Project Sleep Podcast
"Shifting Cultural Perceptions of Sleep with Dr. Michael Grandner"
(Sleep Insights Series Episode 8)

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The Sleep Insight Series invites listeners to learn about this amazing adventure we take every night called sleep. Through these insightful discussions, we examine sleep, and our societies beliefs about sleep, from a variety of angles. We hope you'll learn some cool new facts and analogies that you can use to help us raise awareness about this under-appreciated one third of our lives. This is a written transcription of the podcast "Shifting Cultural Perceptions of Sleep with Dr. Michael Grandner" (Sleep Insights Series Episode 8) from Project Sleep. Transcription provided by Mirela Starlight.

Project Sleep is a 501(c)3 Nonprofit Organization, dedicated to raising awareness and advocating for sleep health, sleep equity and sleep disorders.

All guests and speakers express their own opinions. While medical diagnoses and treatment options are discussed for educational purposes, this information should not be taken as medical advice. Each person's experience is so unique, which is why it's so important to always consult your own medical team when making decisions about your own health.

Project Sleep recorded this conversation in March 2020, during Project Sleep's annual Sleep In to help society make peace with sleep.

Julie in intro: Sleep is often seen as this boring thing that doesn't get us anywhere. In this podcast, I speak with sleep expert Dr. Michael Grandner, about reshaping cultural perceptions of sleep, seeing sleep as an investment in our future. We also discuss the importance of winding down at night before sleep, and cognitive behavioral therapy for insomnia. Dr. Michael Grandner is a licensed clinical psychologist, director of the sleep and health research program at the University of Arizona, and director of Behavioral Sleep Medicine Clinic at Banner University Medical Center in Tucson, Arizona.

Julie: Hello everyone! I'm so excited today because we have a very special guest with us, Dr. Michael Grandner. So I just would love to hear from your perspective, how did we get it so wrong as far as sleep and productivity, and why do we think that we're weak if we sleep?

Dr. Grandner: Well, I think that one of the problems that we have is that since we're unconscious when we do it, we don't really recognize what's happening. And so when I'm talking to a group, a lot of times I like to start with this idea that sleep is a biological requirement for

human life. Period. Right, and so I say okay, what else are the biological requirements for human life? And then people say food, water, air— and then it gets quiet. 'Cause that's a pretty small list, when you think about it. Sleep is on that list, it's a fundamental part of our biology, that we sleep. And yet we live in this society where we have these relatively unhealthy attitudes towards sleep— and I think that part of it has to do with the fact that sleep is seen as un-productive time. And there's nothing more un-American than un-productive time. And so we want to be productive, we want to be our best selves— and we can't be our best selves when we're not even awake, right? Well the truth is, that that's very wrong. I mean and we see, our experience of sleep is very passive. But, you know you don't have to tell someone with narcolepsy this, but— sleep is a very active state. Actually, we see sleep as a cost. A lot of us live paycheck-to-paycheck with our sleep. Where it's— how much do I have left, at the end of the day to spend? You know I've only got a couple of— two nickels to rub together, and so I guess I'm only sleeping for— couple hours, and then I've got to start my day. But really that's not how we should be thinking about sleep. We should be thinking about sleep as an investment. Rather than sleep being the amount of time you have left at the end of the day, you should be thinking of sleep as, okay how do I want to function tomorrow. Rather than seeing sleep as a cost, we should be seeing sleep as an investment in ourselves, we should be saving.

Dr. Grandner: So when I talk to athletes, one of the things I say is, alright— I know you're busy, and you're overscheduled, and you've got all this stuff to do— but I say, what if I told you that I had a routine, an exercise routine for you. It would take— I don't know, for most people it would take 30-60 minutes, but I could improve your performance by— depending on the data, depending on the study— between seven and 30 percent, depending on the sport, and who it is. Would you do it? And like, yeah! I'm like alright, well what if I told you, you didn't have to do it every day but if you did it most days you'd get more benefits from it. And what if I told you that the main side effects from this exercise routine, there's also great evidence that shows that it will also improve your brain function, your grades are gonna go up, your relationships are probably going to get better— and you'll be better able to manage your weight. Forgetting any other kind of benefits. And you have more energy during the day, and your mental health will improve. Would you do it? They say, well what would I need to do it? I'm like well, it's 30-60 minutes a day, at least start with that, and you could do it in your bedroom, every night. And it's free. Like if it cost money, people would do it. You know, but it's seen as— because it's something that we're already built to do— it seems to lose value. Human nature is to want what we don't have. And not to appreciate what we do have. And for many people, sleep is something we do have. For a lot of people sleep is something we don't have. And for them sleep becomes very interesting, and it becomes something that they do want, and chase after, and start learning how to prioritize. But for a lot of people I think, it's just that sleep is seen as something that— if not for the weak, it's represented by rest. And like, I don't got time to rest. And— the truth is— you don't have a choice. And that's why I think we have this issue.

Julie: I think when you said that, it reminds me kind of like analogies, I think analogies are really powerful but they can also be really detrimental, and— sometimes I think, you know, think of sleep as like shutting off— but then you think it's as if nothing happens. But it's actually it's whole other life. It's like a different life that we have, but yeah, just not being aware of it— and yeah, like you said it's just a bodily process so— we never say, oh, eating is for the weak, or— it's always like, "sleep when you're dead," like how about, "go to the bathroom when you're dead?" no—

Dr. Grandner: Right! (laughing)

Julie: —no! Ridiculous.

Dr. Grandner: Nobody says, you know what, clean air is a luxury for people with too much free time.

Julie: Right.

Dr. Grandner: You know? And nobody says, you know, when I retire, I'm going to— start eating healthy.

Julie: Yeah.

Dr. Grandner: You know, and that's because of how we see it. I mean, a generation or two ago, we weren't where we are now, with diet. And physical activity. We weren't there. And— I just think back to, as a kid, things like— do you remember the Scooby Doo cartoons.

Julie: Yes.

Dr. Grandner: And so remember— remember Scooby and Shaggy, and then they'd always go off on their side thing, and they would always invariably make a sandwich that was like, three feet tall? Right?

Julie: Yes.

Dr. Grandner: You could never put that in a kid's cartoon anymore. Because it's showing an unhealthy relationship with large quantities of food, that you don't want to like, show kids now. Right? I mean, that's sort of faded away. But a generation ago, that was funny. That was normal. The fact that he was super skinny and ate this— large amounts of food. And I think we're just— we're just a generation behind with sleep. That we've figured out that actually, you know what, with all this stuff going in our society right now, focusing on the fundamentals of our body is actually requiring some effort, unfortunately. And so we're started with food, and then— I remember a time where when if you took an hour out of your day, to go for a walk or go to a gym or something, get some physical activity— you were seen as weird. Now, you're seen as— wow, that's something to emulate. This person takes their health seriously. I just think we're changing, as society has grown up around us in ways that make— giving our body what it needs to function properly more difficult. You know, we're starting to— counteract that with better habits that need to be a little more deliberate, I guess.

Julie: Yeah. So, I have kind of a hard one for you, I think. I do think that, you know when you say— when you mention about the athletes, and this will improve your relationships and do all that— the same time, I think it's from my perspective of having gone about five years of losing touch with wakefulness, completely— once I felt like I felt wakefulness again, what I described in my book is that, I actually— it felt like nothing. Like no— pulling down on my skull. It was just clarity. And it was a form of freedom to me, and all at once nothing felt like something. But I do wonder sometimes, that because wakefulness— it's not like, you just feel nothing, it's kind of a strange state to— I mean it's certainly better than feeling pulled down by sleepiness, but I do

wonder if that makes it somewhat challenging to— show people the benefits, because as you make good choices every day and you're negotiating other parts of your life, and— you know maybe you can't do everything that you want in a day, 'cause you're trying to prioritize your rest— how easy is it for people to say, oh my god I really do feel better. Like, with the athletes—

Dr. Grandner: Right.

Julie: —do they end up saying like, that they really feel so different, or?

Dr. Grandner: So, they did when we asked— they did. I think we needed to ask, and have them think about it— so like we had over 90% of the people who participated in the one study we did, reported, you know they felt better, they felt more in control, but you may or may not notice it walking around during the day. I think it's sort of like— speaking of analogies— I think it's sort of like, American culture. Where people say you know, American culture is not culture. 'Cause it's sort of the background, it sort of becomes the default. And therefore uninteresting. Not to make any cultural statement, I think it's just that— when something sort of becomes sort of the default, and the background, and sort of the lowest common denominator sort of experience, it's inherently— not rewarding. You know, it's a little less, "Yes!" you know? At the same time, I'm sure that my eight year old would love to eat candy for every meal, but like— we can't. I have to say no to that, you know—

Julie: Yeah.

Dr. Grandner: — I gotta put my foot down somewhere. But, I think that that's sort of the point, where we're not built to want to— you know, vegetables, and— you know, do boring physical activity and like— we're not built for that. We're built for things like novelty seeking and things, and sometimes— we have to override some of our natural inclinations in order to do what we need to do. I mean, and I don't make all the perfect healthy choices. I mean I— at all, being a massive overstatement. I do what I can, I do what I try to do, and so do we all— the goal isn't to be perfect. You know, the goal is— to be mindful— to reali— to sometimes delay gratification. To sometimes— you know, sometimes saving money is boring, but it's a lot more fun when you have it in the bank and you wanna buy something you want. And that's hard. That's not human nature.

Dr. Grandner: So, when I was learning mindfulness meditation, I had a teacher who I think was great because up until that point I feel like I never got it, it never clicked with me, about this whole focusing on your breath thing. Where like, I just can't do it. I can't sit there and focus on my breath. I can't. My mind immediately goes to 30 different places. And he said, well of course it does. Like, well I thought I was supposed to focus on my breath. He's like, well that's the instruction, but no one ever can. I said, well what do you mean? He's like look, this comes from the idea that humans, by nature, the way we survive, the way we grow— the way we conquered the Earth, is because we're dissatisfied. We're always dissatisfied. And the reason for that is, we're built to totally take for granted everything we have, and want what we don't have. And he's like, there's the one thing we have right now, in this room— is your breath. No one can take that away from you, and it's here— you don't need it, it doesn't cost any money, and it happens without your even awareness that it's happening. So it's the ultimate thing that people take for granted. So I said, well I can't focus on my breathe 'cause there's not enough interesting about it to demand my attention. He's like, alright— try holding your breath for 30 seconds. All the

sudden it'll become very interesting. Because at that point you're gonna want it, and you won't have it.

Dr. Grandner: And to some degree, sleep is kind of like that. For some people who are struggling with sleep it's not. But for people who are living their live with this perception that sleep is sort of this— well, it's this boring thing that doesn't get me anywhere, that doesn't do anything for me, it's like your breath. That, until you don't have it, it's very un-interesting. But it's actually really important, and sometimes sitting there you know being able to appreciate the air coming in and what it feels like and then you can feel it all across your body and it helps relax you and— and you can just sort of feel the relaxation as you're focusing on these big deep breaths— you can do that anywhere. You know, you have it. It's yours. And you just forget. And I think that sometimes with sleep it's like that, that it's just— it's not in our nature, and so sometimes we have to— override our nature a little bit, to be able to appreciate how awesome of a thing it is, and all the things it does for us.

Julie: Yeah. And I think, it's just so interesting how you say that, because I think— even like a very natural kind of cycle throughout a day, as I was getting sleepy myself but I think just in general, for general people, is like— oh I'm tired, get coffee. Oh, I'm tired— you know go get a Red Bull. And like how those trips, even— kind of like smoking, like you know you get into these routines of doing things that are kind of fun throughout the day and you kind of like these— I don't know.

Dr. Grandner: Right.

Julie: But I like how you talk about control, and about it being an investment. I think those are— everyone wants more control, of themselves, and— I need to think about you, channel you saying like this investment, because every time—

(Dr. Grandner laughing)

Julie: — before I take a nap I'm like fighting sleep, and I'll always be better after I take my nap, so. I just need to make that investment in my time, after the nap. That I will feel better and be more productive. (laughs)

Dr. Grandner: Right, well and that's the thing, where— it's sort of like— like a lot of people who have trouble falling asleep, among all the different things that help falling asleep sometimes— the best, for people who wanna go to bed a little earlier, and can't— even people without insomnia who wanna go to bed a little earlier— sometimes it's not about going to bed a earlier, sometimes about waking up a little earlier. And you start— you actually anchor around the wake up time, which you have a little more control over— and that has a duration of wakefulness, that lands you where you want it to be at night. And, so some— everyone can be hyper focused on the falling asleep transition, but sometimes the most efficient way to get to bed a little earlier is actually wake up a little early, especially for a couple days. And the point of that is that, sometimes it's not about who do I hand the ball to, it's about how far down the field do I have to throw it for someone to catch it? And so sometimes it's actually about what's downfield, not what's right here. Maybe it's not about— what do I want to do right at this moment, to delay that now. Maybe it's more about, well where do I want to be, at the end of the day. And what is actually the most efficient way to get there, where people see sleep as inefficiency. But what's

actually the most efficient way to get to what you want? And think backwards. And then you actually if I'm like, well actually if I don't get good sleep I'm not going to function well tomorrow— and it'll take me eight hours to do six hours' worth of work. And so— I actually would much prefer to have an extra hour of sleep, which will buy me more time tomorrow.

Julie: Right. You know that's—

Dr. Grandner: So just thinking a little bit ahead.

Julie: Yeah. Oh, my gosh. Alright, we have so much to get to still!

Dr. Grandner: Oh yeah, okay, okay, okay. Sorry.

Julie: But I want to talk about insomnia with you. But first, before we get to that— you know I think I'm really behind, I just was reading this book, "Why We Sleep" by Matthew Walker—

Dr. Grandner: Yep. Yep.

Julie: —and you know, I think it really brought to my attention— I was already in love with sleep, 'cause I founded a non-profit about it—

(Dr. Grandner laughing)

Julie: But it just really— you know I think the science is coming along and we kind of understand more and more, that sleep impacts every part of your body, every system.

Dr. Grandner: Right.

Julie: But from your perspective, what do you think is one of the most underrated aspects of how sleep impacts— 'cause I know it affects our glucose, and can lead to diabetes, and obesity, and— but the mind stuff, how it affects your emotions— so, what do you think, if you had to choose just one area that you think is underrated.

Dr. Grandner: I know. So, I'm a big fan of Matt's book, I think it's great. It's not a textbook, it's for the public, and I think it does a great job at helping educate people about why sleep is important. And he talks about a lot of different things in there, one aspect that I think is underrated in terms of the benefits of sleep, is— (sighs) there's so many, but besides productivity, I mean I would say— the easy answer for me is productivity, because we all want to be more productive, and we all wanna be more effective— so productivity and effectiveness. But, that's becoming less overrated, as more people are understanding it. The thing that I think is most overlooked is— mental health. That— show me someone with a short fuse, I'll show you someone who's not sleeping well. I mean, show me somebody who has— a negative outlook on things, and is really difficult— I'll show you someone who's probably not sleeping very well. And it's not that sleep is a cure to all mental illness. I'm not saying that. But what I'm saying is, is that— part of what we were talking about before. With some of the functions and what sleep is

for, is about memory and emotion. And helping make us who we are. And help us navigate the world and react to the world and understand the world.

Dr. Grandner: When that's not doing what it needs to do, we fundamentally have more difficulty interacting with the world, and making sense of things, and seeing things in perspective. And that's why things like depression and sleep problems are intertwined. You know so much so that— it's one of the most reliable findings in all of medicine that insomnia and depression are linked, over and above depressed mood itself. You know it's not about just the depressed mood. When people talk about not sleeping, the first thing they talk about is stress and anxiety. Besides that pain, which also causes mental health issues. And we know that if you take a bunch of people with sleep problems who don't have mental health problems, versus people who don't have sleep problems and don't have mental health problems, the people with sleep problems are going to develop mental health issues at a much higher rate, much faster. Because sleep plays this really important role. And I think we undervalue the role of sleep for our mental health.

Dr. Grander: I think people listening should know that— you know, there's been dozens and dozens of studies now, linking sleep problems with suicide. As an independent relationship. Actually, difficulty sleeping triples the risk, for not just thinking about suicide but actually attempting, and actually dying by suicide. And these effects seem to be over and above the effects of just depression itself. That something about being awake at night— is troublesome. And especially people who have sleep disorders spend a lot of time awake at night, when the brain wants to be asleep, and is not thinking very clearly. We don't know exactly what's going on in the brain, if NIH would fund the study we submitted, you know we might learn about what's going on in the brain in the middle of the night when people are awake and thinking these thoughts. But, we'll get there. But for now, the best evidence we have is that— when people wake up during the night, their emotions are off, their awareness is off, their decision making is off, people catastrophize, they blow things out of proportion— and I think that speaks to the importance of sleep for mental health. And so when you're not sleeping, what does that do? I guess that's my answer to your question where, we forget about the mental health connection with sleep and I think that's critically important.

Julie: I love that answer and I hope that mental health also comes along in you know how important we even consider that—

Dr. Grandner: Seriously.

Julie: —in our country, so— you know. I think that our mental health is underrated, but I think we're getting there hopefully and that that connection— I know you were telling me, when I saw you in Arizona, that you did have a new study that was gonna be coming out soon— I mean the like, results?

Dr. Grandner: Yes.

Julie: Is that out yet, or?

Dr. Grandner: Yeah, so we have a study— so a couple years ago, and I'll try and make this quick— so a couple years ago, ironically this story comes back to Micheal Breus, who is that

undergraduate professor in that class. It turns out, he moved to the University of Pennsylvania a bunch of years later. When I graduated from PhD program, and I got a post-doc in the College of Medicine, at the University of Pennsylvania, he was in psychiatry. So we ended up back at the same institution again, a bunch of years later. And as it turns out, we sort of reconnected. Both of us now in different phases of life, I was no longer an un-washed 17 year old, or 18 year old, or whatever. And now he was an associate professor instead of a new assistant professor. And so we actually sort of reconnected and started talking again and so it ended up— our offices ended up being next to each other. So we worked toge— so he was very interested in sleep and depression, and he would always have this saying, "it's a bad thing to be awake when reason sleeps." 'Cause he saw in insomnia patients, which was his area of interest, that people with insomnia would have brain activity where it didn't belong. And that might be part of why people with insomnia perceive a lot of wakefulness and stuff happening during the night that even our sleep technology can't detect. Which is why sleep diaries are still used in insomnia. Because there's stuff going on, under the surface.

Dr. Grander: And so he had this hypothesis that— if this is correct, being awake in the middle of the night, when your brain wants to be asleep, is related to brain changes, that will lead to increased suicide. So we looked for national data on suicides by time of day. We found one, and it turns out that when we control for the proportion of the population awake across each hour, at a national level, the spike for suicides happens in the middle of the night, between like two and five in the morning. Which was shocking. No one had ever published this before. And we actually had a hard time publishing it. But then we wanted to follow up with it. And this is what I was telling you about, was this follow up study where we looked to see— okay, does this depend on— on anything, does this depend on season of the year? Latitude, longitude. Does it depend on what you use, as a method for suicide. So we got all this data from the CDC where they're tracking all these things, through vital statistics. And it took us a long time to comb through it all, and we found that— nope, not really. It actually doesn't matter what season of the year it is, or— what you use— what method you choose. It's— that decision— that happens in the middle of the night. And then actually, we're going to be presenting at the sleep meeting this summer and we have a paper that's submitted on this, that we actually looked at other national data, just looking at— within the same person, the people who are more likely to be up at night, are more likely to be having suicidal thoughts. And this is not necessarily in depressed people.

Julie: Wow.

Dr. Grandner: So, there might be something going on. That we need to better understand, especially as this is a public health problem that's getting worse. And especially people with sleep disorders who are disproportionately more likely to be awake at night, and when you talk to people with sleep disorders, they don't like talking about this. But I would bet that a lot of the people listening, you know there's— there's recognition going on. Of what it's like to be awake in the middle of the night, with no one else around— it's dark and it's quiet, and your mind isn't always in a good place.

Julie: Mm-hmm. Especially if you're dealing with hypnogogic hallucinations and sleep paralysis and—

Dr. Grandner: That could be scary, and overwhelming, and people could end up feeling hopeless, and helpless, yeah.

Julie: Wow. Well that is such incredible research and I know you've mentioned insomnia a few times now, and I really want to hear a little bit more about cognitive behavioral therapy for insomnia, and because I think it's really not super well recognized in the general public. Something I've become familiar with, but please tell us a little about that, and how it compares to using medications for insomnia.

Dr. Grandner: Yeah, I mean, so— briefly, cognitive behavioral therapy for insomnia or CBTI is a collection of techniques that— I mean it has the word therapy in it, but it's more like physical therapy than psychotherapy, where it's really a training protocol to re-teach your brain how to sleep. So the thing with insomnia is, there's a million causes of short-term insomnia. Where an insomnia being, you're trying to sleep, it's the right time to sleep, everything is set up for you to be able to sleep, but you can't. And it's causing problems. There's a million things that can cause that. But it looks like there's one main cause of chronic insomnia, where this has been going on for months. And that's something called conditioned arousal. Where, when you get into bed, instead of your brain saying, oh, I'm in bed, this is where I should sleep. And the bed itself has the power to put you to sleep— instead, you get into bed and subconsciously your brain's like, oh this is the place to be awake, and toss and turn and think and worry and all this stuff. And, you know, the bed loses it's ability to put you to sleep. It's sort of like, you know this is an issue for you if you get into bed and you're like, well, I might fall asleep, I might not. Or when you wake up in the middle of the night you're like, oh, here we go again, without even realizing it. It means this was a learned process. And this happens in a very simple way. It most of the time just has to do with repeated exposure. It's the same reason people hate going to the dentist, right.

Julie: The dentist is the worst!

Dr. Grandner: Right, exactly! Right? Like you're in the waiting room, and you're in a bad mood. Like, nothing happened yet. Nothing has triggered this physical and emotional response in you, you're just anticipating it, because you know what's coming. And you even get— it's so well engrained, you're in a bad mood before you even get in the car. And you're sort of stressed out all day. And that's because you've learned that this place, and this set of behaviors is tied, inextricably— with whatever mental and physical discomfort is coming, right. And so, that's sort of what happens with the bed. Where, without meaning to, just by repeating over and over again— let's say something keeps you up at night. But what you do is you stay in bed, unable to sleep. And then you do that, over and over, you get into bed, can't sleep. Eventually maybe fall asleep. Get into bed, can't sleep. Eventually fall asleep. Your brain figures out this pattern pretty quickly. That— especially people who say, I get into bed and I can't turn my mind off. Well that's because you taught your mind to go. You taught your mind to turn itself on, in bed. Just, by doing it. You inadvertently trained yourself to do this. And CBTI— the reason CBTI works, is because that's actually the only thing it really focuses on, is a training protocol. It un-trains the wake response with the bed, and trains a sleep response with the bed. Like sometimes it actually requires some work, and scheduled manipulation and things, but you're using your natural ability to sleep. So with patients I say, this is going to be a lot less like psychotherapy, and a lot more like potty training.

(Julie laughs)

Dr. Grandner: You know. We're going to teach your brain, and your body, to do something it physically can do— it just doesn't know how. And it forgot how. So, and we can't tell it. So what

we have to do is we have to create the environment and shape the environment so that it learns, and then it will be able to do it! So, it's actually a lot of the same learning process as something like house breaking your dog. I mean it's the same learning theory behind it, and it works— that's why it works really well— it's a learning and training protocol to teach you to sleep. And so, against medications— so medications will work a little faster— but head-to-head, I mean this has been studied for decades now. Head-to-head, CBTI seems to be as good or better, for sleep. And in the long run it almost always seems to outperform it. Because when you stop taking medications, there's a subset of people who will improve. Who will stay improved. And there's a subset of people who will then get worse again. With CBTI what happens most often is because you're teaching skills, actually people tend to be better six months after therapy than when they ended. The thing about CBTI though is— there's still not a ton of people doing it. There's a lot more than a generation ago, but there's still not a ton of people who know how to do it. And a lot of people have misconceptions 'cause CBT for depression and for anxiety and for other stuff, is very focused on thinking and like thought patterns— like CBT for depression is focusing on like, your automatic thoughts and how you react to situations and how you can reprogram those thoughts. Where CBTI is very behavioral, and there's very specific techniques that, to be totally honest are not rocket science. They're basic learning theory, but they work really well, but they sometimes require an expert to help implement them efficiently.

Dr. Grandner: So for people who are looking for a CBTI therapist, like talk to your sleep specialist, say hey— if you have insomnia on top of narcolepsy or any other condition, say hey I'm interested in getting CBTI for my insomnia. And if they know who to refer you to, they'll refer to you to someone local. There are a couple of online directories that are pretty good. One is if you look at the Society of Behavioral Sleep Medicine, that's the main organization for psychologists and other behavioral therapists, so there's a lot of CBTI practitioners there, you look in their directory. Another directory is, actually the website is cbti.directory and that's set up through Penn. Where they do lots of trainings and they just keep databases of all the people they've trained and other people who wanna sign up. So that's another good directory— and also, like if anyone's listening, and someone's saying, I don't know how to find someone by me, I am totally happy to have just people google me, find my email address or you could post it, and just email me and say hey, do you know anybody in— Akron, Ohio, or like, some random city, or something nearby, and I can either say oh yeah, here's someone to call— or, you know I'll put a call out to the network and see like hey, does anyone know anybody and I can get back. And I've done that a bunch of times.

Julie: Thank you! That is awesome, it's— I just think it's really not well understood. And I imagine it somewhat goes back to— well, there's a lot we could talk about primary care and—

(Dr. Grandner laughing)

Julie: —and how they might manage or not manage—

Dr. Grandner: Right.

Julie: —or mismanage, I think a little bit sometimes, and not their fault, but— sleep, and— so, I just wish more people knew about it, 'cause that is one of the one areas that, you know, I've heard people say that this is really obvious how much more beneficial or maybe you'll say

equally, or— but it sounds like a lot of studies have shown that it works better than the treat— than the medication?

Dr. Grandner: Yeah. And without the same sort of side effects. I mean, it's not always easy and sometimes you actually— you can get some effects from it where like you might be tired as we're reworking your schedule and it might be a little bit slower, but— in the long run it tends to work out for people. Very rarely do I have a patient go through my clinic that doesn't come out the other end at least significantly better. And most of them have come in on medications or saying like, I've tried everything and it doesn't work. And also, a quick note, most of the stuff that is being prescribed by, especially non-sleep experts, is a lot of medications not indicated for insomnia that people are describing because they're sedative and have side effects that are sedating people, but actually a lot of the evidence shows that even though they're a little sedative they don't even improve sleep very much. And so, there's a lot of controversy around people prescribing things like trazodone, for insomnia. Where— well, the most recently meta-analysis of all the different studies looking at trazodone versus placebo shows, pretty much all cases it doesn't beat placebo. But it's still probably the most prescribed medication for sleep problems. Especially people who don't want to prescribe you know, sedatives. But there are other options out there. There's behavioral interventions. There's even books out there and workbooks that will walk you through the basics of CBTI on your own if you can't find a therapist. So, "Quiet Your Mind and Go to Sleep" is a good one, by Colleen Carney and Rachel Manber. There's a few good ones, Sarah Silverman also has— a good one. There's a few of them out there— they're not going to be the same as an in-person therapist, but it might help with some of the basics.

Julie: That is so important. So, I think I've heard you talking about like night time, winding down at night and I loved how you said that yeah maybe actually it would be better if you tried to get up earlier, but as far as going to bed at night, I think through talking to you and going to the pediatric sleep conference in Florida earlier this year, I thought it was really interesting about— and we're all obsessed with our phones and our tablets and all that, at night— and we probably shouldn't be, and there's a lot of problems with it, but— I think it's been really interesting to hear a little bit about what you're doing on your phone, or what you're watching on TV, like how that can actually even have an impact and I don't think we've always been super aware of that, so can you talk a little bit about some of that?

Dr. Grandner: So two things, one— winding down is critically important. I mean if we were trying to stop our car, we would expect that we have to start tapping the breaks before we want to stop. And the faster we're going, the sooner we have to tap the breaks and give ourselves enough time to— I mean, airplanes don't go straight up and straight down, like you need to land. Especially when you have all this forward momentum, like in an airplane, like you can't just go straight down. It doesn't work that way. And the body doesn't work that way either, we can't just be awake, and then asleep. Unless, you know, you have a sleep disorder that does that. But the idea of being able to get into a normal, healthy sleep from being wide awake, requires that transition. And if you're expecting that it's gonna happen like that, then you get into bed and you're wide awake, well no wonder why you're gonna cause yourself insomnia. You're gonna create that conditioned arousal, because you're gonna be in bed and your mind's not ready to be in bed yet. You know just because your schedule is ready, doesn't mean your body is ready. And so it will take that time, whether you like it or not. So it's better to plan for it, and budget for it. So it's like, you know, if I was gonna drive from here, Tucson, to L.A., there's no way I'd make it on a single tank of gas. And what I could do is drive until I'm on empty and then panic and hope I'm not too much out in the middle of nowhere—

Julie: That is not advisable.

Dr. Grandner: — like it is most of the way between here and L.A., then you're looking— searching for a gas station and freaking out, as opposed to, planning where you're gonna stop for lunch, for a pitstop, and fill up. And know that you're gonna stop there, and plan for it. So like, you can't— you can either, you know, try and control the situation, that can't be controlled— or, you can plan for it. And if you can budget for it, it takes a lot of the stress out. So that's my schpeel about winding down, that it's critically important, and it's probably a main reason why a lot of people have insomnia is that they don't give themself enough time to wind down in the first place, which is why you can't turn your mind off. Because, you know it's like I can't stop my car. Well, how— you just started pressing the break, it's not going to stop yet.

Dr. Grandner: But about the screens, so there's three aspects of screens that interfere with our ability to sleep. One is the light, and you hear a lot of talk about the light and potential melatonin suppression from the light. And you don't get environmental cues in the same way. The second one is the mental activation. So, a lot of people are on their screens to wind down. But either it's distracting, which just hits pause— it doesn't actually help you relax, relaxation is— relaxation is like exercise, it's active process, and if you're a little too passive you're just distracted. And distraction is good sometimes, but if you're trying to relax, distraction isn't always gonna do it. Not only is it very distracting but sometimes it's very activating. So now you have to wind down from the thing you were trying to use to wind down. 'Cause now you're all worked up, 'cause now you've been watching the news, now you're upset about whatever was on the news, or— now you're in your Facebook feed or your Reddit feed, or whatever— and you keep going and something grabs your attention and, because of these never-ending feeds, there's a never-ending supply of things to grab your attention. And then the third thing is time displacement, where because of this distraction you lose sense of time. So, all these people who say, I don't have an extra half an hour to fall asleep, but I definitely have an extra half an hour to watch an extra episode of the thing, like oh, I've gotta find out what happens next. So you lose time, and part of what happens when you lose time, is you also lose the ability to pay attention to your own body because you're so distracted. So it's like, if you're watching couple episodes of a show and then next thing you know you're binge watching and it's four in the morning or whatever, usually when you have these things that are very distracting, at the end you're like, all of the sudden, I'm exhausted, and I need to go to the bathroom, and I'm thirsty. You know, because your body was sending you all these signals all along, it's just you weren't paying attention. Or you could've been able to go to bed sooner maybe, if you had noticed that you were getting tired.

Julie: Wow. I think that is so important to think about. And what would you recommend then instead of using your— I mean like is it like, need to read books again? Which is good. I need to be reading more.

(Dr. Grandner laughing)

Julie: I think for me it's like, I just feel like that's the time of day— and maybe this is what I need to do is— build a time of day that I'm able to watch TV, 'cause I don't like watch TV, I just kind of do that as I'm going to bed, that's like my free time— so maybe I should build free time in earlier, and then read or what would you recommend at night?

Dr. Grandner: I think reading is definitely a great choice, because, you know unlike TV it's at your pace, not it's pace. So like if you need to slow down you can slow down. If you can't focus on the page and you see your head bobbing, that's your signal to go to bed. As opposed to something you could just sort of lay there passively and maybe just listen to. Reading is great. Even watching something could be fine, if you're the kind of person who could turn it off at any point— if I said turn it off now, would you get cranky? If the answer is yes, don't watch that thing. It's too engrossing. So if you're gonna watch something, watch something that you're okay putting down. So for some people reading is like that, where they can't read because they're too engrossed in it. But for a lot of people reading is fine. Listening to audio books, and other stuff is very good. And sometimes just sitting and even writing, journalling, like that's a great thing to be doing. Like you don't have to sit there and meditate for an hour. But there's lots of things you could do that are just less— I mean, TV is not there, and these apps and social media, it's not there— to relax you. It's there to sell you stuff. And to grab your attention. And know that. And so consciously make a decision to try and either do stuff that's not gonna grab your attention, or be willing to let it go. So, one trick I have for people who are sort of glued to their phones at night, especially in bed. Is first of all, don't do it in bed. You're gonna hate me for saying this, but— the best thing to do, is if you feel like you need it, to wind down— stand up. And if you're standing, and scrolling through, whatever— eventually you're gonna wanna sit down, and you're gonna wanna put it down. That's your signal that you don't need it anymore.

Julie: I've never heard that. I think that's amazing!

(Dr. Grandner laughing)

Julie: I mean I don't like it, but I think that you're right—

Dr. Grandner: Right, I told you! (laughing)

Julie: —and I should try it. (laughs)

Dr. Grandner: I told you, you're gonna hate it. But it actually works pretty well.

Julie: Yeah. Oh, my gosh. I'm gonna ask you then, I think just one more. What do you think is the exciting, like— I've heard you say that the last 10 years have been really productive as far as how we understand sleep.

Dr. Grandner: Yeah.

Julie: What areas— and both, you know, I want you to tell me about what you're gonna study, but what you think other people are gonna do? Like, where do you think that it will be exciting— that things that we could learn, that would be really important.

Dr. Grandner: Yeah, I mean so I think, in the past 10 years— So, one of my first grants that I wrote as a post-doc was— looking at real world short-sleepers and impacts on cardiovascular metabolic disease. And when I wrote that grant, that was 2010. So it was about 10 years ago. And, not funded, terrible score— and the comments that came back were largely, this is not a

high priority area. Sleep isn't a cardiovascular risk factor. You know, the data is still cross-sectional— there's all that stuff. What sleep disorder is this? You know you're not treating a disease here, this is not our priority. Within a couple years, you know the first grant that I actually hit on, was actually a very similar— it was just a revised version of that same grant. Which was— looking at real world short sleepers and cardiovascular and metabolic disease risk. Not just sleep deprivation. Which was at the time all there was. Why sleep deprive people on purpose when we have plenty of people out there, who might— you know be walking around. So how much of the stuff's out there in the real world. And I think that goes to show that like, the most amazing thing in the last just 10 years— was going from the sleep field being either— like sort of basic neuroscience and biology, and what is the machinery of how the brain works in sleep, or— treating clinical sleep disorders, like insomnia, sleep apnea, narcolepsy, and really nothing in between. To— the idea of sleep health. You know, the concept of sleep health outside of sleep disorders medicine was just over everybody's head. About 10 years ago. Like no one, like, what are you even talking about here? Is this a sleep disorder, or what is this? Saying sleep is a component of healthy lifestyle and behavior— that's what I think been the biggest advance in the last 10 years, and you've seen how it's dramatically grown. Where people are actually talking about sleep, not just sleep disorders.

Dr. Grandner: The clinical sleep community is still sort of wrapping it's head around it, it's still whip-lashing from this, I think, a bit. But you know there's a whole— sleep is a whole dimension. So the American Heart Association, they're divided into councils. One of the councils was the council on nutritional, physical activity and metabolism. So that was the council that focused on, you know, whole grains and high fat diets and getting exercise, for— like all that sort of stuff. A bunch of years ago they changed their name, to Lifestyle and Cardiometabolic Health. And when I first went to that meeting before that name change happened, I was one of two to three people presenting sleep stuff. It was like me, Marie-Pierre St-Onge, and Mercedes Carnethon, who where the only other— they were more senior than me as people doing sleep related work. Now, we have whole sessions on sleep at this conference. You know, I think— I don't know how to even overstate how big of a change that whole conversation is. And I just feel lucky that I'm here when it's happening. Because I get to do the thing that I think is super cool, and I get to talk about sleep and sleep health with like real world people, not just how this one receptor works. And I get to do it with real people who are actually kind of caring about it, like how awesome is that. Where 10 years ago, it's banging on doors and nobody really— what are you even talking about, sleep isn't part of health. So, that's my answer to the first question of what's the biggest thing, the biggest thing is just all of it. Is the idea of sleep health, itself. Now we have a journal called Sleep Health. Now we have all this stuff that didn't exist 10 years ago.

Dr. Grandner: But in terms of moving forward, there's a couple of areas that I've been focusing on that I think are really cool. One is this issue of sleep and real world mental health. I think that— like, I'm trying to delve into this a little more and figure out how we can harness this association we've known for a long time, how do we take it to the next level and make it— and make it really useful for people, other than like insomnia patients, or depression patients. How do we take this into the real world. Another one is— the issue of sleep disparities, and the idea of sleep as a social justice issue. Where— who doesn't have time for sleep? Well, we all seemingly don't have time for sleep. Is it because we hate sleep? No. It's because the social and physical environment gets in our way. Our jobs get in our way. Life gets in the way. And, why is it that, if you are a racial or ethnic minority in the U.S., no matter what your socioeconomic status is, you're more likely to sleep less. You know, why is it that no matter what race or ethnicity you are, if you're poor, you're more likely to sleep less. You know, why is it that— you know, so when people who live in urban areas, where there's more light and noise at

night, but they have shorter commute times. So how do we shape our physical environment to get in the way of, or optimize sleep, and how can we use that information to help support the people who are at most risk for everything else? And so are we setting them up to be in worse health, disproportionately, by impacting sleep in this way. So I've been very interested in this issue of control. And how do you develop strategies outside of a sleep clinic, like out in the world, how do you help people gain control over sleep when they feel out of control. And so that's something that's intensely interesting to me, is how do we take what we know about behavior change theory, and social environment and built environment, and attitudes and sleep physiology and how do we bring all that together.

Dr. Grandner: 'Cause right now, what we've got is, you know you should probably get at least seven hours of sleep. You know tell that to a shift worker or someone working three jobs. They're like, thanks. That was completely unhelpful. But, so like with the athletes for example, this is where I started testing out some of these strategies of, I can't change your practice schedule, I can't change that you have to get up at five o'clock in the morning as a 20-year-old, three days a week to lift weights. I can't change that. Can't change your training, can't change your practice, can't change your class schedule. Can't change the fact that the University keeps making homework due at midnight in their portal. I can't change any of that. What can we do? Like if I were a student right now, knowing everything I know, and I were in your shoes— what would I do differently. And so, let's teach that. And so we've been working on some of these strategies. So that's where I think— I mean there's all kinds of great translational science on understanding sleep and understanding the biology of circadian rhythms and how things like, every cell seems to have clocks in it, that are somehow tied into the circadian cycles, and they interact with each other, and play a role in sleep-wake— how amazing is that? And how amazing is it that we'll one day be able to use that information, to help promote health. You know, there's all kinds of cool stuff happening.

Julie: It's— I'm sure everyone is probably as excited as I am hearing you talk about that stuff, it's just incredible. I think I feel like— you know it's such a weird path for me to have taken— myself, into the sleep field and communications and patient advocacy but, you know I think what you said like, 10 years ago there wasn't that much. I still feel like, it wasn't just like I got narcolepsy and I thought, oh that'd be a good thing to talk about. It's that you really in this field there is like a sense of purpose, that there's so much lacking, you know. There's so much to be done. And so that— this specific field, it really does drive me so much every day to want to get up and work hard and do a lot in this field too, so. I just wanted to also mention to you guys that when we are advocating for sleep research, on Capitol Hill, it's a little bit complicated how that all works out but we are asking our legislations to make sure they are encouraging NIH to fund research and when NIH funds sleep research, it is researchers like Dr. Grandner, his colleagues at the University of Arizona, and colleagues across the country at U-Penn, Stanford, Harvard, you name it. Those are the people that benefit. So this work that he's talking about, and his grants and the process of getting funding, that is all— a lot of times federal funding. And that is what we are working on, it's just a big process of how we go about it but, when we speak to our representatives and our members of the senate, this is all going towards people like Dr. Grandner. That's the hope anyway, and it is a process and hard to always quantify the difference we are making, but we are making progress, so.

Dr. Grandner: In our world, grants are like— like I'm super grateful for all this advocacy because— it's the federal government that funds the life blood of research. That's just how academia is built, it's built on grants. And without people like you out there, reminding people

that sleep research means public health and benefits across a wide range of things, it makes our job way harder. So thank you.

Julie: Yeah, of course. No, I think as a patient there's some ways you feel out of control, and I think advocating is one of the ways that we actually take control back, and feel empowered— so it's also like a huge benefit I think, to us— just thank you for doing your work, and— we'll hopefully be able to talk to you more another time—

Dr. Grandner: Yeah!

Julie: Thank you again, Dr. Grandner—

Dr. Grandner: Yes.

Julie: —and I will be, tonight I'll probably have to be standing and watching a little bit of TV, and—

(Dr. Grandner laughing)

Julie: I'll be thinking of you! (laughs)

Dr. Grandner: Yeah, tell me how it goes.

Julie: I will.

Dr. Grander: Awesome.

Julie: Alright—

Dr. Grander: Thank you, take care!

Julie: —bye for now, everyone!

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