buddhist psychology.

I really appreciate the way he gives us broad touchstones like seeing health as integration.

We can see how that operates in so many different human realms where, when the system is well integrated, it is a healthy system.

Finally, I want to say that because of his putting these different pieces together, and particularly putting his attachment research together with his current interest in mindfulness practice, we actually see a kind of neurobiological and evolutionarily determined reason why *sangha* or community is so important in our practice.

Again, I was quite moved by this conference we had a while ago with Thich Nhat Hanh, who brought ninety monastics, monks and nuns, with him because he wanted to illustrate very vividly that he is not the teacher – the community and the *existence* of the community is the take-home lesson.

We are all interdependent on one another.

Dan so eloquently shows us why we are hardwired to be interdependent with one another. It is both the diversity and the specificity that really struck me.

**Dr. Buczynski:** I am glad you brought that up, Ron.

Many of the people on the webinar may know that my dad was a pastor and people would say to him sometimes, “Why can’t a person just stay home and watch a televangelist? They’re really good at it – polished and all that.”

And he would say, “The community is really important. This community supports your growth and your walk with God, and it’s very critical to your faith” – in this case as a Christian. So I’m glad you brought that up.

Joan, how about you – what stood out to you in the webinar with Dan Siegel?

**Dr. Borysenko:** I am always amazed by Dan’s specificity.

Yes, he understands attachment theory – that was his beginning and his field.
“His capacity to explain neurobiology and its correlates in consciousness is extraordinary.”

He understands child psychology and how, as we grow older, what happened when we were younger begins to manifest.

I love all of the research – I love research!

But he gives you so many good research examples, and as Ron was saying, you really get an idea of the synthesis – you understand how these things connect.

His capacity to explain neurobiology and its correlates in consciousness is really extraordinary, and he brings it into practical terms.

I love Dan Siegel’s *Wheel of Awareness*. Every time I have used the *Wheel of Awareness* to teach someone to meditate, the light goes on immediately because – just to reiterate – if you imagine the wheel, he talks about the “hub of the wheel” being the center of awareness itself, and that’s a metaphor for the prefrontal cortex where self-awareness resides.

Then he talks about the spokes that come out from the hub and go to the rim of the wheel – all of the different rays (spokes) where we can put our attention.

So when you are looking either at daily life or at meditation, it is easy to say, “Oh, I just put out a spoke of attention to the rim; I’m not in the moment; I’m stuck on the rim somewhere and I can follow my breath right back to the hub.”

I have found that in doing this with people – the light goes on right away. They understand: “Oh, that’s what meditation is. I have all these degrees of freedom where I can put my attention and then bring it back.”

Finally, I love the way that Dan talks about the mind, which of course, relates to the *Wheel of Awareness*, as something that is an emergent property of not only our own self but of the way that we are related to others.

He always says, “The mind is both embodied in us, in our brain and nervous system, which is every cell of our body, and it is embedded in our relationships with everything around us.”

You begin to understand how we do modulate one another’s experience of the world, and that is where I see his early basis and attachment theory coming together with his fascination with mindfulness in a way that is very precise and instructive.
I also love the exercises that Dan gives.

OWN – An Approach to Introducing Meditation

**Dr. Buczynski:** Ron, as Joan was talking about Dan’s *Wheel of Awareness*, I was also thinking about his acronym, *OWN* – Observe, Witness, Narrate.

I was wondering – do you think *OWN* is also a way of introducing meditation, particularly insight meditation?

**Dr. Siegel:** Yes, I think it is – it’s nice and simple, certainly, to *observe* witness and *narrate*, but it also raises a controversial issue, or one I think that helps us to think more deeply about mindfulness practice.

He’s including *narrate* as part of meditation, but if we look at the Buddhist traditions out of which many of the mindfulness practices that we use in Western psychotherapy originate, *narrate* isn’t part of the tradition.

In fact, a lot of these Eastern traditions are quite...skeptical of our narratives. They tend to think that our narratives are so conditioned by our feeling tone of the moment – so conditioned by our individual histories – that they are not so much to be trusted.

The place Dan gets this from, as he explained in his talk, is from Ruth Baer’s work.

She did a factor analytic study of a set of existing mindfulness scales that measured mindfulness as it was being used by Western psychologists and said that, “One of the factors is this ability to describe one’s experience.”

For me and for us as healthcare providers, this brings up the issue of “What does the ability to describe the experience in the narrative add or take away from the practice?”

Clearly, one of the things that the narrative adds is a way in which we can pause.

We talked about pausing before in response to Tara Brach’s presentation – how crucial it is to be able to not immediately and instinctively act on impulses but to be able to have a moment to reflect and decide what would be the most helpful course of action.

There is a sequence we can see in mindfulness practice of perception occurring, an impulse to do something,
and then enacting that behavior – and the more mindful we are, the more we are able to choose whether or not to enact a behavior.

What Dan is suggesting is a very Western way to make that choice: to think about it and to say out loud, in a sense, “What would the consequence of my action be if I went this way as opposed to that way?”

In the Buddhist tradition, there is much more attention paid to just noticing that there is a gap between impulse and action and one needn’t act on it automatically.

Sorry if this is a little abstract but I guess Dan’s talk was a little abstract in some ways...but it brings up a tension in any of our therapy interventions between staying at a very experiential level of just being with experience and noticing what is happening moment-to-moment versus getting into the story: “How did this come to pass? Where is this going in the future? How come I believe in this?”

What we see from this is that they are both valuable – it is very valuable to learn how to be with experience in a very precise way as the Buddhists would, which gives us flexibility in terms of our action and understanding, and then there is another kind of understanding, which comes from narrating experience.

Dr. Buczynski: Joan, let’s talk for a moment about self-care.

Whether a person is a practitioner or perhaps a caregiver for someone at home – how can they decrease their stress and help to build up resilience, which, as we know, helps to keep our telomeres as long as they can be for overall health?

Dr. Borysenko: I have been fascinated by this whole field, because my original field in behavioral medicine was research and psychoneuroimmunology.
There have been so many studies looking at the effect on people of being a caregiver and of developing not only burnout, but compassion fatigue.

For example, if you are the caregiver of somebody with Alzheimer’s disease, as they lose function and as difficulties happen, you become traumatized with compassion fatigue, which is a secondary trauma – and unfortunately you lose your capacity for connection...

Dan Siegel is all about connection – but either burnout or compassion fatigue results in not being able to connect.

It is so important, whether we are talking about being a caregiver for someone who is disabled or has Alzheimer’s disease at home, or whether we are a therapist, that we ourselves maintain the capacity to connect to other people. That has to do with the building of resilience.

Dan has written beautifully about resilience, and it is particularly fascinating to look at the neurobiology of resilience.

Activity in the left prefrontal cortex of a resilient person has been found to be about thirty times greater than the activity in the left prefrontal cortex of someone who isn’t resilient.

So, there has been quite a lot of research on this – what another neurobiology researcher, Richie Davidson who is at the University of Wisconsin at Madison and does the nitty-gritty research calls “making a left shift.”

Essentially, mindfulness creates that left shift and, as a result, mindfulness is important for resilience.

One of the things I have found so wonderful when working with clients and teaching them different kinds of meditation, including mindfulness, is that it enhances one’s own practice as a therapist.

In a way, our clients are part of a larger sangha world, trying to learn the same thing.

Another kind of practice that can enhance resilience is the repetition of slogans. The repetition of slogans – there are fifty-nine Lojong slogans – is a part of Tibetan Buddhist practice.

There is also the Twelve-Step Program which includes a lot of slogans.

What a slogan does is it reminds you of an entire teaching. Let’s say you are part of a Twelve-Step Program.
You are having an emotionally difficult time and you remind yourself, “Work it down. Don't work it up.”

Or let’s say you are a student of the Course in Miracles and you are stuck in judgment. You say to yourself, “Would I rather be right or would I rather be happy?”

All of these increase resilience and they increase a shift of activity to the left prefrontal cortex.

I think it is so important that we recognize, both for ourselves and for our clients, the different kinds of activities that will work best. Some people may like slogans; some may like a meditation that is a concentration meditation; some may prefer mindfulness meditation.

We’re learning more and more about what it is that gives us the brain signature of resilience.

With Dan’s work, he is telling us that resilience is also about integration – what he calls the “upstairs brain” and the “downstairs brain.” He describes that automatic activity of the sympathetic nervous system as the “downstairs brain” versus our capacity to witness and to make choice (in the “upstairs brain”).

This is what you referred to, Dan, as, “We’ve have interneurons now!”

We have moved beyond being slaves to our hindbrain or midbrain.

Once again, Dan Siegel has such a breadth of information and research from a variety of different sources.

Not just in this session, but going back and reading his books – the handbook of interpersonal neurobiology is a treasure – I think he calls it The Pocket Guide – is so worthwhile. I have to say that when it came, I expected a “pocket guide” – like your carbohydrate gram counter or something like that, but it’s a really big book!

His capacity for research and putting ideas together from different fields teaches us a lot about resilience.

Practices to Increase Self-Integration

Dr. Buczynski: Ron, what are some practices that we can use to increase self-integration?

Dr. Siegel: Integration is such a wonderful way to look at the movement toward health and it really ties together a lot of the ideas we have discussed and heard people discuss over the course of this mindfulness series.
Integration is about not taking false refuge, as Tara might put it. Integration is about experiencing experience directly. Integration is also about not being involved in experiential avoidance – trying to block out feelings – but it is about being with the full range of our experience. Integration is another term for what in the Buddhist tradition would be called enlightenment: to be fully present, fully aware and not needing to hold on to or push away anything in particular.

So, how do we develop this because it sounds good, right?

Developing integration allows us to re-own what we have split off or pushed away because it was too painful in the past. So, basically, all forms of psychotherapy are helpful for developing integration.

Within the mindfulness tradition, there are some practices that are quite helpful and they all have to do with appreciating, which we have also talked about during the series.

This is the idea of “no self.” It is a matter of seeing what arises in the heart and mind as basically impersonal events.

Let’s say anger comes up in me; it is the capacity to notice, “Oh, anger’s arising.” It is the capacity to notice the muscles tightening up, the heart rate picking up in speed, and how thoughts of revenge are popping into the mind.

It is the capacity of noticing that this anger is just an event happening in the organism, as opposed to, “I am so angry I want to really get you back,” and being caught in that narrative.

When we get to the level of the body and just experiencing it as an unfolding series of events, we are able to integrate it better.

We don't have to push it away as much. We are not as threatened by the feeling.

And this is not just with anger – it is memories, fears, longings, and sexual feelings – all of the feelings that have been painful for us.

Whenever we can open to painful feelings as impersonal events, then we can invite them back into the picture.

Another way to look at this and another way to approach this idea of “no
“Whenever we can open to painful feelings as impersonal events, then we can invite them back into the picture.”

self” – and we have talked about this before – is through seeing the multiplicity of selves.

This is the approach that Dick Schwartz has developed so nicely in Internal Family Systems – “There is a part of me that’s mad; there’s a part of me that’s sad; there’s a part of me that’s lonely.”

All of these feelings are part of us – we have many different aspects to ourselves, and they each have an important role – we can invite them each to speak in some way.

Gestalt therapy, which I know you, Ruth, were steeped in that tradition – does a lot of this – allowing the different parts to speak.

All of these techniques help us to reintegrate and to wind up whole – not only psychologically healthier, but they are also the steps on the path to what in the Buddhist tradition is called awakening.

Mind-Wandering and Mindfulness

Dr. Buczynski: Joan, I want to ask you one of the same questions I asked Dan, and that is about mind-wandering. That is something many meditators experience – I don't know if you ever do, but I sure do! What would you suggest?

Dr. Borysenko: Years and years ago, I went on a meditation retreat with a Tibetan Buddhist teacher, Sogyal Rinpoche and he said, “You are never going to get the mind to stop thinking because that is its nature. It is like asking the ocean to quit making waves. It is just not going to happen.”

But then he said, “When the mind makes a wave, when it starts to think, you leave the risings in the risings without following them.”

That of course is easier said than done – but this is a big part of the mental training of meditation.

Using Dan Siegel’s metaphor of the Wheel of Awareness, we can even see this. You are there – very happily in the hub, feeling peaceful and present – and then, whammo! You put out a spoke of attention to whatever it is – the phone call you forgot to make,
the pain in your hip – whatever it might be.

Every time that happens, it really is great because that is the practice! You get to notice, “Whoa! I just put out a spoke of attention. I just followed that rising, and now I’m not in the calm of the ocean anymore. I’m not in the hub of the wheel.”

Every time a thought comes, it gives you the opportunity to strengthen your mental muscles of awareness and letting go. That is really what Dan was talking about: you are developing mental muscles.

I think it is great to give myself and to give other people a frame of reference. Thinking is going to happen – no matter how long you meditate, you are not going to get rid of the thoughts.

It is not about being thoughtless – it is about having a chance to strengthen those muscles of awareness and letting go with your thoughts.

Thoughts are a great thing. Let’s celebrate the thoughts we have in meditation and the chance for mind training that they give us.

**Dr. Buczynski:** Thanks. This wraps up this particular session.

Thanks, Joan and Ron, for being part of this session. You add so much depth and complexity to our work here – so thank you, both of you, for participating.

To everyone, take good care.

Keep in mind that it doesn’t matter how much you know if you don’t apply it to your work and to your life.

Meditation is something to be practiced – and hopefully that stood out. Take good care.
About the speakers . . .

Joan Borysenko, PhD has been described as a respected scientist, gifted therapist, and unabashed mystic. Trained at Harvard Medical School, she was an instructor in medicine until 1988. Currently the President of Mind/Body Health Sciences, Inc., she is an internationally known speaker and consultant in women’s health and spirituality, integrative medicine and the mind/body connection. Joan also has a regular 2 to 3 page column she writes in Prevention every month. She is the author of nine books, including New York Times bestsellers.

Ron Siegel, PsyD is an Assistant Clinical Professor of Psychology at Harvard Medical School, where he has taught for over 20 years. He is a long time student of mindfulness mediation and serves on the Board of Directors and faculty for the Institute for Medication and Therapy.

Dr. Siegel teachers nationally about mindfulness and psychotherapy and mind/body treatment, while maintaining a private practice in Lincoln, MA. He is co-editor of Mindfulness and Psychotherapy and co-author of Back Sense: A Revolutionary Approach to Halting the Cycle of Chronic Back Pain.