



MIND & LIFE

## Mind & Life Podcast Transcript

### Adam Hanley – Taking Your Mind Off Autopilot

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**Intro – Wendy Hasenkamp (00:04):** Hi folks, Wendy here. We're just dropping into your feed with a short bonus episode. This is a conversation I had last year with mindfulness researcher, Adam Hanley. I wanted to share this with you because it highlights a recent study he did that I think speaks to one of the core aspects of mindfulness meditation. It's often taught — and many of us have experienced — that mindfulness can help us break out of our automatic habits. The thought patterns, emotional reactions... These seemingly hardwired responses we all have, that we may previously not even have been aware of. When these autopilot reactions become problematic, they can be linked to things like intense negative emotions, ruminative thinking patterns, or addictive behaviors. So with continued meditation practice and the growing awareness of our own mental experience that comes with it, it seems that we can gain some kind of space, where we can start to bring in our intention... and maybe form a new response, and start to break down that automatic habit.

**(01:12)** In my opinion, this ability to de-automatize our mental patterns lies at the heart of mindfulness's capacity for transformation. There's a famous quote from the Austrian psychiatrist and Holocaust survivor Viktor Frankl that I think sums it up well. He said, "Between stimulus and response, there is a space. In that space is our power to choose our response. In our response lies our growth and our freedom." What I love about Adam's work is that it takes on this question of automaticity using an elegant, yet simple and extremely well-validated paradigm in the research world. As we talk about in our conversation, he's looking at whether mindfulness training reduces the automatic associations that are formed during a process called classical conditioning. (That's when two stimuli that are paired together become linked in memory.)

**(02:08)** I sat down with Adam at the 2019 Mind & Life Summer Research Institute in Garrison, New York. We talked about his research on mindfulness and automaticity, as well as his early experiences as a graduate student getting into contemplative science, and his current work on self-transcendence. I hope you enjoy this window into some fascinating research.

**(02:30)** And also, just a reminder about the upcoming Contemplative Research Conference taking place online, November 5–8. This is an international academic research conference for scientists, scholars, and practitioners across diverse contemplative fields. And it's also for professionals and leaders in the contemplative space, who want to stay up to date on the latest research. You can find out more and register at [contemplativeresearch.org](http://contemplativeresearch.org).

**(02:59)** Okay, with that, it's my pleasure to bring you this bonus episode with Adam Hanley.

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**Wendy Hasenkamp (03:09):** I'm here with Adam Hanley, thanks so much for joining us today on the podcast.

**Adam Hanley (03:13):** Pleasure to be here.

**Wendy Hasenkamp (03:14):** So I'd love to start just by hearing how you have come to be where you are in this field, and your path so far.

**Adam Hanley (03:22):** Yeah, it hasn't been a very linear trajectory. I hated psychology in undergrad. So I'm currently a counseling psychologist. I did not like research. I had to do an undergrad thesis, and got four participants and I was like, "This is terrible." Nobody wanted to talk about rap music in East Tennessee, which was, you know...

**Wendy Hasenkamp (03:47):** Your thesis was on rap music?

**Adam Hanley (03:48):** Yeah, the effects of rap music on children. So, no parents were signing that consent, surprisingly. Yeah, so it was a problem.

**Wendy Hasenkamp (03:56):** Where you forcing children to listen to rap music?

**Adam Hanley (03:57):** Yeah, so like Eazy-E, Verse, whoever else I could find.

**Wendy Hasenkamp (04:02):** That's awesome.

**Adam Hanley (04:02):** Yeah, so I just thought I wanted to do clinical work, more or less. I guess I'd been practicing for a while.

**Wendy Hasenkamp (04:11):** Practicing meditation?

**Adam Hanley (04:11):** Yeah. More in the context of sports, like anxiety or performance enhancement work, just focusing. So then I got to graduate school, and was pretty bored.

**Wendy Hasenkamp (04:26):** So you went to graduate school for clinical [psychology]?

**Adam Hanley (04:29):** Counseling psych.

**Wendy Hasenkamp (04:29):** For counseling psych, okay.

**Adam Hanley (04:30):** Yes, and was just looking around campus. So I was at Florida State trying to find something that was interesting or compelling, and stumbled across Eric Garland, who was a newly minted professor down there. It was like, "This guy is doing interesting things. It's meditation. I'll explore it." So from there, I got involved with Mind & Life, and there's been this really interesting merger of practice with research that's arisen out of that.

**Wendy Hasenkamp (04:58):** Did you come to Mind & Life through Eric?

**Adam Hanley (05:01):** Yeah, so I think I applied about three or four times, and you guys rejected me at the time.

**Wendy Hasenkamp (05:05):** Oh no.

**Adam Hanley (05:05):** That's the way it goes. I bounced back. *[laughter]*

**Wendy Hasenkamp (05:07):** That's good, I'm glad you kept on! Because looked what's happened.

**Adam Hanley (05:10):** I mean, because again, I had no research history. I had nothing going into this. And so I came twice — 2013 and 2014, I've been reflecting on it this year — which really catalyzed the way I thought about what my career could be as a psychologist.

**Wendy Hasenkamp (05:27):** In what way?

**Adam Hanley (05:29):** Just the complexities of clinical work and therapy and research. All of this stuff could merge and weave and inform everything else. So I could be studying at the same time these practices I thought would be helpful for the folks I was working with. So that balance was exciting.

**Wendy Hasenkamp (05:51):** And then so, after you started coming to the SRI, you got a Varela Grant?

**Adam Hanley (05:56):** Yes, I did get a Varela Grant. And I think I tried a couple of times on that one too... which was super helpful, right? So I didn't know about the grant writing process. I didn't know about the review process.

**Wendy Hasenkamp (06:09):** Yeah, as a graduate student, that's a very new thing to learn.

**Adam Hanley (06:11):** Yes. So just trying again and refining, and just being clearer in that presentation. It was a great learning process. But yeah, so I got this Varela Award funded to study conditioning, and whether mindfulness training would disrupt classical conditioning.

**Wendy Hasenkamp (06:29):** So can you describe for our listeners what exactly classical conditioning is?

**Adam Hanley (06:33):** Yeah, so classical conditioning is this old, quintessential model of learning, where you have a stimulus — often this is food, something that naturally elicits a behavioral response like salivation — and then you pair that with something else in the environment. The sound of a bell, or clapping or something. And so over time, if you continue to pair these things, that sound will elicit the behavior, like salivation.

**Wendy Hasenkamp (07:05):** So this is like Pavlov's dog? Many people have heard of that.

**Adam Hanley (07:08):** This is Pavlov's dogs. Yes.

**Wendy Hasenkamp (07:10):** So, a classic system of learning in the brain. So you said you were looking at whether mindfulness would *disrupt* that...

**Adam Hanley (07:19):** Correct.

**Wendy Hasenkamp (07:20):** Why would you hypothesize that?

**Adam Hanley (07:21):** Yeah, so the definition of mindfulness that I grew up with, was non-reactivity. Right? So there was this attention component, and there's a non-reactivity component. It's that classical conditioning, that automatic response, I guess is basic to my understanding of how mindfulness works. It

kind of slows down that automaticity. There's this paper, I think from 1967 or '68 by Deikman that talked about the de-automatization through mindfulness.

**Wendy Hasenkamp (07:53):** In the '60s?

**Adam Hanley (07:54):** In the '60s, yeah.

**Wendy Hasenkamp (07:55):** Woah, I'd not heard of that.

**Adam Hanley (07:55):** Old paper. But yeah, nobody had really looked at it, and nobody had really directly studied it. So that's the motivation for the project.

**Wendy Hasenkamp (08:07):** Wow, cool. So can you describe your study?

**Adam Hanley (08:10):** Yeah, so we recruited about 50 college students, mostly graduate students, and brought them into the lab on six different occasions. We gave them mindfulness training, or this sham attention training, where I read to them from an extremely boring book about the English countryside in the 1700s, that gave far more detail than anybody needed on barn swallows and things of this nature. Yeah, it's a compelling read.

**Wendy Hasenkamp (08:40):** So what do you mean by "sham"? Because I think of that as, or sometimes you hear of that in a medical procedure. So the participant might think that they're having a procedure done, but they're not. Is that what you mean?

**Adam Hanley (08:50):** Yeah. So we presented the study to students as an attention training study. So that hopefully we wouldn't just get folks that, "Oh, I want to learn meditation. So I'm going to join this study." So [for] everybody it was like, you're either going to learn attention training through this passive, more mindful, just being aware of what's happening for you. Or you're going to learn through a white-knuckle approach. You're going to listen to a boring book and you're just going to hold on and just keep focused.

**Wendy Hasenkamp (09:15):** So did they have to report on content from that material?

**Adam Hanley (09:19):** No. A lot of them, the first two or three sessions, were like, "When are you going to ask me about it? When are you going to ask me about it?" And I was like, "Well, maybe next time." But yeah, so we didn't make them do any sort of explicit report.

**Wendy Hasenkamp (09:30):** Okay, but they thought they should be?

**Adam Hanley (09:31):** Yes. Everybody came in with the expectation that they were going to have to recall.

**Wendy Hasenkamp (09:35):** Okay, got it.

**Adam Hanley (09:38):** So then we sent them through that training. Then at the end of this study, we brought them in to do an eyeblink conditioning task. Which, with Pavlov's dogs, when you ring a bell and they salivate, because they know it's dinner time. Whereas in this task, we rang a bell, which is a little tone through some headphones, and puffed people in the eye with this little short burst of air. So they learned when the bell rang, then they should probably blink, because they were going to get a little puff in the eyeball.

**Wendy Hasenkamp (10:07):** So you were comparing the mindfulness training to this listening to reading, as a form of attention training. And then you were doing the eyeblink startle, and that's your measure of the learning?

**Adam Hanley (10:22):** Yeah, that's the measure of learning. So really the primary outcome was how many times the participants blinked in response to just the tone.

**Wendy Hasenkamp (10:29):** Okay. So when they do that, it means they've learned that... they've associated the tone with the response to blink?

**Adam Hanley (10:36):** Yeah, so that was the "conditioned response."

**Wendy Hasenkamp (10:38):** Gotcha. And so what did you find?

**Adam Hanley (10:40):** So, we found, number one that mindfulness training increased mindful states over the course of training. So, that's a basic important finding, because if that didn't happen, then who knows what we were doing with this study.

**Wendy Hasenkamp (10:54):** And how are you measuring the mindful states?

**Adam Hanley (10:55):** So after every study session, we had them rate a little scale, "I felt aware, I felt present," kind of questions.

**Wendy Hasenkamp (11:03):** So, self-report?

**Adam Hanley (11:03):** Self-report, yep. Yeah, so we found that it did increase state mindfulness. And then we found that the mindfulness training delayed the onset of their first condition response. So the folks in the mindfulness condition were slower to blink at post-testing by about 10 trials.

**Wendy Hasenkamp (11:23):** Okay, so slower to make that association?

**Adam Hanley (11:25):** Yeah. And then we found that the mindfulness training decreased the frequency with which they blinked over the course of that whole task. So they were slower to get conditioned, and they were less frequent to demonstrate conditioning.

**Wendy Hasenkamp (11:39):** Yeah, it's funny. Because I could imagine some people thinking, "Oh, well mindfulness makes you not learn so well?" Like, that's maybe not so good.

**Adam Hanley (11:47):** Yes, which yeah, I think is an interesting prospect. It may, in fact, make people not learn so well. *[laughter]* But I think more of what's happening is that folks just aren't carrying the baggage of the past into each subsequent cue. So, "This tone may be a brand new tone. That doesn't mean I'm going to get puffed in the eyeball. I did a few times, but now here's a new tone. Let's see what's going to happen." That notion of beginner's mind, I think is...

**Wendy Hasenkamp (12:19):** So like an openness?

**Adam Hanley (12:20):** Mm-hmm (affirmative).

**Wendy Hasenkamp (12:20):** Yeah, and maybe there's some... I mean, the word "learning," there's a lot in there. So maybe that's also part of what could be confusing with some of the semantics. So the kind of

learning that you're talking about with this paradigm, is a really, like you were saying, automatized, automatic, there's not a lot of conscious thought in there. And so that's the thing which you found mindfulness to reduce. So that — can you say a little bit about the kind of behaviors in our everyday lives that that kind of automaticity might be related to?

**Adam Hanley (12:56):** Yeah, I mean, I think, so in a clinical setting, the most obvious parallel is addiction. And often you'll hear folks struggling with addiction [say] that, "Oh, I was just back in the bar. I wasn't thinking, I didn't want to be, I just ended up there." So I think this is a really concrete example of that automaticity in action, as driving these maladaptive behaviors. And so maybe what this can do is make folks just more aware when that cue pops up. So they can have that freedom to choose in response to that cue, instead of just being back in with a drink before they know it.

**Wendy Hasenkamp (13:30):** Right, so you could have more intention and possibly freedom in your behaviors and choices.

**Adam Hanley (13:36):** Yeah, yeah.

**Wendy Hasenkamp (13:36):** Awesome. I wonder too about — we're here at the Summer Research Institute once again — and we've heard some presentations about implicit bias and the ways that our minds automatically formed these kinds of associations, potentially between certain groups of people and certain emotional responses or thoughts about them. Do you think that also might be part of... Because there's also been studies that show different forms of meditation are helpful to reduce the implicit bias and implicit associations that we have. So do you think that could also be related to your results?

**Adam Hanley (14:16):** Yeah. I think free will is a powerful narrative. And I think a lot more of our behavior is conditioned than maybe sometimes we give acknowledgement of. So yeah, implicit bias... I think it can really run the range, anything we practice gets automatic, right? And whether that's practiced via social conditioning or that's practiced via family conditioning or anything.

**Wendy Hasenkamp (14:43):** Yeah. That's really exciting. When I saw your paper come out, I was really quite struck by the possible implications. I think it's a really important finding.

**Adam Hanley (14:52):** Well, I'm glad somebody read it. *[laughter]*

**Wendy Hasenkamp (14:53):** I think a lot of people are going to read it!

*(14:55) – musical interlude –*

**Wendy Hasenkamp (14:55):** You've also done some really interesting work around the concept of self-transcendence. Can you describe what that means from your perspective?

**Adam Hanley (15:30):** Yeah, and thank you for clarifying "from my perspective," because my perspective is rudimentary at best. But let me also contextualize this research too, because... Right now, what we're doing is looking at mindfulness-based interventions for folks with chronic pain. This is your classic eight-week mindfulness-based intervention. Pretty much every week starts with some type of meditation. And what we started noticing was, there was this pattern of folks that would talk about like, "I couldn't feel my hands," or "I couldn't feel my legs," like the body boundaries adjusting or changing. And these are the folks, when you ask, "Well, then when you notice that, what happened to your pain?" They were like, "Well, I don't know. I didn't really notice my pain. It wasn't really there."

**Wendy Hasenkamp (16:19):** They were saying they couldn't feel their arms or legs when they were doing the practices?

**Adam Hanley (16:24):** Mm-hmm, yeah. During the inquiry stuff, just breaking down their experience. So we started thinking, "Well, if these people are having these experiences and they're reporting state effects of pain relief, then maybe there's something clinically relevant here." So then we started developing two ways of measuring this through self-report. So just a three-item, brief state scale. "Did you feel yourself dissolve? Did you feel at one with all things? Did you experience bliss?" And a longer trait scale showing frequency of these experiences over time. And my Varela project was the testing ground for the state scale. It seemed like brief mindfulness training was able to adjust how people were experiencing their sense of self in the moment, which is very curious.

**Wendy Hasenkamp (17:13):** People who were doing the mindfulness training reported more of these... So I'm assuming that scale is what you're considering the self-transcendent state that is often reported from meditation?

**Adam Hanley (17:23):** Yeah, it was our best guess at it. So self-transcendence classically is understood to have two or maybe three components. There's this alteration of the self, and then there are these expansive emotional states of bliss or awe. But those experiences of self often occur in one of two ways. So either the self can feel at one with all things, there's this unifying experience, or it can dissolve and melt away, into just this emptiness state. And so we tried to balance items, so they captured both of those transcendent trajectories and that big, pleasant sensation of affect.

**Wendy Hasenkamp (18:06):** And so in that study with the chronic pain patients, did you find any results with their pain or their clinical conditions?

**Adam Hanley (18:14):** Yeah. So we found that after eight weeks of training, the folks that got in mindfulness training, were able to achieve these self-transcendence states during self-guided meditation. So the majority of the studies we've looked at with this, has been therapist-led, there's some sort of induction. But the fact that these folks said, "Oh, yeah, I just shook my sense of self up a little bit without any kind of external aid," is interesting. And those folks that were best able to increase their self-transcendence over the course of training, also felt better at the end of the study.

**Wendy Hasenkamp (18:51):** Like they had less pain?

**Adam Hanley (18:53):** Well, so this is just the state effect.

**Wendy Hasenkamp (18:55):** Gotcha, like a positive feeling?

**Adam Hanley (18:57):** Yes. Well, so I think it's important because in chronic pain patients, and folks that are taking opioids over a long period of time, we really see these hedonic deficits. So chronic pain just saps the joy out of life, right? You can't do these things you used to do, your body hurts. So you just don't feel good very often. And then opioids just restructure the brain, kind of "hardwire" those pleasure centers, so that you just have a lot harder time self-generating pleasant experiences. And so I think that's why that state effect is really interesting, and maybe has important clinical implications. So these folks are finding a way to get a little pleasure from-

**Wendy Hasenkamp (19:37):** To have some joy. Yeah, which is so hard for them.

**Adam Hanley (19:39):** Yeah. And so with respect to pain then, we also found that the folks that reported more frequent self-transcendent experiences from pre- to post-testing, were the ones that reported reduced pain at post-testing, so we actually saw pain drops there. Yeah, and then at three month follow-ups, these folks were misusing their opioid medication less often.

**Wendy Hasenkamp (20:01):** Meaning like, taking too much or...

**Adam Hanley (20:03):** Yeah, so had reduced...

**Wendy Hasenkamp (20:05):** Their use?

**Adam Hanley (20:06):** Yeah.

**Wendy Hasenkamp (20:07):** That's awesome. Those are really some pretty important implications.

**Adam Hanley (20:08):** Yeah, interesting downstream effects. Hopefully we can replicate it, and we'll see what happens.

**Wendy Hasenkamp (20:16):** Right, yeah. So, what's next for you on the research front?

**Adam Hanley (20:21):** So we're really trying to distill how to create these kinds of therapeutic altered states. So we're doing some studies right now for folks about to have surgery — where we're testing whether just a brief induction can hit this transcendence, and what that does to their clinical symptoms in the moment. And then maybe what it can do to their post-surgical recovery. Just really trying to boil down how best to deliver the practice, how best to inquire into people's experience, to better understand how they're experiencing these states. So that we can then leverage them to more skillfully help folks feel better and recover faster.

**Wendy Hasenkamp (21:08):** Right, yeah, because it's probably not a very easy thing to, as you say, inquire into. It's such a subjective thing, and people may not even necessarily be aware of it themselves until you ask.

**Adam Hanley (21:18):** Right, yeah. I mean, so I ask people these questions pretty much on a weekly basis, and they look at them and they just laugh, like "What in the world are you talking about?" And then 15 minutes later after we do a mindfulness meditation, they're like, "Oh... you know it doesn't make perfect sense, but at least I understand what-"

**Wendy Hasenkamp (21:35):** A little bit more of an idea.

**Adam Hanley (21:35):** Yeah, so whether these people are "transcending" or... Ultimately that doesn't matter to me. They're having some sort of alteration that seems to be doing them some good.

**Wendy Hasenkamp (21:49):** Yeah, that's cool. Even a little, as you said, a shakeup of the self, I think... I know for myself, that can have pretty profound effects in your state of anxiety, or whatever else might be happening.

**Adam Hanley (22:04):** Yeah, I mean, because if your self dissolves, there's nothing to be anxious about.

**Wendy Hasenkamp (22:07):** Exactly, that's pretty powerful. Yeah. I guess I'd also be curious if you have thoughts on where the field at large should go, or what are the most important questions from your perspective these days?

**Adam Hanley (22:20):** Well, I mean, I'm certainly biased in this response, but... I mean, Dave Vago wrote this S-ART paper (that's self-awareness, self-regulation, self-transcendence) in 2012 or something, right? Like, the year before I came to this [SRI] for the first time. I was super excited to see him. I was like, "Yeah! You wrote this paper." But we spend a lot of time on those first two mechanisms, I think, self-awareness and self-regulation. And I think, I mean...

(22:49) To me it all comes back to sense of self. And it seems like the majority of our wisdom traditions seek to adjust the relationship with the self and the outside world, these broader constructs. And it seems like there's a lot of energy at this conference around transcendence, certainly a lot more than I've heard at other meetings recently. So it seems like that's one of the places the field is going right now. I'm excited about the individual benefits, like that we're seeing in our chronic pain folks. But maybe I'm more excited about the social reverberations of this stuff, that — maybe we'll just be nicer and kinder people, if we feel more connected to the folks around us. So hopefully the field can contribute to that development. Because I think it's needed in a lot of ways right now.

**Wendy Hasenkamp (23:48):** Yeah, all right. Well thank you so much for taking the time to talk with us.

**Adam Hanley (23:52):** No worries.

**Wendy Hasenkamp (23:52):** It's been great to chat.

**Adam Hanley (23:53):** Yeah, I appreciate it.

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**Outro – Wendy Hasenkamp (24:01):** *This episode was edited and produced by me and Phil Walker. Music on the show is from Blue Dot Sessions and Universal. Show notes and resources for this and other episodes can be found at [podcast.mindandlife.org](http://podcast.mindandlife.org). If you enjoyed this episode, please rate and review us on iTunes, and share it with a friend. If something in this conversation sparked insight for you, we'd love to know about it. You can send an email or a voice memo to [podcast@mineandlife.org](mailto:podcast@mineandlife.org). Mind & Life is a production of the Mind & Life Institute. Visit us at [mindandlife.org](http://mindandlife.org), where you can learn more about how we bridge science and contemplative wisdom to foster insight and inspire action towards flourishing. There you can also support our work, including this podcast.*

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**Wendy Hasenkamp (24:50):** Are you sure you don't want to do a little rap? Just a little beatbox?

**Adam Hanley (25:06):** You know what? I think I'm good. I've retired. I've actually stepped away from...

**Wendy Hasenkamp (25:10):** Ah... Hung up the spurs?

**Adam Hanley (25:11):** Ha! I have hung up the spurs, yes. *[laughter]*