

## How Focus and Attention Powers Your Mind – Amishi Jha, Ph.D. – #940

Dave Asprey:

You're listening to The Human Upgrade with Dave Asprey. Today, the topic is neuroscience and something called peak mind. So what do you think about spending some time with me and a PhD neuroscientist who has written a book about fractured attention and what you can do in 12 minutes a day to get your brain back? I think this is worth your time and worth your attention, and by the end of this, you may realize that you have to listen to less podcasts than before. I hope that's not what you learn. In fact, I'm pretty sure it's not what you're going to learn. But if that was what you learned, that's okay, because I want every minute of your day to be the highest return on investment for you. And seriously, I would tell you to listen to the podcast less if it was good for you, and I encourage you to do that, except that wouldn't be good for you.

So here's what you're going to get out of today's episode so that you can decide whether it's worth your time. You're missing about 50% of your life because of fractured attention and distraction, and it's doing specific things to your brain. Now, you probably have some indication that alerts and social media and all is bad for you, because you hear about that on whatever news outlets you have, but what do you do about it? That's the hard thing. Well, what if a neuroscientist spent a lot of time looking at this and coming up with things you can do to change your brain so you're more attentive, you're more present, you're more productive, and to do it in a very small amount of time, and how to grow something called mental armor against anxiety, distraction, and very importantly, bias, which is actually now programmed by artificial intelligence algorithms to make you biased? Well, with no further ado, let's welcome Amishi Jha to the show. Amishi, welcome.

Amish Jha, Ph.D.:

Great to be here.

Dave:

All right. You're a professor of psychology at University of Miami, and your whole topic of focus is how people pay attention. Neuroscientists can study all sorts of stuff like amygdalas and whatever else is... Why was attention the thing that you chose to zoom in on? Neuroscientists can study all sorts of stuff like amygdalas and whatever else is... Why was attention the thing that you chose to zoom in on?

Amishi:

Yeah, great question. Kind of going back to my personal history, I thought I was going to be a medical doctor. So growing up, I would volunteer in hospitals, et cetera. And one of my very formative experiences volunteering was, luckily for me, in a brain injury unit. And through that experience, I really saw firsthand in my interactions with patients that they could train their brain through daily physical therapy and other forms of therapy to recover fully. So I became really excited about the brain, decided, "I don't want to go to medical school. I want to just study the brain," and then that interest in how to train it, to optimize it, and actually change it always stayed with me. And one of the brain systems that is most capable of altering, biasing, recalibrating brain function is attention.

So part of the answer is I love that it sort of pulls the levers on all else that the brain does, so understanding it and ensuring its integrity seems like a worthy cause and a good way to spend my life. The year that I decided to declare my major, where I had to declare my major, was the year that the University of Miami psychology department decided to offer psychology as a biological science. So then I could take the entire neuroscience track and take courses from drugs of abuse, to cognitive science, to

cognitive neuroscience and have a research component be more fully part of my undergrad experience. So in some sense, it wasn't all that common. And in fact, the Cognitive Neuroscience Society didn't even start till I was in grad school. I was very lucky to actually be there when it was started by the people that started it. So very new field, right around the time we were both undergrads and graduating.

Dave:

Okay. So you've been studying it since the very early days when we realized you could do this stuff, which is super, super cool. And you were smart enough to figure out a cool major that I didn't notice existed where I went to school. So there we go. You've been on this track for a very long time, as long as I've been doing the stuff that I do, which is why you could write a book like *Peak Mind*. By the way, guys, brand new book that talks about what you can do. But some of your other things, I think, give you street cred here. NATO and the Pentagon and Department of Defense have used your work and actually funded some other things, it sounds like, that you're doing to say, "What happens with attention and mindfulness for cognition, emotion, resilience, and performance?"

And those are pretty much the core values that I look at for what I do in my brain, but also the World Economic Forum. So the global elite are using your stuff so they can stay focused. Are you worried they're using your stuff to make sure we don't stay focused?

Amishi:

Well, I wrote the book to avoid anything like that, because anybody can read it now. So whatever they learn from me, I certainly want to disseminate, and it's in that spirit that I work on the things I do. So no, that's not really my concern, but it is exciting to see that there is this high-level leadership interest in organizations that you might not think are going to take to mindfulness.

Dave:

Absolutely. And there's some listeners in the whole last couple years have been like, "World Economic Forum is the enemy." I'm generally neutral about that kind of stuff. And they actually served my former company's Bulletproof Coffee at World Economic Forum a couple years in a row, because apparently, global leaders and billionaires like brains that work. So they're funding your research, they're using what works, which is great. If it works at the highest levels, I just want everyone listening to the show to understand you can have a high-level brain too. And your book very much is about how to not be subject to bias or programming.

And I'm not suggesting that there's someone there trying to program your mind. It's an emergent behavior, I think. But there's weird stuff out there. I don't want to call it a firewall. This is the countermeasure against attention-stealing algorithms from business or from propaganda campaigns, or interference from Russia or whatever else. You have to own your brain. And that's why I like your book, because it's really how do you just be you, instead of letting these other things change you. Is attention something that people are really interested in right now? Are you seeing that it's rising, or is it one of those things that's on the honey-do list that's not anywhere near the top?

Amishi:

No, it definitely is on people's minds. And just like you said, the reason people might care about health is because they're having a health challenge. In some sense, I would say globally we are at this moment. And I think part of it is we're on the tail end, hopefully, of a global pandemic, et cetera. We're at a moment where, like you already mentioned, computer algorithms are fighting and dueling and commodifying our attention. We are at a global pain point as it relates to our attention, and people are

looking for solutions. And right now, this sort of public understanding is our attention spans are shrinking, we're at the mercy of whatever technology we interface with, and that's just not the case. Our attention spans are not shrinking. Attention isn't... Evolution doesn't move at that time scale.

And frankly, the reason that these algorithms are able to do what they do is because attention is working so well, so on cue, so reliably and consistently that computer programs can predict what we're going to do. But my book actually is not actually the focus of how to counter that. It's that we need to do something even more fundamental, so that regardless of whether it's our own mind hijacking us, our own preoccupations, our own conversations with family members, or technology in a global moment with a health crisis that we're all enduring that is hijacking it. And if we can get back to those fundamentals, we can really own our attention in a way that's much more productive, and as you already said, in line with reaching our optimum potential.

Dave:

There's a neat nuance in what you're saying there. It's that if you own your mind, your mind won't sabotage you, and neither will anything else.

Amishi:

That's right. It's that we don't want to try to go head to head in fighting something. We have to just get back to us and our own ability to know what our mind is, what it's doing, and to know with humility what we don't know, and what we are going to be vulnerable to.

Dave:

And the definition for that stated another way could be awareness and consciousness, because those are at the root of the meditative and contemplative practices. Oh, of course you started the Contemplative Neuroscience Center, or something with a name like that, at University of Miami. So this is that weird thing where... What is meditation doing? What is mindfulness doing? And how does it put you in charge? How do you measure people's brains? Because you're pretty quantitative. What kind of imaging tools are you using?

Amishi:

We use functional MRI, brain wave recordings, EEG, but the bulk of the work over the last several years, and the bulk of the work that I describe in the book, is actually much more sort of everyday. We use computer-based tasks, where we program in, as I know you're familiar, working memory demands, intentional demands, and we see the consequences of people going through high-stress intervals, people like soldiers, special forces, football players, et cetera, and what happens if we offer them some kind of mental training. Mindfulness in some cases. Well, mindfulness usually in all cases, and typically also a comparison program that will engage them with similar time demands, et cetera. And then we see what the impact is on performance on these attentional tasks.

Dave:

Well, I've definitely had a traumatic brain injury, and I took a titanium knee to the head at high speed at Burning Man, doing something that was so much fun that I would do it again, although I would hopefully not get hit in the head that time. But I couldn't play Go Fish with my kids because my working memory was just shot. I was trashed for a while. Now, can you talk about working memory and just define what it is for our listeners? Because you're measuring the effects of what happens to us on our working memory.

Amishi:

That's right. So I would say the first thing that we talk about, as we've been talking about already, attention. And working memory is sort of a cousin of attention. In some sense, attention feeds in what will be in working memory. So working memory is... Don't get too tripped up by the term memory, because it is very different than long-term memory. Working memory is the ability to maintain and manipulate information over very short intervals, from a few seconds to up to a minute. And it is what I would consider mental scratch space to do all of the important things that we need to do: thinking, deliberating, planning, and it's a peculiar type of scratch space. The kind of metaphor I like to give for working memory is that's their mind's internal whiteboard.

So just like an actual whiteboard, it's this scratch space, but it's peculiar in that it's got this disappearing ink. So whatever you write on that whiteboard, within a few seconds to up to a minute, it's going to dissolve away. And if you want to keep it up there, you got to keep rewriting it over and over again. So that gives kind of a sense of what this is in our mind. We're using it in this conversation. As you say something and I'm deliberating what I want to say back, I'm using my working memory. We use it to calculate tips if we go out to eat. We use it to, as we're reading, hold the concepts in mind as we connect the words. So it's so fundamental to every single thing we do, and it's considered a key aspect of general fluid intelligence as well.

Dave:

In my book, *Head Strong...* By the way, guys, you should get *Peak Mind* right now if you don't have a copy, seriously. And if you don't have *Head Strong*, buy them together, so then they'll be matched up on the algorithms on Amazon. I wrote about how I trained my working memory, because it wasn't very good. And I used something called dual n-back training that really... It actually doubled my working memory. But I've very rarely gotten anyone else to do it, because it's so miserable to train working memory. Why does the brain hate training working memory so much?

Amishi:

I mean, any training that requires you to feel the ick, as we'll say, is not fun. And man, that's true for the body as well. Not many people would say, "Oh yeah, lifting weights to the point where I'm just miserable is fun for me." But in particular, working memory, especially things like the dual n-back, you get a very strong sense of the ick quick, and then you got to keep going. I don't know if you had that feeling, but it's definitely-

Dave:

Yeah.

Amishi:

... you get a visceral emotional response to that challenge that we get when we try to do it.

Dave:

You feel like an absolute and total failure all the time you're doing it. And you just have to keep doing it and just going, "God damn it, how dumb am I?" And it's really frustrating. I've talked to hedge fund managers who can buy countries, and they're like, "Yeah, I didn't do it. I made the intern do it." Literally, I've had that happen because it's so uncomfortable. But when I stuck with it for just 20 or 24 days or something, all of a sudden after about 14 days, my brain changed, and I could remember more stuff.

And I think to this day, it serves me to be able to be an interviewer like this. I've done six months of neurofeedback over the years at my neurofeedback company, so there's that too. But neurofeedback doesn't do working memory, does it? At least not that I'm aware of.

Amishi:

I don't know. I mean, I'm not too familiar with of what the realm of neurofeedback is, but I'll tell you that... And I think you've mentioned this before, at least in my memory of your conversation with Jonathan Schooler a few years back. You talked about your own experience with mindfulness meditation. Am I remembering that right, that you've had-

Dave:

Yeah.

Amishi:

You practice it. You know what we're talking about here.

Dave:

I've been to Tibet and meditated with masters, and lots and lots of meditative-

Amishi:

Right. So as you know from that familiarity with the topic, mindfulness training itself is a form of working memory training, just in the way that it is designed. So if you take a simple practice like paying attention to breath-related sensations, noticing when your mind has wandered away and then returning it, that has a working memory load to it, because you have to keep in mind moment by moment what the goal is. Right now, I'm supposed to be paying attention to my breath, not thinking about lunch or deliberating something else. And then you've got to use that system to not just hold what's relevant, but to then manipulate the information back to get it back on track when it goes off track.

And I would say the experience that many people have as they begin mindfulness training can be very similar to the dual n-back experience of, "Ugh, this is hopeless. I'm such a," whatever. Use your favorite self-denigrating word. And I think the thing that I've really tried to do in this book is reframe that feeling of failure into actually an opportunity. And that's what I really want to talk to you about, because there's a place in which... Though I think that there's a lot of value in thinking about brain training approaches, there's something you don't get from a dual n-back that you get from mindfulness that I think may be the key to benefiting us all with this larger aim that I said, of owning our attention, which requires knowing where it is sort of moment by moment. And so I'd love to talk to you about that, a little bit about the reframe that helps us when we feel that ick.

Dave:

Please do, because it works for any time you're feeling tweaked from a hard task.

Amishi:

It can. But the other thing is that we don't need to reserve this capacity that we can cultivate to only the working memory task context. We can use it moment to moment in our lives. So what I'm really talking about there is typically... And let's talk about it in the context of mindfulness, then we can relate it back to the dual n-back. But with mindfulness, again, you're sitting down. You decide, "Okay, I'm going to

take a dedicated period of time where I'm going to focus, do this breath-centered focus." And I actually, in my book and in our work, talk about it as the find your flashlight practice. And I do that because I want people to already know that the intention is not to take the laser focus of our attention, which is the end metaphor of a flashlight, and direct it.

It's not simply that. That is part of it, but finding where it is the key. So in that kind of a practice, it would be to sit comfortably, devote this dedicated time with the goal of paying attention to breath-related sensations. So have the flashlight of your attention go toward breath-related sensations, not thinking about them with thoughts, but just fully experiencing phenomenologically the unfolding of the sensory experience tied to the breath. And be very, very narrow with that, like just the coolness of air in and out of my nostrils, or whatever it is. And then the next step would be... Okay, so you're focused. You're putting the flashlight toward the breath. The second step is notice. Kind of keep tabs on where your mind is, moment by moment. And then the third step is when you've noticed that the mind has wandered away from breath-related sensations, take that flashlight and redirect it back.

So the pain point for most people is, "I cannot keep this flashlight focused. It is everywhere within seconds." And then the internal chatter starts of, "Why the heck can't I focus? I should be able to focus. This is so easy, so straightforward." So what I want the reframe to be is the moment that you realize your flashlight is not on the thing you want it to be on, that's a win. That's not a failure. That's actually a point of power, because now when you know where your attention is, you can actually do something about it and redirect it back. Just to end the comment, that's how we cultivate something called meta awareness, which I do think is a type of secret sauce that we can get with mindfulness training that may not emerge from dual n-back tasks.

Dave:

Oh, I love the language you're using, meta awareness. It's just having a process running in your brain that watches what you're watching, so you can be aware. Because otherwise, what'll happen is your brain will move around its attention, and you won't know it's doing it because you're not paying attention to what you're paying attention to. So then you feel like you're just being whipped around. And I've certainly spent way, way more time on mindfulness, whether it's neurofeedback-boosted mindfulness or just sitting in a cave, than I have doing this dual n-back. And I realize I've been kind of a terrible host for listeners. Dual n-back training is a software thing you can get for free on your phone, and it literally has you try to remember a series of spaces on a screen, or colors, or numbers, but to have to keep track of two different lists and how they changed a few steps ago. It'd be like if you were watching checkers, and you had to remember what happened five moves ago.

And it's really frustrating, because you're like, "Was that four moves ago, or three moves ago? And how come I can't remember it?" And the trick to mastering that is to just keep doing it and then to eventually realize, "Why am I feeling stressed every time I miss it," and to realize that it's okay to miss it. And then when you drop the stress, then you start the learning. And I think that's the self-critical voice that you talk about in Peak Mind. It's something also [Dr. Amen 00:19:50] talks about, automatic negative thoughts and all those. And so many of us have those thoughts that come up when our flashlight whips around, and we feel like we're whipping around, but it's just our awareness. Do you have a name like that, like automatic negative thoughts, bad self-talk? What's your favorite term for that as a neuroscience-

Amishi:

I mean, I borrow from other people that are very thoughtful on this. On the one hand, it is what I would formally call mind wandering. And I want to be very careful of how... I want to operationalize this in a very specific way.

Dave:

Do you have a name like that, like automatic negative thoughts, bad self-talk? What's your favorite term for that as a neuroscience-

Amishi:

I mean, I borrow from other people that are very thoughtful on this. On the one hand, it is what I would formally call mind wandering. And I want to be very careful of how... I want to operationalize this in a very specific way, because typically, just like... We're throwing around dual n-back and not realizing most people don't know what that is. Mind wandering sounds like an interesting thing. You just go for a walk, you let your mind wander. That's not what I mean by it. What I mean by mind wandering is much more specific. It's in the kind of technical way that we'll use it probably throughout this conversation, or at least I'll default to using it. Mind wandering is having off-task thoughts during an ongoing task or activity. So it is a requirement... The context is that there's something to do.

Just like we were talking about a moment ago of this mindfulness of the breath, the task is focus on breath-related sensations. So now when you're not doing that, or you're trying to write an email and you're not doing that, you're on your phone checking your newsfeed, that is a form of mind wandering. Now, in particular because it's off-task thoughts, we're talking about the internal domain of mental chatter. So that's another term that my dear friend, Ethan Kross has used, and I know as I mentioned, Jonathan Schooler uses mind wandering. So just wanted to operationalize it. I think that the key here is that mind wandering is part of a larger category of something that the brain does, common often with or without our awareness. And that I would call spontaneous thought, just this thought pump that arises. Things are going to happen, thoughts are going to come up. Oftentimes, that mental chatter that we were just talking about, or that... What did you call it? The negative ruminative-

Dave:

Automatic negative thoughts, or ANTs. Dr. Amen-

Amishi:

Right. ANTs is another one. And the kind of ANTs that you're talking about is a specific type of mind wandering that is destructive. It's actually damaging for our psychological health. We can call that rumination, or we can call it catastrophizing, but it's reducing the spontaneity in a destructive or unproductive manner. And it's really what we call transdiagnostic for so many disorders. This is the thing that can be problematic and reduce psychological wellbeing.

Dave:

There's something else that we do. And I'm just thinking back when I really first started paying attention in mindfulness, mostly because I was so bad at it, to be honest. Very early in my career, I remember I was sitting in the lobby using a technique... I think it was called brain spotting, but I could have it wrong. But it was where you just sit there when you're not on task, and just watch what's going on in your brain. And what I figured out... People would just watch like, "What are you doing?" I'm like, "I'm just watching my brain," and they thought I was weird anyway.

But what I noticed was that of course there's all these negative thoughts and all that, but sometimes, there is... I don't know if you want to call them downloads, or new awareness, or problem solving. Something good is happening that you would miss if you were focused on the negative thoughts, or you were focused only on a task. And I feel like the opportunity for that has gone away, because we always have music on our phones or audio books or podcasts. So what is the role of sitting being bored, or just being silent in turning on your attention or turning on a peak mind?

Amishi:

Really important role. So I love the way that you really are introducing a second flavor of mindfulness practice. So the first flavor we'd already talked about, what I'd call concentrated practices, where the intention is to have a goal and to ensure that you're realigning with that goal. Focus on breath-related sensations, and return again, and return again. What you're talking about, I think, is such a great connection to the term we already used, meta awareness, like you said, awareness of the ongoing processes and contents in our moment-to-moment conscious experience. And it's a strange insight that like you just said you had to do, and then many other wisdom traditions of the worlds have had to offer to say, "Hey, watch that. Watch that spontaneous thought emerge. Be meta aware." Saying it is one thing. "Okay. Yeah, sure. I'll be meta aware. I'll watch the thoughts and contents of my processes that are occurring."

Pretty soon, we're not doing that anymore. We're stuck in a thought, or lost in a thought, or pulled away by a thought. So what a suite of mindfulness training practices would include is another form of practice that isn't about concentrated focus, but is really regarding open receptivity. And often it's called open awareness, or open monitoring. In my book, I'd refer to it as river of thought. And I kind of paint this picture of you're sitting on the bank of a river, sort of on a solid boulder that's not going anywhere, and you watch the river. You don't chase the fish. You don't follow the leaf. You don't try to get in the water and start swimming to grab something, or to just move. You're just stable, steady, and observing.

And as you already said, the beauty and the value of doing that, in some sense, that gives you a sense of what is actually going on. A lot of the groups that we work with, service members, first responders, even medical and nursing professionals, are what we might even call broader tactical professionals. People have to get stuff done, and what they do is consequential, and their attention matters. For many of these individuals, it is quite important yet almost unheard of that they would sit and let their mind just do what it does. So taking some time to do that and to kind of move your... I always think of it as like... I would describe this to my children too, when they were little. It's almost like you're a traffic helicopter above your head looking down. So what's going on in Amishi's mind right now? "Right now, she's feeling X, Y, or Z," or, "This thought is coming up. That thought is coming up."

There's so much value to doing that for, I would say, two reasons. First, stability. You're able to just be with whatever arises. The worst thought in the world that you've ever experienced could arise. You're just watching it go down the river. You're not following it. You're not buying into it. You're not elaborating it. So being able to just tolerate with stability. But the second is perspective. And what I mean by that is when we can pull away, we can see even the stories that we create. We can see the loops in our mind that we get stuck in. And so I think it's just such a powerful thing to do, and most people don't have that insight that you did of, "Oh, I should give this a try." But when they do, like you've probably experienced, it's quite beneficial.

Dave:

Given that we're filling our brains with new information all of the time at a rate unprecedented in all of human history, just because you have access to pretty much more info than a king or a president from 40 years ago for free, it means you can synthesize a lot if you pay attention to what's synthesizing in there. Otherwise, you come up with all this stuff, but you never noticed that you came up with it. But something else happens, and I wanted to pick your brain on this, so to speak. It's that when you come up with a good idea, you forget it if you don't write it down. Why does that happen?

Amishi:

I mean, in some sense, it goes back to the whiteboard. So the insight arises. It's like boom, it's appeared there. And that is actually typically associated with some kind of twinge of positive emotion. There's a thrill that you can get when you get a problem solved or an insight, but like any other conscious experience, it is not everlasting. It will fade away. So in some sense, writing it down or making it concrete, repeating it to yourself over and over again, thinking about it in multiple ways, these are all ways to kind of ensure that it goes from this temporary scratch space into our long-term memory, so that it can become integrated within our knowledge. Is that what you mean?

Dave:

Yeah. Those are really classical answers to it, but there has to be some kind of a hack or a way to get things out of the working memory, these insights that arise, in order to get them so that they enter your long-term memory. And there's two examples of times. One is you have a dream and you wake up, and if you don't write it down or tell somebody, it's gone. And the insights you have during the day, some of which are really big, intuitive leaps, they're literally gone. "Oh, I had an idea for that, but I totally don't know what it was."

And the worst one of all is if something really amazing happens to you and you don't write it down, you will seriously forget it. At the end of the day, you're sitting down, "What am I grateful for today?" And you can think of five things, but it turns out 50 things happened, but you notice, "Oh, that was really nice," but then it's gone. Is there some way to make those not be gone, or do I just have to sit down and write down everything all day long? Because that's boring.

Amishi:

You can record it on your phone. And I guess thing-

Dave:

There you go.

Amishi:

Here's the thing I was going to say. I mean, I think hacks are useful. They can really provide shortcuts. But when there's simple solutions, let's spend our time doing something else. So I would say you could rehearse it in a way that is going to make it stick a little bit more, but that will take time too. It'll probably be shorter. And frankly, even if you write it down, it's not going to be integrated into what you carry around in your brain until those concepts that you've written down are so fluid and salient in your mind that they just arise more often spontaneously. So the insight, for example, that if I have a disturbing thought and I just let it be, it will fade away. That's an insight. It's like, "Oh, unless I keep saying it over and over again, or keep elaborating on it, it loses its power. If I'm not fueling it, it will subside."

That's an insight, so I could write that down. "Okay, don't keep feeding the demons," or whatever. There's this story of the... Which wolf lives and which wolf dies? The one that you feed. But to actually have it be alive so it appears in our working memory, it has to be integrated. So I wouldn't lose hope if it feels like things pass away. In some sense, I would almost say have a confidence that if it passed away, it will probably come back if it was that salient. And for the things that I have written down, use them. Figure out ways to integrate them into my daily life, into multiple experiences to reinforce them.

Dave:

Okay, that makes sense. There's a way that you've described in the book that I like about attention. You say there's the flashlight, like your orienting system, where am I. There's the floodlight, which is an alerting system, and then there's a juggler, which is the executive function. And I know something about training executive function. That's a big part of what my neuroscience training does, but I don't necessarily know that I understand how to train the flashlight, versus the floodlight, versus executive function. Are there different exercises you can do for each one of those?

Amishi:

In some sense, yes, and the suite of mindfulness practices kind of taps into all three in multiple ways. So the key for me is not so much that you do a solo workout just for the flashlight, or just for the floodlight, or just for the juggler. Those are great. You can do those. But what we really think about when it comes to brain systems of attention is their integrated dynamic functioning. So how are you passing off the baton from one to another in a useful way? And how do all of those systems, the orienting system, alerting, and executive functioning, how do they play into or interfere with what might be going on spontaneously? So back to mind wandering. And so if you think about back just to the simple practice, the concentrated practice of find your flashlight, like I was talking about, the focused attention practice, in some sense, having the goal of where you should be focusing exercises that flashlight. There is an integrity of where you point it. Having that awareness...

And by the way, alerting, I think the key for alerting is selection based on the moment, the prioritization of this moment right now, what is occurring now, without biasing it towards certain content, but just what's present to me right now. That is what you're doing when you're intending to notice what's happening moment by moment. So in some sense, you already got those two. And then executive control plays a role, because there is this goal for the practice that I've got to make sure I'm aligning my current situation to that goal. So there would be a case where it's a three-fer. You've got all three systems, and it's not just exercising each of them individually, but their coordination to kind of go back and forth.

Dave:

Okay. Is there a survey or some kind of a tool that would tell me on a scale of 1 to 10 how good is my flashlight, how good is my alerting, how good is my executive function? Because maybe one of them is weak, and I want to make that one better. Or one of them is overpowered, and maybe I want to chill on my alerting system, for instance. How do you know whether you're strong or weak in each of those?

Amishi:

Yeah, that's just such a great question. And that's actually what started me in all of this to even think about the multiple systems of attention, is we had tasks that were tapping into all three of these separately, separate categories of tasks. And then one of my dear colleagues and mentors, Michael

Posner, said, "Hey, we figured out a task that can actually tap into all three, the attention network test." And that task allows you to get a sense of all three of those. So it's a little bit complicated, but I can explain it to you if you want to get a sense of it.

Dave:

Please, yeah.

Amishi:

And maybe the way to do this is to... Let's break it down separately first. If they weren't all together, what would you do? So in the field of attention research, when we want to test orienting the flashlight, very simple thing we would do in the spatial domain of spatial attention is we'd say, "Okay, sit here in front of a screen. Keep your eyes on a central fixation cross. Just steady the eyes right there," because we want eyes not to move. We typically know that where the eyes move, attention is coupled with them, but we're going to decouple them. So you're sitting there, you're going to focus on that. You're going to keep your eyes steady on the flashlight. And then something like an arrow might appear that says left or right, just right above that little fixation cross, and your job is to move your attention to the right or left. There'd be two little boxes on the right or left. If it says left, go left. Eyes steady, attention over here.

And the first thing people say to me when I explain this is, "Well, that's weird. I don't usually have my attention and my eyes not in the same place." But I would say think of the last time you were at a cocktail party, or a dinner party, or even at a coffee shop. Somebody you really want to talk to walks in, or somebody you don't want to talk to walks in while you're talking to somebody. Usually, what happens is our eyes are here. We know where that other person is in the room, so we know how to decouple attention and eye movement. But so the arrow comes up, you move your attention here, and then you're sort of waiting. And then something else happens next, which we call the target. The target could be a T that's upside down, or right side up, something very simple, and you're just going to press a button to indicate which direction that happened in.

What we know is that when that target appears at the location that your attention was at, you're faster, you're more accurate. Your neural responses to visual stimulation are greater than when it occurs where attention is not. So that's an example of how we index orienting. And we can do it in this spatial domain, we can do it in other visual domains. I have these tasks where I have a face and a house on top of each other, and I might ask people to attend to the face or the house. We could do it in the auditory domain. We can do it with concepts. It's essentially trying to see the signal-to-noise distinction of benefiting the thing I'm supposed to be paying attention to relative to everything else. And you can see how good people are at this, but already you can see the complexity, because you may be great at spatial attention and terrible at face-based attention. Or auditory may be great, but visual's not so great. So you want to tap into that generalized ability to focus where you want to go.

Dave:

I'm fortunate in that my auditory was absolute trash, and I went and I retrained it using some advanced therapies, so it's much better than it was. And my visual system was worse, because I had developed a habit that a lot of people have, where you only pay attention really to a small flashlight beam. You don't even look at the edges of what you can see. And it took about three months of really painful visual training to realize that my attention was different than where I was looking with just the center of my focus, and to actually expand my peripheral vision. But it was rewiring of the brain. I would do an hour of training and I'd sleep for six hours afterwards, and just be a zombie for a day. I mean, it was really

intense stuff. How much of the problem we have with attention now is because we're staring at little screens?

Amishi:

I would say, again, the pain point of our attention is tied to that feeling of, "Hours have gone by, and I've been scrolling on Instagram, and I had no idea." Or I keep clicking on that thing that says, "Amishi, a great deal for you." You feel not in control of your own mind, and it feels very much tied to our technology. And we're not wrong, because frankly, as we talked about earlier, algorithms are now so cued in to not just how to get grabbers, how to grab our attention, but how to grab my attention, different from how to grab your attention. And we are feeding these algorithms exactly what they need to keep us pulled in that way. So for sure, the pain point is tied to interfacing with technology, but I wouldn't want to say that the solution is going to be throw away your phone and never use technology again, because like I said, I think that if we apply the same orientation of get mindful regarding your interfacing with technology... And what I mean by that is essentially get granular with regard to your meta awareness of interfacing with technology. Notice when you've picked up the phone, literally the sensation. Because most of us have the phone in the hand, we're on the app, and we've already been scrolling before we have any idea what we're doing. It's so habitual. So almost like we've got to retrain ourselves in this way [inaudible 00:39:10] when the phone gets picked up, ah, there's a sensation of holding it. I notice the face recognition. I notice myself clicking on the app.

And then the important thing is engaging executive control to say, "What's my goal for wanting to have this interaction with my phone right now? What is it?" Keep it at the front of your mind in your working memory to say, "I'm responding to a text," or, "I need to check on what time a flight's arriving," or whatever it is. When that goal is complete, put the phone down. And this, again, means meta awareness of what you're doing and what the goals are. And that can start helping us unhook that very uncomfortable pain point regarding technology and our own attention.

Dave:

Okay, I like that. So I have a goal for your phone, and then put it down. I keep getting pulled in my brain to an interview I did a long time ago with a friend named Maneesh Sethi. And he found that he was looking at Facebook so much that he hired someone off of Craigslist to come to his house and slap him every time he looked at Facebook, and that led to a company called Pavlok, of which I am a recreational investor, a very small investor, because it was too funny not to invest. And it's a little device, like a watch, that shocks you when you do something you're not supposed to do, and he found it worked really well for cessation of smoking.

And literally, if you didn't go to the gym when you're supposed to go, your friends could shock you over the API just to remind you of it, sort of like your grandmother telling you to pull a rubber band and snap yourself when you chew your nails or something. But it actually worked. I don't know if Pavlok is still around, but they probably are. And so the reason I'm bringing this up is there's something about negative stimuli on the brain that seems to be really important. For instance, if you got shocked every time you didn't do dual n-back, you would probably finish dual n-back, because the body hates the shock more than it hates the feeling of failure for doing dual n-back training. Is there a role for negative reinforcement in making our attention better?

Amishi:

I mean, you're showing me examples of where people are definitely doing it. I would say-

Dave:

That was for addictive kind of stuff, and poor habits. That might not really be attention, though.

Amishi:

Yeah. I mean, I don't know how long-term this is going to be beneficial. I would just delete the app. Just like in the same way you set reminders on your phone, and you're like, "I don't want this anymore," most of us are not willing to tolerate added load to our lives, even if the... Like you said, if I'm not trying to get healthier, I'm not going to read a book about being healthy. So most of us are pretty clued into what it is. And I would say the radical thing to do is take a totally different approach, which I will tell you at the outset of this comment that I was a strong resister to this. I was a skeptic regarding mindfulness. This is not things that like... You might look at me and say, "Oh, she's an Indian woman. She probably grew up with this stuff."

And I did, but I was very skeptical regarding its effectiveness, its benefits, its value to enter my lab's work. And this next thing I'm going to tell you about, I would say it kind of fits into the same category and maybe is the reason I get along with people like first responders and special forces guys and women, because it's about taking a radical left turn. Not using a punitive negative reinforcer, but actually connecting with the care we have for ourselves. I am going to actually do this because I want to be kind to myself, because that kindness... And I definitely think it fits into... Maybe not at face value, but it definitely fits into the spirit of everything you do, because why expand your potential? It is in the service of being kind to your life, advantaging your life in the service of better fulfillment and results of what you want.

And so in the book, I actually talk about a practice that we ended up adding to every one of our training programs called loving kindness, or what we call connection practice. And if you think about it, it's not so much about... If I instead thought, "Why do I want to stop smoking," or, "Why do I want to not be on Facebook?" Because I'm missing this time with my kid, or because I want to be around for my family, or because I want to feel better so I can go on that hike with my friends. Orienting that way has a deeper power that I've seen in my own life and in the of research that we've conducted than the kind of short-term flicking yourself on the wrist because you did something you weren't supposed to do.

I think that it's an interesting experiment for people to try out for themselves. And it sounds at face value like, "Yeah. No, that's too soft and wishy washy," but there's a depth of commitment in terms of why we might sustain beneficial action that seems aversive at firsthand, because ultimately we realize that's really all there is, is what do we care about. How do we align it to what we care about?

Dave:

Do you have ADD?

Amishi:

Not in the way I've seen it in other people?

Dave:

What does that mean?

Amishi:

I mean, I have people that are close to me that... I happen to study attention and love people that have differences in attention than most people. I find it exciting and interesting. So there are ways in which I

can see people that would say they suffer because the nature of their attentional challenges that I don't feel like I do. I mean, I think that at any moment, moment by moment, we might have ADD-like qualities. Why?

Dave:

I just loved hanging out with first responders, and most people I know who like hanging out with first responders have a little bit of ADHD going on, because they're like, "Oh, that's really exciting."

Amishi:

Yeah.

Dave:

You also have Lieutenant Colonel Grossman. I'm guessing you're familiar with his work "On Killing" and "On Combat." Oh, he's been on this show a while back, but he studies first responders' neurological activities and how they default to training when they go into go mode, when there's a firefight or whatever. Very interesting neuroscience, even though he's a military guy. But I was guessing you might have come across that, because it's a different thing. What happens when your attention goes away because you're in pure reactive mode? I don't think he has ADHD, but most of the time, people who focus on first responders have some sort of a kick they're getting from it. But you may not. That's why I was...

Amishi:

Yeah. No, I would say the reason I said that I like a lot of the interaction I've had with lots of different kind of groups is because I like the values and commitment to what they are doing that drives them to do things that most of us would not tolerate. In getting to know some of the military leaders, for example, that I've seen, the level of demand... Talk about not getting a weekend off. You're going 18 months, and you still may never get a weekend off when you're back. I mean, why is that possible? What is the commitment there? The commitment to service, the commitment to your fellow service members, the commitment to your country? I mean, I love that, because in some sense it is reminding me that the depth of our commitment, whether it's to our own wellbeing, our family, our country, whatever it is, can drive and rearrange what we're willing to tolerate, even if it's a little bit painful.

Dave:

It's true that if you want to study resilience and super powers, looking at special forces guys or Navy SEALs or whatever, it's hard to find greater than that, even if you look at professional athletes. They just, "Oh, I trained a lot, but then I recovered a lot, and the military guy's like, "Yeah, I dealt with this big thing, and then I climbed a mountain and dealt with another one," and they just don't stop. And I find it really impressive too, so I share the interest there. But then again, I have ADHD, so there you go.

Amishi:

Well, that's why I find you interesting.

Dave:

See? I'm like a first responder science guy. I have to do something about that. I don't care if a mouse tried it. I'll try it. No. One of the things that has come out of just my life's journey has been that it's

usually easier to quit doing the stuff that makes you weak than it is to do something that makes you stronger. The idea of saying, "Well, I'm going to go to the gym and get strong..." Well, maybe you should put down the 50 pounds of stress you're carrying with you before you go to the gym, because if you did that, you'd get stronger, and then your gym would be better.

So most people, they focus on, "What am I going to add to my diet? What new supplement am I going to take?" Well, maybe you should quit eating corn oil, because that's going to be a lot better for you than taking a little bit of fish oil, even though you still might want to take the fish oil. So removing the negative. And you talk about in your book that there's three forces that are degrading attention. So these are the kryptonite, if you were to look at the Bulletproof Diet or something. What are the three kryptonites for attention?

Amishi:

Stress, as you already talked about. And that is really this perceived experience that my capacity to deal with what's required of me is unmatched. Threat, and that could be physical threats, threat for our safety, but also psychosocial threat, our sense of-

Dave:

Like trolls.

Amishi:

Yeah. And also our sense of justice, our sense of fairness. Those kinds of things could be threatened. And then poor mood, like we already talked about, negative mood. And these, I call them kryptonite because... And actually, it goes back to what we were just saying a moment ago regarding people that are in these tactical professional contexts. For most of us, we're going to experience those, part of the ups and downs of life. Sometimes we have periods where there's more of them and less of them. But for most of the people that we're talking about, at least that we study in my own lab, these are not just the simple ups and downs of life. These are periods of time where the context is defined by all three, and yet they have to perform their best, and we all rely on them performing at their best.

I mean, you would never accept that an emergency room physician is a little stressed out, because there's been a multi-car pile-up and they have to deal with it. It's like, "No, you better be on your game and help," and we expect that. So that's what I found interesting, is that in some sense... And it goes toward the kind of mental armor, or related to this Bulletproof concept of: You have to perform at your best, even if all the circumstances that you are experiencing right now are going to set you up to be less able to do the job they're going to. And so now, how do you train when the circumstances are sort of steady state, not in the middle of a battle?

But how do you train for it so that when the next very intense circumstance arises, you are better able to maneuver through? And frankly, that isn't just for first responders and medical emergency room physicians, that's all of us. We don't know when the next high-demand intervals in our lives are going to emerge. And if we prepare for those today, the chances of us benefiting today and benefiting in those circumstances will be greater. At least, that's what our research suggests.

Dave:

Okay, that makes so much sense. So there's stuff you can do to get rid of it. What's actionable about poor mood, though? In fact, what is a mood even? It feels like the Supreme Court definition of pornography. I don't know what it is. I don't know how to define it, but I know what it is when I see it.

And we all know what a poor mood feels like, but how do you define that from a neuroscience perspective?

Amishi:

Yeah. I mean, in some sense, you're right, it's a slippery thing. It's like holding a fish or something. We know what it means from the experimenter point of view. If you have an induction that you do, you say, "Come to the lab, and we're going to induce a particular state, and it's going to be negative." So how do you do that?

Dave:

How would you induce a state, like magnets or something?

Amishi:

Say it again. What'd you say?

Dave:

Like pulse magnets. I know I can-

Amishi:

No, no, no. Very simple. Think about the last very difficult interaction you had where you've got into a fight with somebody, or a very bad memory. What is this music that makes you feel super sad? So you show video clips, or you have personalized that put them in this mood, and then you have them write their mood. What is your mood right now? And you see that pre and post-induction, their mood is worse. And then you have them do something, like an attention task or working memory task. And what you find typically is that if you've successfully made mood more negative, in that moment, attention will be compromised. But what we do in our studies is we don't induce negative mood. We actually let the context of people's lives be the negative mood induction, if you will.

So pre-deployment training, preseason training for an athlete, students going through an academic semester, these are unfortunately long-term negative mood inducers, and people will report poorer mood at the end of the semester relative to the beginning, or at the end of preseason training when they're about to launch into their playing season, for example. Their mood is worse, their stress levels are higher, and even their experience of some kind of psychosocial threat are typically slightly elevated. So we don't have to manipulate it in the work we do, we just look for contexts where people are going to experience that no matter what. And then the painful part that we saw that was a little bit of an eye-opener was all these are preparatory intervals. You're preparing for something else big.

For a student, now you're going to take final exams. For an athlete, now you're going to go play in the season. For a soldier, now you're about to deploy. But if just that preparatory period is compromising your functioning, you aren't best positioned to be ready for the next challenge. And so what I thought would be really useful to do is... Let's introduce something. It's almost what you were saying before, introducing something new, but realizing that in this case, we can't let go of the difficulties that they're going to experience. And we did. We introduced mindfulness training in all these kinds of groups that I'm just describing to you, and we found that we could protect against declining attention when we offered mindfulness training programs.

Dave:

Okay. I've looked at... In fact, we're in the middle of the final stages of software that will do a quantitative EEG that can look at a poor mood, and actually use an AI algorithm to determine that's what's going on. Of course, you have to have a cap on, and that's part of what I'm doing at 40 Years of Zen, which is one of my neuroscience companies. And there's definitely a signature. There's brain waves. There's locations in the brain. There's interconnectivity of networks, and things like that. The fastest way that I know to get out of one is a gratitude practice.

And if you want to permanently get out of it, it's related to the loving kindness you talked about, but it's true forgiveness. It's just forgiveness is very hard to do, because you'll tell yourself that you forgave something, but you didn't actually forgive it. So if I can look at your brain while you're doing it, I'm like, "No, you didn't." And then it is kind of like the dual n-back thing, like "Well, yes I did." Well, that's not what the data says. And eventually you do it, and then it works. So is there something besides gratitude or forgiveness that'll take you out of a mood?

Amishi:

Here's the thing I would say. We're coming from different perspectives because we're dealing with different kinds of contexts. So in the case of the kinds of research I do, and I can only speak from that because that's what I know, it may not be on the table that you're going to get rid of the negative mood. Your buddy loses an arm, there's not going to be a negative mood reducer. There's nothing you can do to actually feel less terrible that this has occurred. Yet, you have to maneuver through. So the interest I have is not even in changing the mood necessarily. It's going back to that river of thought practice, or open monitoring. You are in this experience. You are having to accept and acknowledge what is occurring.

And this is where people can actually sabotage themselves by saying, "I'm not in a bad mood. I'm going to think about three good things, and I'm going to try to get out of it." That actually fails. That fails, because people use up their dwindling attentional resources to try to reframe an experience to no good end. They end up actually feeling worse than better. So what I'm encouraging people to do and what our research suggests is in circumstances where objectively any person would say, "Yeah, this is bad," and it's bad, you're not trying to deny, suppress, reframe, think yourself out of it. You're just saying accept. But don't add the load of more cognitive elaboration and fighting on top of it, because you need every resource you have to get the job done. So even for a student, learning that a parent has a cancer diagnosis, it's going to have an impact on you.

But how can you have it so that the way in which you engage with that content when it arises when you are trying to study is not going to further deplete you so that you can't focus on the task at hand? And this is where getting in the moment, being aware of the sensations that occurring right now, getting more embodied with what feelings and bodily sensations are arising, getting at a distance so you're actually watching your mind, but not as immersed in it to get lost in it, these are all approaches to be able to maneuver through without denying the nature of what is actually occurring. So I'm kind of sidestepping your answer, but that's the way I feel about it right now.

Dave:

All right. Well, it's a constant evolution just of our consciousness about that. One thing that stood out in your book that I think is really notable... If you look at the history of heat therapy and cold therapy... So we've been doing saunas and ice baths in Viking lands for 1,000-plus years, and we didn't really know exactly what the minimum effective dose was. And so when it comes to cold therapy, [Susan Soderberg 00:56:39] recently did a whole bunch of search on that and figured out the minimum effective dose, which is cool. And it actually was more precise, but it aligned with what I've been doing for 10-plus years

and recommending. But that was just based on felt sense, and she's like, "I'm going to do this in a lab." And what you talk about in your book is the minimum effective dose of mindfulness, which I think is at least as important as the minimum effective dose of cold, or anything else. What is the minimum effective dose of mindfulness to get results?

Amishi:

Right. Yeah, and again, the reason we want to look for it is because we have practical people that, practically speaking, need something saying to them, "Oh, go meditate in a cave," like you were saying you've done. Most of us cannot hop on a plane and hang out Tibet and do that. It's not within the purview of our lives, nor may we want to. That's just the reality of what's going on. So the reason we ask the question is because we wanted practical answers. To answer your question, what we find is the minimum effective dose for mindfulness training to have a beneficial and protective effect on attention is, as I put on the cover of my book, 12 minutes a day. And this number we found is showing benefits with our objective measures, subjective reports from participants, but also what people ended up saying is the amount of time that they were willing to do on a daily basis in service of benefiting their mind and their wellbeing and performance.

So that's sort of a three-fer in terms of why I've recommended. The second thing I always like to say when we talk about minimum effective dose, which may be where it's a departure from heat or cold, is with mindfulness training, it looks like the more you do, the more you benefit. So in some sense, the 12 minutes may be like you're sedentary, and you're going to do a couch to 5k, or you're going to do a walking half-marathon. You're going to get yourself to a point where we know attractively there'll be beneficial effects for your body, and this way, for your mind. But if you do more, you will benefit more.

Dave:

Okay, so more is better. In fact, I know that there's an upper limit. Almost everything has that inverted U-shaped response curve. We all know the yoga teacher who can't show up to class on time. From years ago, I got certified as a heart math instructor, and they actually would teach you... This is heart rate variability training, which teaches you to take yourself consciously out of fight or flight using spacing between your heartbeats. I helped to bring that into the world of biohacking in the early days, even into the quantified self-movement, because it's such an important marker of stress.

Problem is if you say, "Oh, I'm just going to do that for an hour a day," you are in la-la land, and the same thing if you do certain breathing exercises. Even some of the Wim Hof stuff, or holotropic, or Art of Living, you do those for an hour a day, and more is better. Well, you do too much, and all of a sudden people are like, "This guy's not on the planet anymore." So there has to be some level... Well, more is better, but if you do six hours a day, are you a functional human?

Amishi:

I mean, then you look at adept monks and different kinds of monastics that are doing 12 hours a day, and they are in a monastic context. So it really... We don't know, because we've not done the experiments where we take people that are everyday people living typical lives, and having them do that to see what kind of... Pushing the envelope in that way. But we know from the larger traditions that there is a huge range. So even as practitioners, formal practitioners like monastics that practice, we see kind of a dose response effect in them as well. And does have some interesting inverted U, because what you start seeing... And this is not my work. This is work by Richard Davidson. I'm on one end of the side, where I want to look at people that have never practiced before and may never want to, and we want to see if it could help them.

He's looking at people that have obviously committed their lives to this and have extended it to an extreme. I mean, three-year silent retreats, this is not what most of us would do. And what's interesting is that yes, things start shifting. They shift in ways that suggest the processes themselves aren't the same anymore. So let me explain what I mean by that, just from a more typical approach. And I see it in the undergrads. I teach an undergrad class called mindfulness attention in the brain at the University of Miami, and even in them over last six weeks, I'm seeing changes that... You can see that the perceiver of the process is shifting, so it's going to be a tricky thing for them to understand. And it's something like this.

If you say, "Okay, every day when you practice..." And we don't have them do this, but I'm just giving you kind of a thought experiment on this. "Every day when you practice, or in your day, rate how much you mind wander. How often are you distracted away from the task at hand?" And they might do this, and they find some amounts, and then they start practicing mindfulness. And then all of a sudden, they see an uptick in their report of how much they're mind wandering. And so the question in class becomes, "What's going on? Why is mindfulness training making me mind wander more? Because the data says I went from rating it as this much, and then now I'm practicing it, I'm rating it as more." Well, are you actually mind wandering more? And then usually, it's some kind of a real insight that says, "No, I think I probably always have, but I never was aware of it before. So now, I'm becoming aware of the mind wandering."

So if you take that to the extreme now, to the expert Olympian meditation practitioner, you notice something different. So when I say I mind wander, for example, it might be I was planning my next vacation. I was actually in the middle of planning my next grant project. I have concepts that I know have existed. That means I've been mind-wandering for a while to actually have them formulate into concepts. Expert practitioners would say something like, "If my mind is a tranquil lake, I noticed a ripple in the distance." So it's like they [inaudible 01:02:33] not even had a full thought emerge, where they've really noticed the lack of stability.

I just want to give that example because we use these terms mind wandering, on-task, off-task, but the nature of what those words mean is likely to shift as the mind trains in this way. Whether it's functional or not, or when it starts becoming problematic, I think that that's sort of an open question, but we always want to do whatever we do with care and with this eye toward never doing self-harm. So if you find that practicing is problematic, get support, or talk to somebody, or talk to a meditation trainer. Don't do things-

Dave:

Or get a different meditation teacher too.

Amishi:

Get a different meditation teacher. Do something to help yourself.

Dave:

Even some of the Buddhist teachers that I've worked with in Nepal talk about out certain forms of meditation making people crazy. And not everyone, but certain brains. And I do know some of the common forms of mindfulness, when I do them, it's just like I took a Valium, and I'm off for hours afterwards, because that's not what my brain wants. It's actually not right for my neurochemistry, neurowiring, whatever you want to call it. So I just want to call for listeners. If your mindfulness isn't working, maybe there's a different way to do it that might work for your brain, or maybe you just need

to feel a little bit of pain so you can learn how to reach that state. But eventually, you'll know the difference.

Amishi:

Yeah. And also, to say that the intention for these practices is not to achieve a special state. That is not what we're intending to do. So if you go in thinking, "Okay, I'm going to be blissed out in five minutes if I start practicing," or "I'm going to feel better," or "I'm going to be X, Y, or Z..." Going in with that expectation may actually not allow the emergence of what we're really trying to cultivate, which is more awareness of what's going on in this moment. I mean, that's the way I would define mindfulness itself, is present-centered attention without an elaboration or reactivity around what's occurring. So when we talk about something working for us, we just want to be careful of what's the expectation we have going in regarding what working means, and to be aware of what these practices relative to other types of meditation are intending to do.

And then also, just to say that I give multiple options of practices, exactly for the reason that you're saying. There's going to be a mix and match. There's going to be a personalizing. There's going to be things we gravitate toward wanting to do and liking doing just because we're human beings. Although, have the same intention of cultivating more present-centered, non-elaborative, non-reactive mind states. And if we do that in some sense, it's a win.

Dave:

If you were to score yourself on a scale of 1 to 100, how good are you at this?

Amishi:

Good at being mindful?

Dave:

Yep.

Amishi:

This is interesting. I would probably want to ask my children and my husband more than asking me.

Dave:

That is the best answer ever. That was a super hard and kind of mean, but amusing question.

Amishi:

But here's what I would say-

Dave:

Your answer would probably be highly biased by your ego. So you're saying, "I'm not sure. Ask people who watch me all the time." That is actually a very highly evolved answer. I really appreciate that, so that means your program's probably working.

Amishi:

But the other thing is that I notice when I catch myself, and I'm not fast enough. I might have a very strong reaction to something. For example, my child does something I don't like, and I snap. And what I realize that has happened to me over the course of practicing is I apologize faster. I may not catch it, but I'm much more attuned to the impact my words have had on another person. Or if I'm really lucky, I might catch it as it's occurring to kind of shift it. And we know this even sending an email. When you get a really difficult email and you type it out, and you're like, "Press send! Oh, don't press send," that's a mindful moment to say be aware of my own state, and maybe take action in the service of what's going on.

And frankly, it kind of goes back to what you said at the outset. That's why I wanted to have this book called Peak Mind, because a peak mind is not one that does everything right all the time, never experiences pain, suffering, difficulty, or challenge. But it's one that is better set up through mental training to allow ourselves more opportunities to be aligned with behaving in a way that's helpful for us. So it itself is an evolution, and I totally would say I am going to be biased, and so ask my children if they think I'm any different since I've been practicing. I think that's a better guess, better estimate.

Dave:

Well, I really like the honesty of that. And you're listening to this... Asking other people how you're doing might be a lot more enlightening than asking yourself how you're doing, but you might not like what you hear. So if you ask for that, you have to agree just to shut the hell up and listen, instead of defending, which in and of itself is a mindfulness practice.

Amishi:

Absolutely.

Dave:

So that's cool. Tell me about what your 12 minutes looks like.

Amishi:

Yeah. So typically if we're offering a training, in solidarity with the people that we're training, I'll do the practices that they're assigned to do. So right now, we're doing a project with a group of soldiers at one of the military basis, and I'll follow the sequence, just sort of engaging what they're going through. But oftentimes, I double up, so I definitely get the 12 minutes in from one of the four practices that I describe in the book. But I always like to... Especially if I'm going to go through a period of difficulty. Even before coming to talk to you today, I was excited about it, but your nerves can creep up.

And so instead of more focus practice, I would lean toward loving kindness practice, reminding myself of the kindness and connection I have to myself and what I want most in my life for me, and also the open monitoring, to let things come and go without attaching ourselves to them. So it kind of depends on what's happening in my life, but I like to at least get in the minimum 12, and then I'll do more if I feel like I need more. And typically during busier times, I do more.

Dave:

And you said something really important there. And advanced meditators or energy workers, they have an enormous, I'm going to call it arsenal, of techniques and methods and things like that. If you're a breath work person, well, there's some breath work that's going to calm you. You can do the box breath, which I've written about. It is a very common one in military settings. Or there's ones that stimulate you

or make you trip balls, like holotropic breathing, so you have to know which one to use. So whether it's a visualization, a meditation technique, you start out saying, "I'm going to learn how to do mindfulness," and you realize, "Oh my God, it's like working on a car." And maybe you need a ratchet wrench, maybe you need an air compressor, but eventually you become pretty good at maintaining and monitoring and saying, "I'm going to use this tool to achieve this state to achieve this goal."

And that's multiple lives' worth of work for sure, but I think we're learning it faster because of neuroscience, because of the concentrated knowledge in your book, in Peak Mind. One more question for you. I know we're running up on the end of our time together. You wrote something in the book that's probably going to be disturbing for lots of people. You talk about how documenting experiences like you do on social media means you remember less of them. What's going on with that?

Amishi:

It means that you can remember less of them if the intention is behind the documenting instead of the experiencing. And this is not just my thoughts on this, and there's many studies that have looked at this. If you orient to an experience by just having the working memory component be making sure your phone's out and pointing at the thing, you missed having in your working memory, which is the conduit by which it gets into your long-term memory, the actual phenomenology of the episode itself. So if you do end up pulling out your phone, I would say don't miss phenomenologically, experientially being there. I'm not saying don't ever pull out your phone and take a photograph, but don't forget that really important thing of "I experienced this." And I learned that the hard way, actually in a funny way, with my own children.

And my daughter's a dancer, and so at some of her dance competitions, they wouldn't let us bring our phones, probably because they wanted us to buy the video that they would make. But it changed my way of really experiencing her performance, and I loved it. And I'm like, "Wow." Unburdening ourselves with capturing that gave me a richness in my own memory far beyond anything I could see by looking at a video. So I just wanted to make sure that that got out there, that attention is the conduit for long-term memory, and mindfully attending is the conduit toward a richer memory.

Dave:

It seems like a double-edged sword. I decided a long time ago that I am not going to remember all the crap I have to do. It's on my calendar so I don't have to remember it. And I gleefully don't remember. I have no idea what I'm doing after this. I truly don't. I can look if I want to, but it's become almost an extension of my memory. And some people will argue that that's horrible, and that I've lost some ability. And another group of people would say, "Well, welcome to being a cyborg. You've expanded your memory, which means what you have in there, you can use for something else." Where do you fit on that spectrum of "Offloading from your brain to systems is good" to "You should do it all yourself"?

Amishi:

Oh, completely. I mean, it depends on the context, but for something like a schedule... And we know this from our conversations with lots of leaders too, that the key to success in what you are doing in the moment is having full capacity and full attention to what is occurring in the moment. If you having to hold in mind what's coming up next and then engaging in that meeting... So you're already at the next meeting when you're trying to be with me. That's not going to go well for our conversation. So in some sense, not knowing is preserving more capacity for you to be available for this conversation.

And oftentimes, they'll describe it as pivot leadership. You're pivoting to the thing you're doing, and then you're fully in it. It's very mindfulness-oriented. And then you're on to the next thing, and

you're fully in that. And if you don't need to have that held in your mind, if somebody said, "Oh, sorry, all your technology has evaporated," then of course you're going to have to figure out some other way to manage it. But if you can cognitively offload, it's one of the best approaches to ensuring maximum capacity for the task at hand.

Dave:

Okay, I like that. And there's a lot of it depends on here, and by trying these things out, you can figure out which it depends works for you. And just for illustrating that, there is a blog post written about this that's up for people, and there's a full transcript of this that's up for people on [daveasprey.com](http://daveasprey.com). Which means if you are actually listening to this and not scribbling to take notes, or if you're in our audience from The Upgrade Collective and you're saying, "I took some notes," your taking notes helps you to remember things. That's documenting it. But if you wanted to just listen and know that you weren't going to miss anything, because A, you can rewind, and B, you could just read it if you wanted to, those are there for that specific reason, so you can be more present and focused and know that you didn't miss anything.

And I'm actually working with a team on doing even more distilled notes from the podcast, so that you guys can just get more value from it and just not worry about it. I'm just going to absorb this. And if I had to get a link or whatever, it's just there on the blog. Well, Amishi, your website is conveniently Amishi, [amishi.com](http://amishi.com), which is awesome that you're able to get one. It's because you have an unusual name, apparently. And I unfortunately didn't manage to get [dave.com](http://dave.com) back in the day, but I do have [hotdave.com](http://hotdave.com), if anyone wants-

Amishi:

Nice.

Dave:

to buy that. It's for sale. Back when Hotmail was a thing, I'm like, "I'm getting this." That's not my main email. In fact, I don't think it's email at all. Your book *Peak Mind* is actually really worth reading, because talking about attention as currency and attention as something that we're damaging right now with our practices, but how it changes internally versus externally, I think it's a new perspective, and the 12 minutes a day is also very, very important. Five days a week, 12 minutes. Read the book, figure out how to do it. Thanks, Amishi.

Amishi:

Thank you so much. It's a lot of fun.

Dave:

And Upgrade Collective, thank you for being in the live audience. Thank you for your contributing to the interview by being my outsourced brain and reminding me of things that I should ask. The question of about "What do you do every day" actually came direct from The Upgrade Collective. And if you're interested in joining The Upgrade Collective, this is a group where I teach all of my books. We have a very active app where people talk with each other. We support each other. It's a large community of people who are improving themselves. You're always welcome to join. Just go to [daveasprey.com](http://daveasprey.com) for info. And again, the book, [amishi.com](http://amishi.com) is where you can find more info, and the book is called *Peak Mind*. I'll see you guys on the next episode.

