

# Treating Depression with Mindfulness

Getting Well is Half the Problem, *Staying* Well is the Other Half

WRITTEN BY JAMES PORTER





ABOVE

**Zindel Segal, Ph.D.**

Dr. Segal giving a TedX Talk at the University of Toronto Scarborough in 2014.

# 01

## PART ONE

I'm sitting here at the Center for Mindfulness 01 at the University of Massachusetts Medical Center, considered to be ground-zero for the creation of mindfulness-based programs in the US, waiting for the founder of Mindfulness-Based Cognitive Therapy (MBCT) Zindel Segal, Ph.D. to begin speaking. Not to be confused with MBSR or Mindfulness-Based Stress Reduction, MBCT is well-known for its effectiveness in treating people with clinical depression.

To those unacquainted with Segal's work, his research has focused on helping people with depression avoid relapse. For people who have battled depression (now, along with stress, considered an epidemic by the World Health Organization) the biggest issue by far is relapse. Each bout of clinical depression dramatically increases the likelihood of yet another bout.

People with two or more bouts of depression become increasingly difficult, if not impossible, to treat. (According to Dr. Bruce McEwen, up to 50% of depression cases are now considered to be "treatment-resistant") Segal's approach, not only helps patients who have relapsed more than once, it helps them maintain their recovery *without necessarily relying on medication!* As Segal likes to say depression is episodic. It comes and goes. "Getting people better is only half the battle. Keeping them well is the other half."

While I'm waiting for Dr. Segal to begin, Mindfulness-Based Stress Reduction (MBSR) founder Jon Kabat Zinn comes in and sits down in the small auditorium in the row right in front of me. If you know anything about mindfulness, you must know Jon Kabat-Zinn. With his books on Mindfulness like *Full Catastrophe Living*,



FROM LEFT TO RIGHT

**Jon Kabat-Zinn, Ph.D.**

Author, scientist, professor, mindfulness expert, and founder of the Stress Reduction Clinic and the Center for Mindfulness in Medicine

**Congressman Tim Ryan**

U.S. Representative Tim Ryan serving for Ohio's 13th congressional district.

*Wherever You Go There You Are*, and *Coming to Our Senses*, and the various research studies he has co-authored, no one has done more to bring mindfulness to the West than Jon Kabat-Zinn. The Washington Post has dubbed him “Mr. Mindfulness.”

I attended a six-day retreat with him and 35 others a few years back, so I lean over to say hello. He turns around and gives me a big smile and we chat for a few moments while waiting for Segal to start. Kabat-Zinn has put on hundreds of retreats so I don't expect him to remember me at all. I mention the fact that the retreat I was on was also the retreat attended by Ohio Congressman, Tim Ryan, who was so dramatically changed by the experience he wrote the book *Mindful America*, started a mindfulness group in Congress and

sponsored bills that would bring mindfulness training into our public schools.

I still remember the tears streaming down Congressman Ryan's face and many of the other attendees in the closing ceremony on our last day, when it became painfully clear that the six intimate days we had spent together with Jon Kabat-Zinn were quickly coming to an end. As I recount the story, Kabat-Zinn's eyes light up and he says, “That was the retreat at Menla Retreat Center in Phoenicia, NY.”

“Yes it was,” I said. “I was a complete novice when I arrived and you got me meditating on a regular basis. I'll never forget you saying, ‘just start with 5 minutes a day when you first wake up in the morning’ and that's what I did.”

“And you’re still meditating now?”

“Yes, just about every day.”

Again, he smiles.

When I think about how many hundreds of thousands of lives he has touched with his books and his research and his work, it’s nice to see how the change in just one person, truly mattered to him. It was on that retreat that a psychiatrist and fellow attendee explained to me how difficult it was to treat patients with multiple episodes of depression, but that one study done in Canada, by a researcher at the University of Toronto, had shown that people who had practiced this form of mindfulness, were dramatically less likely to relapse.

Having already suffered two bouts of clinical depression personally, I remember Googling that study and finding out that the main researcher was a man named Zindel Segal. Interestingly, without knowing who this man was, or that much about his work, something about this information gave me a lot more confidence moving forward about my own battle with depression. Any person who suffers from depression knows, that even after you get better, any time you experience

sadness, you WORRY whether this episode of sadness is going to drag you down into another bout of unmitigated sadness, i.e., depression. And for a lot of people, taking an antidepressant gives them that confidence of knowing it won’t.

But for me, taking a pill wasn’t an option. I needed something else. And my talk with that psychiatrist, who knew of the work of Zindel Segal, long before I did, was giving me hope that this practice of mindfulness, which I was learning so much about on this retreat, might really free me from this fear of relapse, which it ultimately did. So now, 8 years later (and without a single bout of clinical depression since) I was excited to be sitting in an auditorium at what could be considered ground zero for Mindfulness in the US (The Center for Mindfulness) and about to hear the work of Zindel Segal, described by the man himself.

When the Psychiatrist in residence at The Center For Mindfulness got up to introduce Zindel Segal, he said, that with Jon Kabat Zinn and Dr. Segal both in the same room, “I’m really feeling like there is a buzz in the air. This is going to be historic.” In the next installment I’ll tell you how MBCT got it’s start and why this was a historic occasion.







## 02 PART TWO

Based on the title of Zindel Segal's lecture, "Mindfulness, Meta-cognitive Awareness and the Relapse Prophylaxis in Depressive and Anxiety Disorders," my wife opted to go to the local fabric store, rather than sit through what sounded like a very dry evening at best. However, when I parked my car in the back of the Center for Mindfulness and MBSR founder Jon Kabat Zinn, popped out of the woods on a walking path, I was pretty excited to be there, no matter how dry the title of the talk sounded.

I had spent many hours doing mindfulness walking with Kabat-Zinn on a six-day retreat, several years before. So it didn't surprise me, that even though he was no longer working at the Center for Mindfulness, (which he had founded 30 years before) he would be here tonight to support the work of Zindel Segal. Segal's MBCT was an exciting offshoot of

MBSR, and Segal was there to report on just how far that work had come.

Segal began the lecture by talking about the origins of MBCT. He had gotten a small grant from The MacArthur Foundation to study relapse prevention (in depression) and used that money to team up with two other psychologists who specialized in memory and mood disorders. Unlike other physical ailments, the danger of relapse always looms large over anyone who has ever suffered even a single bout of clinical depression.

When Segal first started looking at depression in the 1990's there had been dramatic progress in treating it. And this was big news. At the time, newly introduced SSRI anti-depressants like Prozac were showing real promise and studies of Cognitive Behavioral



LEFT TO RIGHT

### Relapse

Many people who have been diagnosed with clinical depression stop taking their medication too early due to the many side-effects

Therapy, looked promising too. ([Here's the link](#) to David Burns' TED Talk on the origins of CBT for use in the treatment of Depression. Let me say that it is one of the best TED talks I have ever seen.) Despite all this progress in treating the disease, relapse was still a major issue. As Segal likes to say: "Getting well is only half the problem. Staying well is the other half."

**Unlike other physical ailments, the danger of relapse always looms large over anyone who has ever suffered even a single bout of clinical depression.**

In his search for an answer to this elusive question, of how to prevent relapse, Segal learned about a study that followed patients who continued taking their medication for two years after fully recovering. The study showed that continuing to take medication had



prevented relapse in those patients. But there was still one problem with this approach.

Many patients stop taking their depression medications way too early due to side effects like weight gain, lack of sex drive, cost and other issues. And CBT – which is always undertaken within a limited time span of say 5-13 weeks – isn't going to continue much beyond the initial recovery phase. Since most patients stop seeing a cognitive therapist long before relapse would be an issue, there was scant evidence that CBT could help people avoid relapse.



ABOVE

#### **Mindfulness Matters**

From left to right: Mark Williams, John Teasdale, Jon Kabat-Zinn and Zindel Segal

## 03 PART THREE

I'm sitting in a small auditorium at The Center for Mindfulness at the Medical Center at The University of Massachusetts and Zindel Segal is telling us about starting a wholly new branch of Mindfulness called MBCT. Jon Kabat-Zinn (the founder of MBSR) is sitting right in front of me and I notice that as Zindel Segal starts the next part of his story, he looks directly at Jon Kabat Zinn and addresses him the entire time. He's talking about finding a way to help patients avoid relapsing back into depression and how in looking for some new method for doing this, he stumbled onto mindfulness.

He had tried transcendental meditation in college, as had several of the others on his team, but none of them had a regular practice

of meditating, or had even considered it as a way of helping patients with depression. But that's about the time (in 1992) that they bumped into work of Dr. Marsha Linehan. Linehan is the founder of a form of therapy called Dialectical Behavioral Therapy or DBT (which includes aspects of mindfulness). At the time, Linehan was trying to help her clients with addiction problems and borderline personality disorder which most therapists at that time thought couldn't be helped with any form of treatment.

Until Dr. Linehan came along, no one had come up with a solution to the delicate problem of how to tell an addict that their behavior was bad, but they were OK, even



good. In other words, patients would equate hearing about their behavior (drug-taking, cutting) with being a bad person. And even though this wasn't the intent of the therapist, it still came across that way to the patient. And when that would happen, patients don't last very long in therapy: They simply slip back into their familiar pattern of taking drugs to soothe themselves for feeling bad.

Linehan realized that she had to come up with a way of supporting behavior change while also propping up the patient too. (The word dialectical refers to these two opposing views.) Her form of therapy had to ASSIST the patient in realizing that they could be a good person inside even if their outward behavior was labeled as bad. By teaching patients the mindfulness ideas of accepting where they were unconditionally, and being able to see their behavior as essentially separate from who they were as people, it allowed

formerly untreatable patients to embrace the therapeutic intervention rather than reject it.

Naturally her work with these clients – which was having an unheard of success rate – attracted the attention of many people in

**By teaching patients the mindfulness ideas of accepting where they were unconditionally, and being able to see their behavior as essentially separate from who they were as people, it allowed formerly untreatable patients to embrace the therapeutic intervention rather than reject it.**



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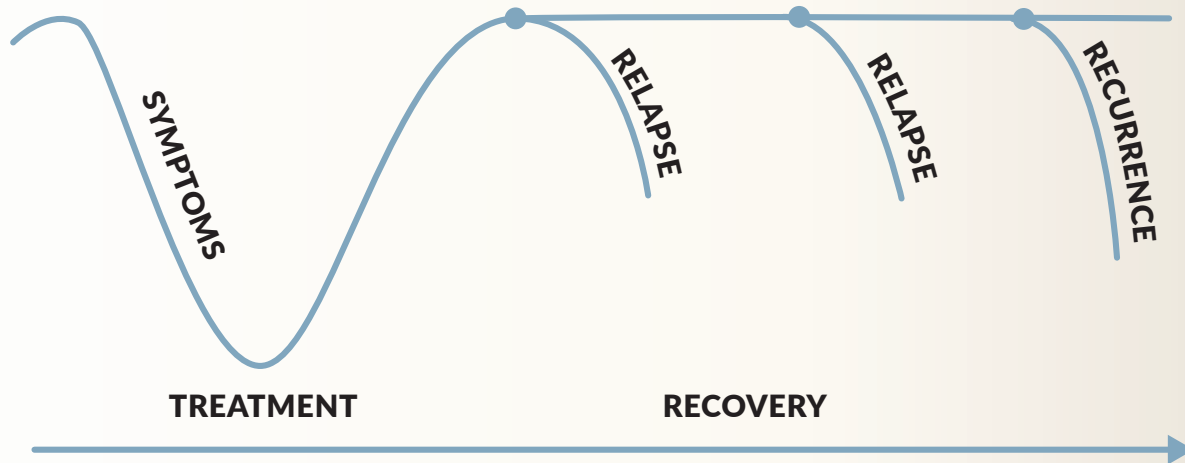
#### **A New Form of Therapy**

Dialectical Behavioral Therapy or DBT includes aspects of mindfulness

the field including Dr. Segal. He was traveling regularly down to Boston from Canada to learn more. Both he and Linehan were interested in helping patients avoid self-harm that often goes with undiagnosed cases of depression. Linehan suggested that Segal and his fellow researchers get in touch with this (at that point, little known) person named Jon Kabat Zinn who then was just starting to operate a small clinic just outside of Boston designed to help people with chronic pain. (Kabat Zinn, has a Ph.D. in Molecular Biology, but since it's in a field that has nothing to do



## Depression is Episodic and Recurrent



with mindfulness, he pretty much just dropped the use of it.)

But instead of contacting Kabat Zinn, Zindel Segal and his group got a copy of his first book: *Full Catastrophe Living* and started reading it. Immediately, they began to see some ways that this approach to helping people recover from chronic pain might also help patients avoid relapsing into depression.

The key feature was how mindfulness could help people kind of detach their thoughts from their emotions. Segal showed us a slide that illustrated this point beautifully. It showed a spiral that linked thoughts like “I’m a bad parent” and “I’m not good at anything” on one side with corresponding emotions like sadness, guilt and shame on the other side. Each thought, while tied to the emotion, causes a person to spiral down further and further.

What initially looked so appealing to Segal and his group, as they were thumbing through Kabat-Zinn’s first book, is that mindfulness might provide a magic key to detaching thoughts from emotions and freeing people from this downward spiral. Their studies had specifically shown that the ability of a patient to deal with sadness after recovery from depression (and be able to detach from it) had a great deal to do with whether they would relapse or whether they wouldn’t. Mindfulness might provide the key to helping people successfully deal with periods of sadness after recovery and that’s exactly what we’ll talk about in the next installments.



ABOVE

**Zindel Segal**

Dr. Segal speaking at the ISCS 2016 Mind and Life Institute Conference.

## 04 PART FOUR

Over 40 years ago, while getting his Ph.D. at MIT in biology, MBSR founder, Jon Kabat-Zinn attended a lecture, given by MIT world religion professor Huston Smith. The lecture was on Buddhism. Kabat-Zinn fell in love with the tenants of Buddhism: acceptance of what is and can't be changed, understanding the role of ego in creating pain and suffering, the value of staying in the present moment, and understanding the role of meditation to help facilitate detachment from one's own negative thoughts.

This whole approach is often summed up with these three compound words: non-judgment, non-attachment and non-resistance. After that

program, Kabat-Zinn said during a retreat I attended that "I knew exactly what I had to spend the rest of my life doing."

It undoubtedly helped that Kabat-Zinn was trained as a scientist because he spent the rest of his career bringing scientific rigor to the study of what he chose to call mindfulness. This thought process helped him create a non-religious version of Buddhism that westerners could not only understand but also trust, and he was able to start a center where these principles could be taught and summarized in an 8-week course known by its acronym, MBSR. This course is now being taught in hundreds of hospitals across the country.



Initially the Center for Mindfulness was called simply The Stress Reduction Clinic at U-Mass Medical Center. As Kabat-Zinn likes to tell it, in those early days, whenever a doctor got a patient who didn't seem to be responding to whatever standard medical treatments he or she was receiving, that doctor might say, "why don't you go see Jon Kabat-Zinn in the Stress Reduction Clinic. Maybe he can help you."

Kabat Zinn laughs at the notion that he got all the rejected patients in the hospital. Back then and even today he still likes to say "as long as you are still breathing, there is more right with you than there is wrong with you." And this became the supportive (non-judgmental) watchwords for his center.

It was a center that catered to a unique group of "incurable" patients, mostly suffering from chronic pain, that no other doctors in the hospital could help. As word of his success grew, more and more people paid attention,

CLOCKWISE FROM UPPER LEFT

#### **Curing "Incurable" Patients**

Jon Kabat-Zinn, the Center for Mindfulness at UMass Medical Center, Zindel Segal.

including a doctor in Canada named Zindel Segal, who was trying to figure out how to help another group of patients that no one else could help: Patients who had had two or more bouts of clinical depression.

If there was any ONE thing that Jon Kabat Zinn was able to do to establish mindfulness in this country, it was the creation of a standardized course for teaching mindfulness to the masses. It was this 8 week MBSR

course, meeting for two hours, once a week, requiring participants to meditate 45 minutes a day that standardized the teaching of mindfulness meditation. This course was not only doable, but could also bring about lasting benefits that could be measured by what are now over 1000 “peer-reviewed” studies that have been published in medical journals.

It was these articles that started giving mindfulness its legitimacy. MBSR started as alternative medicine BUT GREW into an evidenced-based practice that could be INTEGRATED into other more standard western forms of treatment. As the evidence grew, the world learned that mindfulness could help with an amazing variety of health issues.

Early studies showed that mindfulness could help reduce stress, decrease pain, boost the immune system, and even help people with

psoriasis recover faster. I remember reading the abstract for this study on psoriasis. Both groups of patients got the standard treatment, but the group that was engaging in a daily mindfulness practice recovered weeks sooner than the group that wasn't.

This study pointed the way to using mindfulness as a practice to integrate with more traditional treatment methods and this aspect of mindfulness is what attracted Zindel Segal to it as well. More studies followed showing mindfulness could help improve mood, help cancer patients cope with their treatment better, help people with eating disorders and even help people with depression.

But until Zindel Segal came along no one as yet had tried using mindfulness to help people avoid relapsing BACK into depression. We'll talk more about that, in the next installment.







## 05 PART FIVE

In this 9-part series I'm writing about a lecture I attended on MBCT or Mindfulness-Based Cognitive Therapy by the founder, Dr. Zindel Segal, at the Center for Mindfulness in Shrewsbury, Mass. This offshoot of Mindfulness-based Stress Reduction (MBSR) is designed to help patients with depression, avoid relapse. As a former depression sufferer myself, this work not only helped me recover, it has helped me avoid relapsing too.

Albert Ellis, one of the cofounders of Cognitive Behavioral Therapy or CBT, liked to say that once you become aware that you are having an irrational thought, all you have to do is change it. For me, I ran into one simple problem with this instruction that turned out to be quite profound. There were times when I knew my thinking was irrational, **but there was nothing I could do to change it.** When you feel like a

ABOVE

### Mindfulness Research Working Group

Zindel Segal sitting in the front row, second from the left. Mindfulness researcher Richard Davidson is standing next to Jon Kabat-Zinn in the back left.

failure even though you know – in many ways your life has been full of success – and you just dismiss the successes, you suddenly realize that the mind is fully capable of taking you down at any moment no matter how aware you are of your irrational thinking.

### Three things really helped me overcome this weakness in CBT and move me forward in my journey to long-lasting recovery from depression:

- 01 People who revealed their own struggles with depression** including 60 Minutes anchor, Mike Wallace, former football

star, Terry Bradshaw and even the behavioral change psychologist James Prochaska. But also a couple of close friends who revealed it openly had really helped me too. There was so much stigma about this twenty years ago that these people were really brave to go public with this information.

**02 A book entitled *Lincoln's Melancholy* by Joshua Wolf Shenk.** Shenk wrote about how the world took a different view toward melancholy (i.e., depression) in Abraham Lincoln's day. This characteristic was expected if you wanted someone really smart, creative and someone who could **think outside the box** and was willing to **question everything** including the status quo.

**03 Mindfulness.** And more specifically the idea that you could just kind of distance yourself or detach yourself from overly negative thoughts and emotions. As I got better and better at this, I got more confident about my ability to prevent myself from relapsing into depression.

With an emotion like sadness, or a thought like "I hate myself" you just kind of watch it, realizing that in the process of watching it, YOU are somehow separate from these thoughts and emotions. I will never forget the moment in the six day retreat I attended back in 2008 when Jon Kabat-Zinn said: "Awareness doesn't get depressed, awareness doesn't get angry and awareness doesn't get worried."

It's the thinking mind that thinks the thoughts that generate these feelings, and you can train yourself to just watch – with a certain amount of detachment – these negative thoughts and the emotions generated by the thoughts. And when you watch them carefully from a distance, you will see how they magically just diminish in intensity and suddenly disappear almost like a soap bubble that pops and when they do, they lose their hold on you entirely.

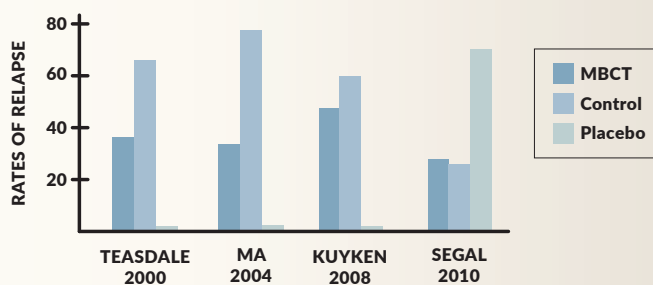
The more you do this, the better you get at it. And meditation gives us the tools to do this. In the next installment we will talk about how MBCT helps you do that.

BELOW

#### Segal's Studies

Zindel Segal's work helped give me the confidence of knowing that mindfulness would help me overcome this weakness in CBT.

#### 43% Reduction in Depressive Relapse





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**Terms of Endearment**

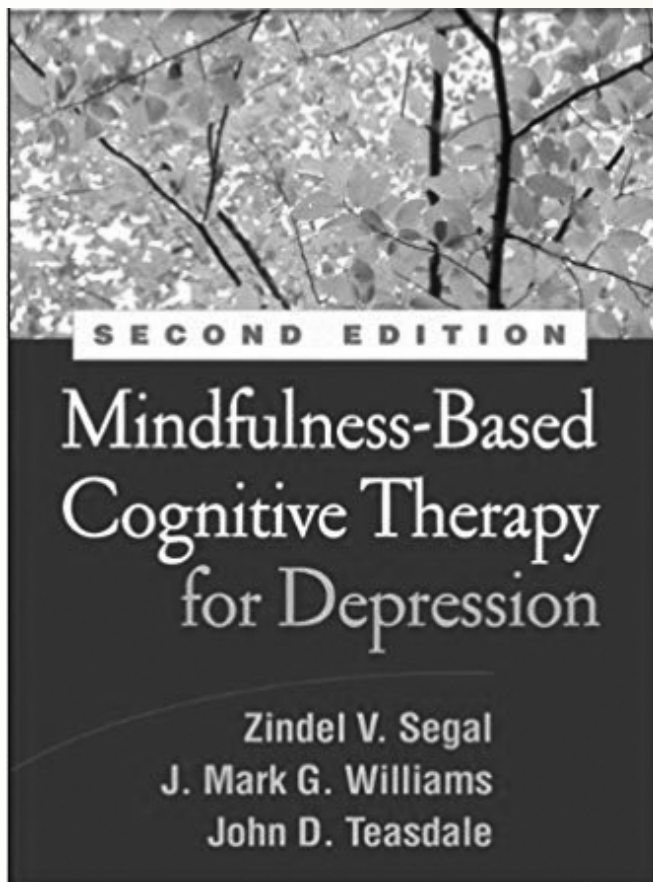
A still from the movie *Terms of Endearment*, which Segal used in his research of sadness and depression.

## 06 PART SIX

Zindel Segal was describing an intervention that he and his colleagues, Drs. Mark Williams and John Teasdale were able to devise that induced a temporary state of sadness. He had his subjects watch one of the closing scenes from the movie *Terms of Endearment*. If you've never seen this movie, it's all about a 40-something woman, played by Debra Winger, who is dying of cancer. In the scene, she tries to give her very young son a pep-talk about going on without her, and the young actor who plays this part, is crying, and Debra Winger is crying, and you, the viewer, wind up crying too.

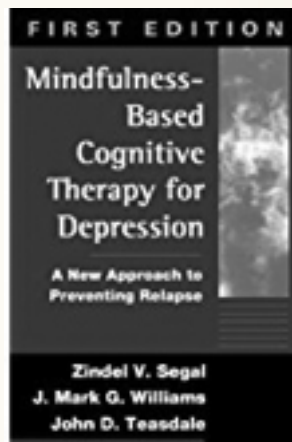
In their study, Segal and his colleagues, discovered that the people most affected by this artificially induced moment of sadness were **also** the most likely to be the ones who would relapse back into depression. With this finding under their belt, the authors now had to come up with some practice or technique (beyond what was offered by cognitive behavioral therapy, or CBT) that could help depression patients specifically deal with the moments of sadness in their lives that – as their study had showed – were like potential incubators for relapse into depression. (CBT was great for getting people out of depression





but for reasons we discussed in previous installments was not helpful in preventing relapse BACK into depression.)

As Segal pointed out again and again, with depression, **recovery is only half the battle**. Depression is episodic so a patient also needs a set of tools to help him or her get through future moments of sadness. As Segal put it in his lecture: “Sadness is a symptom of depression, but when people are no longer depressed sadness can act as a context to bring to mind judgmental, critical and harsh ways of thinking about and viewing oneself that can sometimes tip people over into a new episode of depression.” Thus, if there was something that could help these patients navigate the turbulent waters of sad episodes then relapse prevention might be achieved.



LEFT  
**A Transformative Work**  
The covers of the first book on the subject by the founders of MBCT.

*That something turned out to be mindfulness.*

“But how do you work with a trigger like sadness when sadness is a feature of our universal human experience. We weren’t interested in trying to eliminate sadness or trying to get people not to feel sad, what we were really interested in doing was helping people develop a different relationship to their sadness. And that’s why mindfulness turned out to be the perfect solution. As I mentioned in a previous installment, while CBT says if you realize you are having an irrational thought (like I’m a terrible parent which is exactly the kind of thinking that moments of sadness can cause) all you have to do is simply change it. The view in CBT was that all emotions are predicated by thoughts.

But now we know that isn’t always true. Sometimes emotions generate thoughts. And when this happens it’s much harder to simply change an irrational thought. Mindfulness says you don’t have to change it, you simply change your relationship to it.

In the next installment we’ll show you exactly how to do this.





## 07 PART SEVEN

ABOVE

### Research in Progress

Zindel Segal with a research subject.

One of the guiding principles of mindfulness is **you are not your thoughts**.

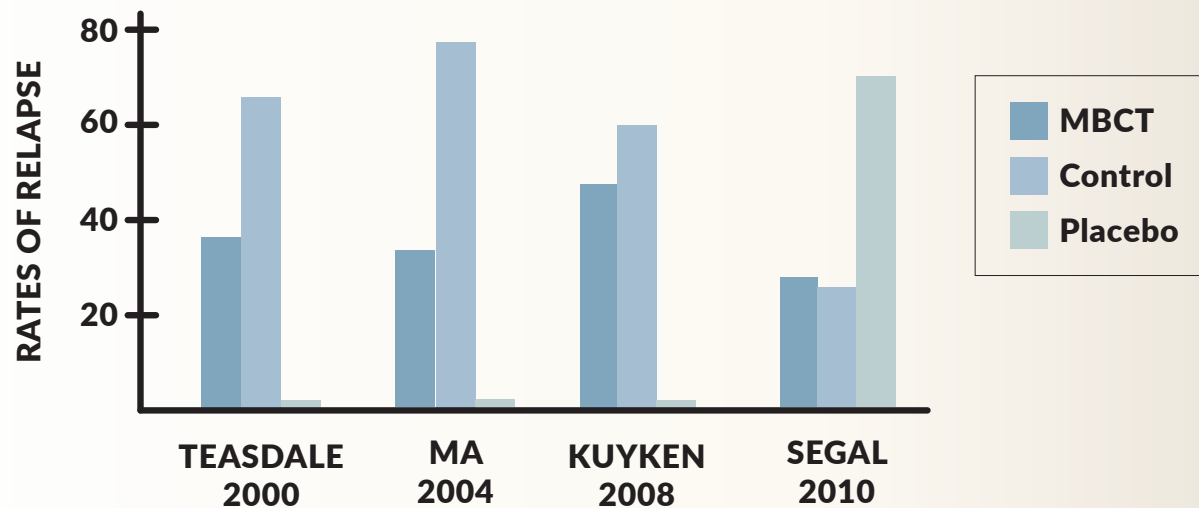
There's a great bumper sticker I've seen that says just about the same thing: **You don't have to believe everything you think**. And when you have self-destructive thoughts, brought on by a period of sadness, instead of giving way to it, you can step back, and realize that this is the thinking mind, doing what the thinking mind often does, which is spinning out yarns that may have a grain of truth but are mostly just pure fiction.

It's this separation or detachment from the thinking mind, that mindfulness meditators practice when they are meditating.

Mindfulness meditation includes a practice called thought-watching where you watch thoughts pass by you almost like parts on a conveyor belt or clouds across the sun. Even as those clouds darken the sky, as seen from a distance, one always knows that this effect (of a darkened sky) is only temporary.

As Segal points out in his TED Talk, mindfulness has very little of the baggage of other practices from the contemplative traditions. It opens the door as wide as possible to let people see that this is a very pragmatic health practice for regulating emotions. It isn't about finding God, it isn't about transcending reality, it's about how to harness your own attention in the agenda of learning self-care.

## 43% Reduction in Depressive Relapse



ABOVE

### Segal's Studies

Zindel Segal's work helped give me the confidence of knowing that mindfulness would help me overcome this weakness in CBT.

People who practice mindfulness are able to let negative thoughts wash over them, without affecting them to a great degree, maintaining a sense of stability and consequently are able to more readily influence what happens to them in these situations.

There have now been seven major studies of MBCT and what those studies have shown is that **MBCT reduces the chance of relapse by 43% compared to the usual treatment.** Interestingly, it's just as effective as continuing to take antidepressant medication beyond the recovery period. People who practice mindfulness also are able to feel a sense of

reward for engaging in the practice. One of the hallmarks of a prolonged state of depression is a condition psychologists call "anhedonia." Where the things that once brought you pleasure, like working on an exciting project, sex, and even eating, no longer do. Mindfulness helps bring back a love of pleasure and in that aspect of mindfulness, makes you want to keep doing it. It's self-motivating.

Undoubtedly the most important benefit of all is how mindfulness changes the brain. In the last two installments we'll look at that in detail.



ABOVE  
**Siegels**

Dr. Dan Siegel on the left, Ron Siegel on the right. Both are mindfulness experts.

## 08 PART EIGHT

The last thing Zindel Segal talked about in his program was how mindfulness helps literally change the brain. This is a remarkable quality I first heard about while taking a mindfulness class with Dr. Ron Siegel. (There are three men with similar last names in mindfulness that you ought to be tracking if you are really interested in this subject: 1. Dan Siegel, a psychiatrist, UCLA professor and author of the books *Mindsight and the Mindful Brain*; 2. Ron Siegel, Adjunct Professor of Psychology at Harvard and author of the book *The Mindfulness Solution* and 3. Zindel Segal, co-author of the book, *The Mindful way Through Depression* and the focus of this series on MBCT.)

### **Ron Siegel liked to talk about the difference between state changes and trait changes.**

State changes are what you feel **WHILE** you are meditating. Trait changes are what happens as the **RESULT** of meditating over the course of weeks, months and years.

For a lot of people state changes could be a feeling of calm, peace or even bliss. For others, it's sleepiness and for still others, who usually wind up disliking the practice, it's a state of restlessness and agitation. But even in this last group, what really counts are the trait changes. Trait changes are what happens to the brain over time as the result of a meditation

*practice, even in people who initially don't like meditating all that much.*

Trait changes are structural changes that take place in the brains of meditators. According to Richard Davidson, the University of Wisconsin researcher who has done pioneering work in this field, the amount of gray matter in the left side of the prefrontal cortex (PFC) gets bigger in brains of meditators, even those who have completed just one 8-week MBSR course.

The left side of the PFC is the part of the brain responsible for generating a sense of happiness, peace and contentment. This side of the brain lights up when people are meditating. Dr. Davidson has put hundreds of people into MRI devices and looked at their brains while they are meditating. When he did this with a group of Tibetan monks, who spend their whole lives meditating, the left side of the PFC in these monks was, as Richardson put it “literally off the charts.”

What we now know about the brain is that the PFC is the part of the brain that controls the limbic system, specifically the amygdala, where the stress response originates. As stress expert

and Stanford Professor, Robert Sapolsky, likes to say, “The PFC is the part of the brain that helps us do the right thing.” Willpower, and emotional control emanates from the PFC.

So, it makes sense that mindfulness meditation, which helps us achieve a certain amount of control over our emotions, can bring about these structural or “trait changes” in the brain. Sapolsky, who spent his entire career studying the limbic system and more specifically the hippocampus, once told me, “If I had it to do over, I would have studied the PFC because that’s where the action is.”

And that action is self-control or, as it is known in the field “self-regulation.” People who suffer from depression and anxiety have a nervous system that is dis-regulated, or, out of control. What Zindel Segals’ take is on all this, will be what will discuss in the concluding installment of this 9-part series.

BELOW

#### **Trait Changes**

The amount of gray matter in the brain increases after a period of meditation, even in people who don't enjoy it.







ABOVE

#### **Trait Changes**

Mindfulness meditation strengthens the insula, a part of the pre-frontal cortex in the brain.

## 09 PART NINE

The fact that mindfulness meditation changes the brain, Zindel Segal explains, allows us to access what he calls “the present moment awareness pathway.” This pathway is located in an area of the brain called the insula. Mindfulness researchers, particularly Richard Davidson, who puts mindfulness meditators into MRI machines and measures what goes on in the brain, are always talking about the insula.

One look at this [link to an article about the insula on Wikipedia](#) explains why. This section of the brain, which only exists in higher primates, affects us in any number of different ways from how we perceive pain to how capable we are of feeling empathy. It connects

directly to the amygdala, which is a part of the brain that detects threat, and thus is thought to be the origin of the stress response.

When the brain becomes dysregulated, the amygdala grows bigger and becomes MORE sensitive to stress and the more sensitive to stress we become the more likely we are to get depressed. When we practice self-regulation techniques like mindfulness meditation, areas of the pre-frontal cortex such as the insula get bigger and the amygdala grows smaller. This is the secret sauce, if you will, when it comes to using mindfulness to combat depression in a way that not only wins the battle for recovery but also helps win the war.

And winning the war in this case, is avoiding relapse. Because that's the only strategy that works long term. Here you are using a simple mind-body technique, like staying in the present moment, to create permanent, structural changes in the brain that can give you power over whether or not you become depressed. This is probably one of the more important findings in the mind-body literature.

So mindfulness is all about getting in touch with these “present moment awareness pathways” so that we can activate them or at least focus on them and FEEL them as opposed to just thinking about them. It's a bit like the difference between thinking about sitting in a chair and actually noticing what it feels like to sit in your chair. Actually noticing are the operative words here. Sure you KNOW what it feels like to sit in a chair, but how often do you actually notice it? Well, it's the insula that tracks those sensations.

### Try this simple mindfulness exercise now:

**Just tune into where ever your body is touching the chair.** Notice where your arms, your sits-bones and your upper legs are touching chair. Notice where the weight is distributed in the chair. Notice where your back is touching the chair.

By doing this simple exercise for just one minute, you'll open up a whole new (under-used) DIRECT pathway for perceiving the world, that is oftentimes preferential to the way we normally interpret the world by THINKING ABOUT IT.

When you THINK ABOUT the world, you get all your information second hand, by an

indirect pathway and this way of getting information comes loaded with biases, interpretations, judgments, expectations and beliefs. You can't even see a blade of grass through this interpretive pathway without judging it as bad (crabgrass) or good (Kentucky blue grass). By opening ourselves up to direct perception of the world through your senses (pathways that ultimately lead to the insula) you experience the world without judgment, without emotion and without preconceived ideas about what the world ought or ought not to be.

According to Zindel Segal, having this extra avenue of perception, “the present moment pathway” as he calls it, you have a better chance of dealing with moments of sadness without getting so caught up in them. In other words, if we can just perceive our emotions (like we just perceived sitting in a chair) without labeling them as good or bad, suddenly they lose their power to control us. As I said in an earlier installment, quoting mindfulness author, Jon Kabat-Zinn, “awareness doesn't get worried, awareness doesn't get angry and awareness doesn't get depressed.” Awareness is the present moment pathway.

Awareness allows us to just be. And it is in just being, that we are able to cope with sadness without letting it overwhelm us and run or possibly ruin our lives. And what's even more powerful, perhaps on the level of thrilling, is that this mindfulness practice, expands the area of the brain known as the insula, which helps you get better and better at the art of self-regulating your own nervous system and ultimately reinforces your power over whether you get depressed or not.