

Alison Whitmire: ... all to the Learning in Action podinar series. Today, our topic is habit change and the science of self-Mastery, and I'm really excited to be here with my guest, Dr. Judson Brewer, who I'll introduced in just a moment.

Alison Whitmire: So, we are we going to talk about today, and what's our intention? One is we're going to talk about ... Whoop. Sorry. We're going to talk about self-mastery and what that means and what the science is. We're going to talk about how our minds work and how we can use that information for self-mastery. We'll talk about willpower. What it is. Is it muscle? Is it not? We'll talk about the impact of mindfulness in breaking bad habits and creating good ones. We'll have, actually, a demonstration of the process of breaking a bad habit, at least we hope, at least the beginning part of a process. And along the way, we'll be doing case studies, talking about case studies, real-life examples of how people have used mindfulness to create better habits or break bad ones.

Alison Whitmire: So, I'm Alison Whitmire, the President of Learning in Action, and I'm joined today with the podinar producer and the woman who makes all this happen, Kris Harty. Hi, Kris.

Kris Harty: Hey, Alison. Hey, everyone. Thanks for joining us today.

Alison Whitmire: So, Kris is going to be monitoring our chat box and will be behind the scenes listening to you and attending to you, our audience, and what's coming up for you so that Judson and I can be talking about what you want to be talking about.

Alison Whitmire: So, what the heck is a podinar? We made up. It's a cross between a podcast and a webinar. We hope it's the best parts of a podcast, so it's interview style and interactive, and it's a webinar, so it's educational and informational, and you get to talk to us and we can go back and forth.

Alison Whitmire: And, why do we these? We at Learning in Action honestly, sincerely want to support a community of people who generate transformative change in the world for the good. We want to hopefully inspire and educate those who help make change for good, and we hope you walk away with something today that enables you to do better, feel better, be better, and that, that will enable you to support your clients to do the same.

Alison Whitmire: So, how do we interact because that's really important? One, if you want to chat with everybody and have Kris see your chat, you can use that. Chat whatever you want in the Chat button. Be sure if you want everybody to see it to change that little arrow to all panelists and attendees. If you want to ask a question, you can put that in the Q&A box. I'll see that pretty quickly, and if it's a short, crisp, clear question, then it's pretty likely that I'll see that in the moment and ask that in the moment. You can put your comments in the Chat box and your questions in the Q&A box, and we'll be doing a poll at the end. If you just want to

participate in the poll and tell us how we did, you can do that by submitting the answer that that fits for you.

Alison Whitmire: So, it gives me great pleasure to introduce Dr. Judson Brewer. Jud Brewer is a thought leader in the field of habit change and the science of self-mastery. He is a psychiatrist, an MD, a PhD, a Founder of Mind Sciences. He is the Director of Research and Innovation for the Mindfulness Center. He's done research and teaching at Brown, MIT, Yale, UMass, and he's the author of the book, *The Craving Mind: From Cigarettes to Smartphones to Love — Why We Get Hooked and How We Can Break Bad Habits*. He's been featured on 60 Minutes and, oops, with Anderson Cooper, which was super fun. That's on his website. His TEDMED Talk from 2015, now I looked on ted.com has like 12 million views, which is super great to see. It's one of the breakout talks from TEDMED in that year, and now it's on ted.com.

Alison Whitmire: So, Jud, welcome.

Jud Brewer: Mm-hmm (affirmative). Thanks for having me.

Alison Whitmire: I'm really glad that you're here. It's really fun to reconnect with you.

Alison Whitmire: After you did that talk at my last TEDx, at TEDxRockCreekPark, my buddy, Nassim Assefi, who was the curator of TEDMED at the time, saw all the ... I think we had 27 speakers. She saw all the speakers and said, "Jud's the one I'm going to follow up with." So, I so appreciate what you did for that TEDx, and I'm so glad that it went on to create that breakout talk for you on TEDMED.

Jud Brewer: Mm-hmm (affirmative). Well, and thank you for the opportunity. It was really fun.

Alison Whitmire: Yeah, yeah. Nassim's amazing. So, I'd love to hear when ... I always love to hear from our guests how they come to this work, and for you, I was like, "Gee. I wonder given all you've done and your many accomplishments and educations," I'm like, "Did you come to neuroscience first or meditation first or some study of the mind first?" Tell us a little bit about the kind of what came first and how it all unfolded for you.

Jud Brewer: Yeah. I was a bit of a stressed out college senior and started when I was starting medical school, had even gone through a bad relationship breakup, and was having trouble sleeping [inaudible 00:06:13] right before I started medical school. So, it was a new beginning in my life, and so I figured, "Let me try something new." And literally, on my first day of medical school, I started meditating.

Jud Brewer: So, I think that question about the studying of the mind, it wasn't even a question for me because I didn't even know the question to ask. It was one of those unknown unknowns, you know?

Alison Whitmire: Mm-hmm (affirmative).

Jud Brewer: It was like I was so identified with it, and I can say retrospectively, now that I know that I didn't know, and I know a little bit more about my own mind, that those two kind of came along together, where when I started meditating, it helped me start to understand how my mind worked. And then, I had this realization, "Oh. I can actually work with my mind," and I shifted my entire career from molecular biology to studying, becoming an addiction psychiatrist, studying neuroscience, learning neuroimaging, doing clinical trials. It was a huge shift for me, but I was so fascinated.

Jud Brewer: And I was also so inspired by how some of the ancient techniques that I'd been learning could be applied in modern day in places where we're really struggling with like addiction treatment that I really wanted to dedicate my life to doing this. In fact, so I was in residency training at Yale, and somebody said to me, "You're going to kill your career doing this," literally. And I said, "Well, I'd rather fail doing something that I'm really passionate about than succeed continuing to do what I'm doing or what I'd done previously." And back then, nobody knew even the word mindfulness. It was really not. Everyone knew clinicals, but very, very few scientific studies, and I think the guy said it legitimately. And who knew that this whole field was going to really blossom like it has.

Alison Whitmire: Yeah. Well, so when your colleague said, "You're going to kill your career doing this," what was the this that you were doing at the time?

Jud Brewer: Well, I'd studied molecular biology. We'd looked at these interactions between like stress in the immune system, and I'd learned how to knockout mice and genes, ask good questions. We'd published a bunch of good papers that were highly cited and all that stuff, so he was saying, "Well, why don't you continue being a molecular biologist and learn these pathways?" And I was thinking, "Well, it's really important to understand mechanistically how things work," yet I realized we could actually apply this to behavioral treatments as well. And that was something I don't think had been done, and it still isn't being done that much, where we're really trying to clearly identify pathways to target.

Jud Brewer: If you think of cancer treatments, back in the '50s, we had things like event Christie and these other chemotherapeutic's that were really toxic because it was like kill everything and hope the person doesn't die, and now, they've got specific pathways that they can target and get very good results, very high remission rates with very few side effects. And I think we owe it to ourselves to take the same approach with behavioral treatments as well.

Alison Whitmire: Yeah. So, what caused you to focus on habits or addiction?

Jud Brewer: Yeah. I grew up kind of poor, and there was something about when I started seeing patients with addictions who really they were shunned from society. They were very self-judgmental, and there was something I could actually relate to them a lot, and I really wanted to help there.

Jud Brewer: There also weren't very many good treatments for addictions, and lo and behold, it turns out that I was addicted to tons of things. I mean, not the classical addictions like cocaine or heroin, but as I started to go through this process of learning, I realized I was addicted to everything from distraction, to thinking, to romantic love, to whatever just to the point where I could write a whole book about this. It's like the first half of my book is the titles of the chapters are like Addicted to Thinking, Addicted to Distraction, Addicted to Love because I can bring in some of my own personal experience. And then, also, the research that my lab has done to bring those together. But it really points out this universality of this addictive process, and that got me really fascinated with not just addictions but breaking it down into habits, like why do we form habits in the first place, and can we actually help people change habits because we're not doing a great job right now as a society.

Jud Brewer: We've got an opioid epidemic. We've got an obesity epidemic. In clinicians and physicians, we have a burnout epidemic. There's like epidemics of all sorts of things. Where's the treatment? What are we doing? I mean, why aren't we doing better?

Alison Whitmire: Yeah. So, all the epidemics, that at least that I heard you name, are epidemics of habit or addiction. So, I'm curious to like what? How do we get so addicted, and why do we stay so stuck?

Jud Brewer: Yeah. This story gets so fascinating. So, it turns out that there's this very basic learning pathway that's set up to help us survive, and we need to ... So, there are a couple things we need. We need food, we to procreate, and we need to avoid danger. And actually, if you want to show this, I think I-

Alison Whitmire: You had the slide, yeah.

Jud Brewer: ... sent along a slide that kind of that I can just walk people through this.

Alison Whitmire: Yeah, let's look at it.

Jud Brewer: This process has been very, very well described from a psychological and a psychiatric perspective. Back in the 1800s, there's this guy, Ed Thorndike, who started studying animal behavior. B.F. Skinner, many of you many know his name, he became famous for this pathway that's described, and you can see here is operant conditioning or reinforcement learning. And basically, if we see

something that looks good, our brain says, "Eat that." We have this craving, and so we eat it, or we smoke if we're ... Well, let's start with eating. And then, we lay down this memory that says, "Remember what you ate and where you found it." So, that was set up to help us survive. You see food, you eat the food, and this dopamine signal goes to your brain that says, "Remember what you ate and where you found it."

Jud Brewer: In modern day, we all have a refrigerator, or at least most of us, and we can ... We don't need to remember where food is, right? We don't have to go foraging for it, and we also don't have to, in most societies that are relatively safe, we don't have to worry about where the danger is. But, these processes are still at play, so our brains start doing things like learning to eat when we're stressed or anxious, or we learn to smoke to relieve stress or whatnot. So, you can see this operant conditioning pathway is still at play in modern day, even though it's literally killing us. Smoking, number one preventable cause of morbidity and mortality in the U.S.

Jud Brewer: And so, I'll just finish with this slide. These blue pieces actually show where we bring in current treatments. So again, mechanistically, if we can understand how something's happening, we can then use that mechanistic pathway to try to target things. So, for example, my patients with alcohol use disorder, if they're ... There's a saying, "People, places, and things." If they avoid people, places, and things and avoid those cues, they're less likely to drink. My patients say, "Duh. I get it." With smoking, for example, it's a little harder to avoid all the different places that we smoke, so we bring in treatments like substitution behaviors like eat candy instead of smoking. And you can see how that kind of treats around the behavior that we're targeting.

Jud Brewer: The problem with both of these, as you can see with these orange arrows, that neither of them actually dismantle this core addictive loop, which may be why, just as an example, smoking ... If somebody quits smoking today, the likelihood that they're going to stay quit in a year is about 5%. So, the treatments aren't at the level that I think most of us would like to see.

Jud Brewer: So, that's the basic process. It was set up to help us survive, and it's actually set up so that we can kind of free our brain space to do other things. You set a habit of getting up in the morning remembering how to walk, remembering how to eat, remembering how to talk because if had to relearn everything, we'd be exhausted by breakfast.

Alison Whitmire: Mm-hmm (affirmative), mm-hmm (affirmative).

Jud Brewer: So, it can be helpful in a way of helping us survive, but if these things get out of hand, which is what we see a lot with habit formation of these addictive habits, then it becomes problematic.

Alison Whitmire: I'm looking at this through the lens of mindfulness probably because we brought it up. We talked about it, and because as you know, I'm going through this meditation mindfulness, mindfulness meditation teacher training, of which you're on the faculty which is awesome.

Alison Whitmire: But now I'm looking at this through this lens, when I look at the blue arrows it's like deny, resist, deny, resist, deny, resist. Now I'm looking through this like a whole new lens as to why these typical approaches don't work. Because they're about denial and resistance. Yeah, anyway, that just came up for me for the first time ever.

Jud Brewer: Oh. What was it, the Borg in Star Trek where they say resistance is futile. The Borg actually knew what time it was because we can interpret that in more psychological terms as willpower does not work. Good luck if you're going to stick with willpower because it's futile. There's a lot of work now suggesting ... it's like a learned in medical school, if you want to lose weight there's this formula, just make sure you have more calories out than in. Instead of eating cake, eat salad. The formula is correct, yet an academic definition of how to lose weight is not what actually happens in the clinics. My patients come in and say, I get it, I just can't do it. We don't wander into the kitchen, early in the morning looking for ice cream. We come in late at night when we're stressed, when we're lonely, when we're tired and all these things where our willpower's at it's weakest.

Jud Brewer: In fact, there's good research now showing that the weakest part of our brain, the prefrontal cortex is the part that's involved in willpower. It's kind of doomed from the beginning, we're relying on the weakest link to help us at the hardest times of day, forget about it. No wonder the quit rates are 5%, no wonder there's this thing called yo-yo dieting. Where people, they get on a roll and lose 10 pounds, then suddenly gain it back. The majority of people on a diet gain back their weight and potentially more. That's why it's called yo-yo dieting, then they try it again and all this stuff.

Jud Brewer: That resistance piece is exhausting and doesn't actually work.

Alison Whitmire: A lot of things are occurring to me for the first on this conversation. One is like this idea ... do you buy into the idea that we have a bucket of willpower in the morning and we eat away at that bucket all day long? Do you buy into that, that we have so much and we kind of use it up?

Jud Brewer: It's a controversial topic and there's been a lot of research on it. There's a guy Roy Baumeister in Florida State that's studying this. Their research suggests that, that's the case. That we become depleted throughout the day, it's controversial. Not all people agree with that hypothesis. Experientially I see a lot of my patients coming into my clinic saying just that. There is some face validity

to it. I would say for the purposes of experimentation, we see this happen all the time, I see this with my patients.

Alison Whitmire: Yeah and I experience it too. I can't come up with the language for this but it occurs to me that there's like the willpower that says, "I won't do this, I won't do this, I won't do this." It gets emptier and emptier throughout the day. Then I think like there's this other thing that's happening to us through the day. Which is like our energy, maybe we're being energetically depleted and emotionally depleted throughout the day. Our deepest level of energetic and emotionally depletion occurs when our willpower is the lowest.

Jud Brewer: Yeah. I think that's true. What do we do when we're depleted? We go back to our old habits because our brain says, "I'm just too tired to think any new thought or to try to see if this new environment is safe. I'm just going to go to what I know."

Alison Whitmire: Does what we talked about address why willpower isn't enough or is there more? Around why just willpower isn't enough to break a habit?

Jud Brewer: I think that's probably enough for ... I tend to be pretty pragmatic. As a clinician I'm thinking what are the essential elements that we need to know. The bottom line is, we kind of have an understanding of what the brain regions are that are involved in willpower. Why it fails, because those are the weak brain regions. I think that's probably enough from a pragmatic standpoint.

Jud Brewer: I guess, we could get into a little bit around what the quality of our experience is around willpower. You talk about resistance because that might help set up some ways that we can actually step out of these habit loops in a different way.

Alison Whitmire: Oh yeah, that's really interesting.

Jud Brewer: So describe for me what, you said resistance, what does that feel like for you experientially?

Alison Whitmire: Let me think. I'm trying to put those two ideas to work for me. The avoidance would be like don't go into the kitchen after 7, or whatever it is. The resistance would be ... If my husband comes downstairs with a bowl of ice cream and says do you want some? Literally, it's energetically depleting. I'm resisting the temptation, that's what I'm resisting.

Jud Brewer: Yeah, it takes a lot of work.

Alison Whitmire: It takes a lot of work.

Jud Brewer: I don't want to put words in your mouth but that's what I'm hearing, is that. So let me ask you one other piece to this. If you were to describe, if you had to put it into one bucket or another from a direct experientially standpoint. Does resistance and does avoidance, do those feel more closed down or more opened up?

Alison Whitmire: Oh it's definitely more closed down. In fact, I'll take it one step further, husband comes down stairs, bowl of ice cream, do you want some? I'll like, no but like I'll go eat an apple. I would never of eaten that apple otherwise or I would never have eaten that otherwise. It's like that substitution behavior that's maybe like the result of the resistance. I don't know.

Jud Brewer: Even when you're not hungry.

Alison Whitmire: I know I want a reward. If it's kind of like, reward, yeah. Do I want a reward, of course I do.

Jud Brewer: That's how our brains are built. Reward, reward, reward.

Jud Brewer: Oh, go ahead.

Alison Whitmire: No, no, no. Go ahead. I think what's next is what do we do about all this?

Jud Brewer: Reward is actually what drives future behavior. So this reward based learning pathway is based, we perpetuate behaviors based on rewards not on the behaviors themselves. If we wanted to change a behavior and it was just about the behavior that drove future behavior, we'd just stop doing this. Say okay, just stop eating that third cupcake or that second bowl of ice cream. It's actually the reward that comes from it that drives future behavior that says, "Oh that was good, do it again."

Jud Brewer: This is where it gets really interesting. Where we can actually tap into the system itself. We started looking at this from a mechanistic standpoint and saying okay, willpower is not doing it for us. Willpower is more based on the behavior piece, just don't do the behavior. But that's not actually mechanistically ... it doesn't get at the mechanism of how our brains learn. Ideally if that's the strongest part of our brain, the strongest learning mechanism, why not tap into that?

Jud Brewer: That's where we started looking at mindfulness training. Mindfulness in a nut shell is about helping us become very aware of our actions. Very aware of that coupling between action and outcome. Behavior or cause and effect. So if we eat the ice cream, what's the effect of eating the ice cream?

Jud Brewer: Let's use something simpler than food, let's use smoking for example. If we smoke a cigarette and we're not paying attention we're just going to continue smoking it, habitually. If you smoke a cigarette and we pay attention, I do this with my patients all the time. We do this, we have this digital therapeutic, an app based mindfulness training for smoking called Craving a Quit. The first thing it has them do is pay attention while they're smoking a cigarette. They come to this thing ... I had a guy come in, he was smoking I think 40 cigarettes ahead. He had reinforced that pathway about 293 000 times, we calculated this out, so he'd really grooved that a lot.

Jud Brewer: I said, well let's pay attention. The app walks him through like, what's it feel like when you inhale and all this, what's it smell like, what's it taste like. He's like, "I never realized how terrible this is. I've been doing this for forty years." What that does is help our brain get accurate and updated information about how rewarding something is. With smoking in particular, it's not that rewarding. Vaping's a different story, they really, they understand this and so they are like, "Okay, what are all the things that are nasty about smoking and let's get rid of them. Let's make it mega flavored, let's make it into some cool hip looking thing or whatever." They know the mechanism and they're using it for various purposes.

Jud Brewer: With smoking, we can just see this as a proof of concept, how this works. We have people pay attention as they smoke. Their brain starts to get accurate and updated information so that reward value starts to drop and they're less excited to smoke in the future. There's no willpower involved in becoming disenchanted with something, you're just like, "Why would I do that? It tastes like crap." In our first clinical study we got 5 times the quit rates of gold standard treatment with mindfulness. Helping people pay attention but also giving them tools to work with so that they could ride out their cravings. It actually feels pretty good when you can notice, the sensations that come up when we have a craving and realize these are just sensations they're aren't some moral imperative that you have to act on.

Jud Brewer: We can not only help people see that there's a lack of reward in the old behavior but there's actually something that feels better. I think of this as the bigger, better offer. We give our brain the bigger, better offer. With mindfulness the bigger, better offer comes in the flavor of curiosity, kindness, connection. You can think of those things where instead of the contractive quality that comes with the craving, we can actually get curious, "Oh, what's this craving feel like?" In that moment it flips the valance from unpleasant contracted quality to more open curiosity that feels good in itself.

Jud Brewer: I even had somebody, we have a ... we've gone to make app based trainings for eating called Eat Right Now. One for anxiety called Unwinding Anxiety. It's amazing with this Unwinding Anxiety app, we had somebody report that she had replaced her old feelings of panic and worry with curiosity. So when panic

comes up, her automatic response was, "Hmm, that's interesting." She said something like, "It really takes the wind right out of it's sails." Because it just feels better to be curious right in the moment when we're having a craving or we're having a panic attack. There's a great example of how she could actually hack that same habit loop, to replace the old behavior of worry, with the new behavior of curiosity. That is always available for her, it's not like she has to go to the store to buy curiosity, it's just the matter of fostering it.

Alison Whitmire: That's super cool. We've got some questions, I'd love to get to. Both from our audience before and pre asked questions. Shannon is asking the question, "How do habit pathways in the brain versus research on gene expression in the amygdala, that contribute to addictive behaviors, intersect?"

Jud Brewer: That could be a whole hour long lecture. I'll say briefly, one I think the amygdala is somewhat a misunderstood part of the brain. A lot of people have kind of popularized it as this, the fear organ. It's actually a little more nuanced than that where it helps us pay attention to see if something is dangerous or not. With the addiction pathways, one thing that is common in how genes can contribute to this is that every known drug of abuse leads to dopamine release in a brain region called the nucleus accumbens. That's part of this reward based learning system where it says, "Oh remember what you just did, do that again." Dopamines actually about helping us learn.

Jud Brewer: As we've learned something it motivates us to do that behavior again. When we've learned something then they we have a thought or we see a trigger of something like, oh ice cream, we have a thought of ice cream. That's dopamine makes us restless and motivated to get out the chair and go to the kitchen to get the ice cream. There are a number of genes that contribute to, whether we're more susceptible or we release more dopamine or have different receptor levels for the dopamine in our system. Some folks are even more susceptible to those things than others.

Alison Whitmire: Great, makes sense. Jodie asked the question, "How does moving into alpha brain state help change with process, help to change habits?"

Jud Brewer: Assuming that she's talking about EEG alpha waves, I'm guessing. [crosstalk 00:30:24]. I would like to say, that we know something about that but alpha is a pretty broad ... it depends on where in the brain it is. EEG, even though it's been known for a long time, there's not a whole lot that's actually been clearly described around general alpha rhythms and addiction and have a change that I'd like to see. It's something certainly my labs been studying but we look at more specific brain regions where we can actually use EEG neural feedback. This is a thing that Anderson Cooper came in and played with-

Alison Whitmire: Yeah, that's cool.

Jud Brewer: There's specific brain regions we can target and look at brain signals and certain EEG activity that correlated with that closed state of getting caught up in a craving or getting caught up in anxiety. And then, the open state that comes with bringing awareness to whatever our situation is.

Alison Whitmire: Janet [Emit 00:31:26] is asking the question about the habit of procrastination and how this works around like the habit of procrastination?

Jud Brewer: Yeah, it's a great question. I could make a bad joke about, we'll get to that one later. You can think of a trigger being, "Oh, I have to get this report done or I have to do something." The procrastination comes in where that probably doesn't feel very good. So that triggers us to procrastinate so that's the behavior.

Jud Brewer: The result of that is that we get a brief relief or a temporary remiss from that unpleasant feeling of having to do something-

Alison Whitmire: So that's the reward?

Jud Brewer: Yeah. If you briefly bring up one of the simplification slide [crosstalk 00:32:18] What I'm talking about is we can actually distill a lot of what we talked about with reinforcement learning to three things. Which is a trigger of behavior and a reward or result. Typically the trigger is something that doesn't feel good. For example, procrastination fits right into this where, "Oh I have to do this, I have to write this paper."

Jud Brewer: Oh actually, if you just go back one slide I think, this is the ...

Alison Whitmire: There it is.

Jud Brewer: There it is. Then we do things like we binge, we worry, we look at cute pictures of puppies on Instagram as a way to procrastinate. Then we get this temporary relief that comes with distraction or whatever the brief reward is. That's probably enough of that slide to give folks a sense for the simplification of the process. You can probably just close these for now, we'll come back to ... well actually I'm going to show this here.

Jud Brewer: What we were talking about earlier is that we can actually replace these old habits with the new behavior of curious awareness. Which is something that's already and always available to us. What that does is give us access to something we think of as sustained relief because there's less forced involved, curiosities always available. And it feels better than both the craving and satisfying the craving itself because often satisfying the craving leads to us wanting more and more and more and more.

Jud Brewer: Especially, sugars a great one. Where sugar just says, "Oh, time to eat more." I remember, somebody brought some homemade chocolate chip cookies to my house not too long ago. As soon as I finished one, my brain said, got to eat another one, got to eat another one. That's really different from me than eating dark chocolate. Like 85% dark chocolate has a satisfaction quality to it where I don't actually have to eat very much of it.

Jud Brewer: That's kind of this as a summary slide of where my mindfulness comes in.

Alison Whitmire: Cool. So we're getting some questions about the prefrontal ... people kind of say, the prefrontal cortex is the weakest? Why are we saying that? How else can that be described? Why is that and how do we think about it?

Jud Brewer: It's a good question. From an evolutionary perspective there are these ... the brain stem and these old, I think of them as, old systems, the ones that are involved in really critical functions. Like breathing, heart rate, temperature regulation all that stuff. Some describe these are like the reptilian brain or kind of the older brain. On top of that we've kind of layered on, it's kind of like an onion, you layer on newer and newer and newer parts of the brain. The newest part of the brain called the neocortex is the part that's on the outermost part and actually the prefrontal cortex is the part that seems somewhat most evolved. It's not seen in lower animals.

Jud Brewer: That's the part that's involved in thinking planning, willpower and things like that.

Alison Whitmire: Okay. Great. Kris, I've taken all of the questions out of the Q&A. What's going on in the chat that Jud and I should respond too.

Kris Harty: We have a whole lot going on in the chat. This is quite the topic and it's spurring a lot of questions and reactions and experiences. One question that's come up is from Janet and she says, " How do you stop the, got to eat another one." And shift to mindfulness? How do you make that shift in the middle of when you're already in the action, you don't necessarily want to continue. What practice is there?"

Jud Brewer: Yeah, it's a great question. In our Eat Right Now app, we actually teach people something which can seem heretical to the traditional diet programs. Which is go ahead and eat it. We say don't stop because this isn't about willpower, that doesn't work. If it worked then you'd stop. We actually say go ahead and eat it but just like I described with the person smoking a cigarette. We say really pay attention to the cause and effect quality of the experience.

Jud Brewer: What's it like when you eat the first cookie? What's it like when you eat the second cookie? What's it like when you eat the third one? Is there a difference in quality of the experience? Is it less rewarding, does it become less rewarding?

Jud Brewer: Are there other things that come in like does our stomach feel bloated? Do we feel guilty? Do all these other things come in that we can really pay attention to and start to see how unrewarding that quality of behavior is. We think of this as I like this, one of the exercises we have people do is ask this question how little is enough? As in, really pay attention as you're eating and like is this enough? Is this enough? Is this enough? So they can really pay attention to the rewarding quality of the experience.

Jud Brewer: I have a friend Daniel Small who's a food researcher at Yale and she actually, for her PhD thesis fed people chocolate in a pet scanner. Where she could scan their brains as she was basically doing that experiment. What they reported over time was loved it, loved it, liked it, it was okay, not so good, I hate this get me out of here. Same chocolate, but over time the reward value just drops because they've had enough and then they've had too much. Interestingly there's a part of their brain that's part of this default mode network, that mindfulness actually targets. That was activated at both ends of the spectrum. When they really wanted more and they really wanted less. The idea here is these brain regions get activated when we get caught up in any extreme, I want more, I want less, I want to make this go away, I want, I want, I want.

Jud Brewer: Mindfulness is really about stepping back from that and welcoming whatever or experience is, even if it's a craving so that we can be really curious about what's happening. In particular, if we're going to eat the cookie, really bring awareness to that so in that moment we can bow to it as a learning opportunity. And say, what can I learn from this, who can I learn how my mind works, and how can I learn about what the actually reward value is of this experience right now? So that in the future I can recall that and be like, do I really want to do that? Not in a thinking level but in a direct experiential level where our body is kind of telling us.

Jud Brewer: Our bodies are much wiser than our minds. The bodies what drives future behavior and that goes back to that old brain stuff that I was talking about.

Alison Whitmire: Cool. Thanks Kris what else?

Kris Harty: Yeah. We have a lot of other choices, comments, and questions to chose from. One is from Shannon and she says, "You could work so hard on changing habits but can those get overwritten by what is going on in a molecular level?"

Jud Brewer: Yes. I think this comes back to the willpower piece. When we try really, really hard that doesn't tend to stick. Because it's not rewarding for our brains. At a molecular level, our brains are looking for what's the biggest reward that I could possible get right now? If our willpower's not very rewarding, the result of the resisting something might be a little rewarding but we can actually tap into that reward in different ways as we've been talking about.

- Jud Brewer: At a molecular level, the willpower piece for example is absolutely getting overwritten.
- Kris Harty: Very good. We have an insightful quote or comment from Tim as well. He says, "Mindfulness is the definite antidote to unconscious perception." Do you have a comment on that?
- Jud Brewer: I like that because I think we often ... these habit loops get formed and when we start wearing a pair of glasses that we think of as subjective bias glasses. Where we don't even know that we're wearing the glasses because we've been wearing them so long. It's kind of like we're walking around, whatever our habit we've learned, maybe it's the ice cream habit. We're walking around the world on the lookout for ice cream. Especially, if we're sad, that radar goes up and it says I need some ice cream. That's this unconscious piece that's telling us, find that ice cream, find that ice cream. Mindfulness as, was it Tim said, it helps us kind of take those bias glasses off so we can actually see clearly?
- Alison Whitmire: Great. Well thank you Kris. I think we'll continue on here. Let's go through the demonstration, if you're up for that? I have to tell you, so when we talked, I don't know it was a few weeks ago, and we said okay let's do a demonstration. I'm like, I don't know, I don't have any really bad habits. I work really hard to have good habits and bad habits. Then you suggested chocolate and I'm like oh damn him.
- Alison Whitmire: I had such, just in thinking about the idea of us having this conversation about chocolate. I have been, what I think, recognizing how addicted I am to my addiction, how habituated I am to my habit. Even though I kind of intellectually know that if I didn't eat chocolate maybe there'd be ... although I eat the dark chocolate too. It's like maybe I'd be healthier, maybe I wouldn't have those calories ... But like, no. I'm like no I want that. I mean, don't make me not have that. It's like an addiction, I'm addicted to my addiction. I just wanted to out myself with that.
- Jud Brewer: I like that you bring up chocolate because it's nuanced. I think life is nuanced, so this is real life. What we can do is explore, you can explore the full spectrum of chocolate. For example, with milk chocolate, there's enough sugar in there that it can drive us to just be like, keep eating, keep eating. We can explore, what's it like to eat a bar of milk chocolate versus, paying attention, eat the milk chocolate see how much is enough versus eating the dark chocolate. For me, the milk chocolate just keeps driving it whereas the dark chocolate, it's actually just a couple of squares. Especially really good, like 85% dark chocolate. It's really satisfying but doesn't drive the process in the same way that the milk chocolate, which has more sugar in it does.
- Jud Brewer: What's your experience when you've eaten milk versus dark chocolate?

Alison Whitmire: I tend not to eat milk chocolate just because I don't honestly prefer it. I'll tell you though, what I've been curious about, this is just caused me to be curious about my habit. My kind of mentalizing around my habit, which is the mentalizing around the habit is I have worked my ass off all day long. I've been helping other people trying to do good in the world, it's a little bit like by god I'm going to have me some chocolate. I feel some real deservatude and rigidity around it.

Alison Whitmire: Some of that, when I reflect on it, it doesn't feel very good to talk about. Here's the other thing I'll share. I don't eat a lot of chocolate, a couple of squares but since you and I have talked about this, I'm more noticing while I'm eating the chocolate. This is what's happened, is my body stops wanting the chocolate more quickly but my mind is going oh man. I wanted some chocolate. Anyway, that's my experience.

Jud Brewer: I'm so glad you're able to see that nuance between the body and mind. The mind saying, oh man I want more. We can separate the piece where, it's not to say we shouldn't eat chocolate, like chocolate can be very rewarding. In a sense if there is deservatude, if we're going to treat ourselves, who treats themselves by punching themselves in the face or cutting off their hand or doing something that's not rewarding. In fact, a lot of times when somebody sits down and indulges. They're actually harming themselves when we don't pay attention to that aspect of things. We're like oh yeah I'm treating myself.

Jud Brewer: Well, how are you treating yourself by eating a full pint of ice cream or eating a whole chocolate bar. If we actually pay attention, that's not treating ourselves at all, that's not rewarding. So, if we pay attention like you're talking about you can get the rewarding aspects of a treat like eating some dark chocolate. There's this residual where it's just the mind that says go go go, that's habit. It's kind of like saying, well you're suppose to eat more, you're suppose to eat more. But when you step back and you say that's not actually the reward. I've gotten my reward. Then that helps our brain quiet down and be like oh yeah, sorry I just was stuck with the on button.

Alison Whitmire: Yeah.

Jud Brewer: Then it's much more rewarding when we've actually ... it moves us from self indulgence to true self care. The reward is self care, the overeating or over doing it is indulgence and that's actually just habit playing itself out. That's not actually caring for ourselves at all.

Alison Whitmire: If I were, a client with a behavior that was derailing me. How would you work with me to change that behavior?

Jud Brewer: It's a great question. I would start by, actually I was just in clinic yesterday doing this with somebody. I would start by helping, as I try to understand what your

story was like or what was going on for you. I would just literally map out what the habit loop was. I just did this with somebody I saw for the first time yesterday who came in with, he was bingeing and purging. He had gained a bunch of weight from alcoholism and he looked on the internet and the internet said the fastest way to lose weight is purging which is terrible, I don't know. Careful on the internet folks.

Jud Brewer: So he started purging and he lost a bunch of weight. The trigger would be thinking about his weight and then the behavior would be purging after he ate food. The temporary reward was that he was losing some weight. We just mapped this out and helped him really understand what was actually happening in his experience. That was the first step.

Jud Brewer: Then the next step is to really see ow rewarding it is. He was like, yeah it's not rewarding at all, it does not feel good. There, whether it's ... that's an extreme example somebody in my psychiatric clinic, but this can happen for any of us. Whether it's bingeing on news, on social media, on Netflix, on whatever. The first step is just to map this piece out and then the second step is to really ask ourselves how rewarding is this from an experiential standpoint?

Jud Brewer: I use the simple question, what am I getting from this? Not in a thinking way but directly experientially, like what does it feel like, what's it feel like? If I'm eating, what's it feel like in my stomach? If I'm bingeing on Netflix or scrolling through social media, how's my mind feel? You know, am I foggy, am I kind of zoned out? Really seeing that cause and effect relationship.

Jud Brewer: Then, train people to become aware and bring in mindfulness practices. It's a three step process, it's relatively simple, not easy to do. Which is why we've developed these step by step app based training programs to help people. 10 minutes a day walk through this and apply it into their own lives. But that's the basic process, is short moments, map it out, see how rewarding it is, bring in mindfulness practice, repeat, repeat, repeat.

Alison Whitmire: So I can see based on what you've said that for when I got a bad habit, which taken to an extreme actually, when I bring awareness too it, it doesn't feel good. I can kind of see how that can work. What about the creation of a good habit?

Jud Brewer: How would you define good habits?

Alison Whitmire: For instance someone who really says that they want to exercise and that doesn't become something they actually do.

Jud Brewer: Yeah. Here the same principles apply. Is really paying attention to what it's like when we're moving. Generally, what's it feel like when we sit on the couch all day versus even just going for a walk around the block. For me, it feels good to get up and move. For most of us, unless we're injured or have some other issue,

our bodies want to be in motion. They want to move, at least some time. We can just start at those very simple levels as looking to see well, what's it like when I don't exercise versus what's it like when I exercise.

Jud Brewer: Which is really different, then I think of it as shoulding. I should exercise. There's this joke, we should all over ourselves because we get in this habit of oh, we have this thought, I should exercise. Then we force ourselves to exercise which actually isn't very rewarding. That process, this is the new years resolution failure syndrome, if you want to think of it that way. That process is doomed to fail because we're doing it because we think we should as compared to doing something because it's rewarding in itself. Here, there's so many habits that we can take into where we notice how rewarding they actually feel.

Jud Brewer: For example if we want to break the habit of social media or being on our phone all the time. We can pay attention to what it's like when we're on our phone all the time versus having a really good conversation with somebody. When we feel connected with people, it feels good. That in itself, we can just remember, oh what's it like when I actually had a good conversation and I wasn't distracted by my phone. It feels so much better than when we're totally distracted by our phones.

Alison Whitmire: Great examples. Kris, lets look at what questions we have. We probably have time for one or two before we close.

Kris Harty: Sure, yeah. Let's take a look. There is a lot out there. One is, someone was asking about, "What are some specific tips for how coaches can help their clients to break habits and replace them?"

Jud Brewer: That's a great question. I would not do it service by just giving little snippets but I can give you a pointer to some free resources where you can actually learn this. Because I've gotten that question so many times, I actually put together a 7 part short video series that's free on my website. Specifically for healthcare providers but this could be for anybody who's trying to break a habit around, learning how habits are formed, what the mindfulness evidence is. And even things like developing resilience, working with burnout and overcoming tech addiction, I think is the last one.

Jud Brewer: My website's DrJud.com, D-R-J-U-D.com. In there, there's a courses tab at the top and there's only one course that anybody can take for free and if you're a physician you can actually get continuing medical education credits through Brown University. So I'm going to refer you to that resource rather than do it a disservice by skipping through it. Because it's not as simple as like, here's a three step process and is guaranteed to work. It's really about understanding how the mind works and then how to apply mindfulness to it. Which is why we've put together this series of trainings for it.

- Kris Harty: Great. Thank you. Do we have time for any more Alison or?
- Alison Whitmire: I thought maybe just one more and then we'll start to close out.
- Kris Harty: Okay. One second. How about someone was asking about let me read this one to you, "I've read that addictions come in bundles, in other words we usually have more than one addiction. Are there certain addictions that seem to go hand and hand, that result in breaking them becomes more difficult? Or is having more addictions helpful in terms of mapping them in order to better see what's going on and then create the new map to receiving reward?"
- Jud Brewer: Yeah, I tend to think of the latter. There are some because I have an addiction clinic I'm a little biased in that direction. I often see people who smoke and then drank, or use drugs and what not. That's the one I've seen most but I think the latter as this person described very nicely. Is that the more we have, the more we actually have an opportunity to learn how our mind works. The nice thing is we don't have to apply a different solution to each of these because it's the same learning process. We can unlearn each of these in the same way.
- Jud Brewer: I'll give a concrete example, I saw a patient who was referred for severe anxiety. He had classic panic where he couldn't drive on the highway and all this stuff. I gave him our Unwinding Anxiety program. He came back two weeks later and he said, "You know, I've lost 10 pounds." He was overweight and I we're working on anxiety, he said, "Yeah I realized I eat to manage my anxiety." He came back a month later he had lost another 20 pounds and he was like, "I'm noticing all these other habit loops." The panic was really entrenched so he was making some progress with that but in the meantime all these other habits seemed so easy for him, he's like oh yeah I just don't eat like that anymore because I realized it's just not rewarding.
- Jud Brewer: It's that bundle for him that helped him start to, not only change these other habits but give him the confidence to be able to work with his big one, which was his panic and his anxiety.
- Alison Whitmire: That's so great. Let's make sure everyone knows where these resources are that we're talking about. In fact here in our last couple seconds, Kris if you'll launch our poll and people can tell us how they enjoyed this today. Let's first got to Dr. Jud's resources. The free course for healthcare providers about habits and everything Jud just talked about is on his website DrJud.com.
- Alison Whitmire: Also, Jud you talked about the apps. Information about the apps is on the website too, right?
- Jud Brewer: Absolutely. All of these are available and anybody can get access or they can learn more about any of the apps on the DrJud.com website.

Alison Whitmire: Right. Definitely go there. You've got his website, check out his talks on Ted.com. Of course, his book the Craving Mind. You can find it on Amazon and probably any place they sell books. What we're doing here at Learning in Action, if you're wondering who are these people that pod on this podinar series. We are a company that is about and measuring and building relational intelligence. If you'd like to know more about that you can check out our free training that's 90 minutes on October 25th. You can learn all about that at LearinginAction.teachable.com. Kris will put that in the chat.

Alison Whitmire: Then we have all these other trainings here which I won't go in detailing each and every one. We hope you'll check one out with us, they're fun and informative. Next time, our next podinar guest is Dr. Jeffrey Hull, who just has a new book out called Flex: The Art & Science of Leadership in a Changing World. That's going to be on August 2nd, 1:00-2:00 eastern. I know you'll enjoy it. Jeff has been with the IOC for many, many years. He's done research on coaching and leadership topics with the IOC. He just came out with his book it's also available on Amazon. I know you're not going to want to miss that podinar.

Alison Whitmire: Jud. Thank you so, so much for joining us. It's been super fun. I got a lot out of it. I believe our audience did too.

Jud Brewer: It's my pleasure. Thank you for having me.

Alison Whitmire: Thank you. Thank you Kris, thank you team. Thank you every one who showed up today. Continue on, be well and fight the good fight. We love the work that you're doing. It's so important and we want to support you so have a good Friday and a great weekend. Let us know what we can do to help. Bye now.