Robert Bossarte: Welcome to OOMPH!. OOMPH! is the official podcast of the West Virginia Injury Control Center, an informal discussion with the Inter control Researchers to help our listeners think about this topic in a brand new way.

Robert Bossarte: Today I'm joined by a team really of people, this room has more people in it than I've ever seen before, to talk about a mindfulness based project. I'm going to let everyone introduce themselves. I'll start as usual, with Dan, who's to my left today in a lovely shade of pink.

Dan Shook: It's peach.

Robert Bossarte: Oh, peach.

Dan Shook: Thank you Rob, my name is Dan Shook. I'm the director of the Mountain Safe Program, which is the outreach program for the Injury Control Research Center.

Keith Zullig: My name is Keith Zullig. I'm a professor in the department of Social and Behavioral Sciences, and one of the co-investigators on the project here, that we're going to talk about.

Laura Lander: My name is Laura Lander, and I'm the social work faculty in the department of Behavioral Medicine and Psychiatry, and also co investigator on the mindfulness study.

Meghan Tuscano: My name's Meghan Tuscano, and I'm a second year MPH student at the school of Public Health at WVU. I've been a student worker on this project.

Robert Bossarte: Hello everyone, I have to ask, who are the people behind us? There are other people in the room.

Dannell Boatman: They are doing capstone.

Robert Bossarte: Oh hi capstone people. Welcome. I asked the wrong person, but I got an answer so thank you.

Robert Bossarte: Keith, Laura, Meghan, thanks for joining us. What would you like to talk about today? What are you going to tell us? How are you going to make me smarter? Oh that's a pause, that's really bad. That's a way of saying, can you tell us a little bit about your project?

Keith Zullig: Absolutely. Feel free to hop in whenever. Our project is run out of the Comprehensive Opioid Addiction Treatment Program at WVU. And we are working with individuals who are suffering from Opioid Use Disorder, and our studies of [inaudible 00:01:48] Experimental Study. We are running the intervention with people who are self-selected to the intervention, or comparison groups. We run, the innovative thing we are trying to do is whether

mindfulness can be as effective as it's been shown to be in other areas in a naturalistic outpatient setting.

Keith Zullig: We are doing every other week for 60 weeks ... Oh sorry, for 60 minutes over 24 weeks, which hasn't been done before.

Robert Bossarte: This is a mindfulness based-

Keith Zullig: Yeah, intervention.

Robert Bossarte: To an existing program, so people in the co-program won't have their treatment modified in any way, and this will be added on to it.

Keith Zullig: Actually folks who self-select into the mindfulness receive mindfulness only. We have done some pilot work where it was an adjunct, but now just receiving mindfulness only for the 24 week period.

Laura Lander: The reason this came about is because obviously we have an opioid crisis in the state of West Virginia that we all hear about on a regular basis. The overdose rates continue to climb, so medication assisted treatment is what we provide through the co-clinic.

Laura Lander: It has not typically worked for everyone. We were trying to figure out ways to improve it for people it wasn't working for. Often times those are people with co-occurring disorder, so people who have both substance abuse disorders as well as depression, or anxiety, or other kinds of mood disorders. Mindfulness based relapse prevention really targets some of those mental health issues, that can make getting well, or recovering, from substance abuse disorders more difficult.

Robert Bossarte: We hear a lot about mindfulness, this is actually the second podcast that includes some discussion of mindfulness. It seems to be becoming a WVU thing which is nice. Can you tell us just very quickly what your intervention looks like, or what you ask participants to do?

Laura Lander: One of the things I like to say about mindfulness is that people always say, "Oh you need to clear your mind, you need to think about nothing, you need to say ohm a lot and sit cross legged on the floor."

Laura Lander: Mindfulness is simply about being aware, and not judging yourself. Those are the two main components of mindfulness, and when you think about individuals who struggle with substance abuse disorders, often time they've spent a tremendous amount of time trying to not be aware, trying to numb. Then they judge themselves for it.

Laura Lander: This is actually a skill that is really relevant to their recovery. The intervention itself focuses on reducing craving, because these are all folks who are struggling

with cravings for substances. It's very experiential, so it's not sitting around a room talking about how your week was. It is practicing mindfulness intervention such as guided imagery or meditation or simply being aware of your physical self or what your mind is doing at any given moment.

Robert Bossarte: I think it's fascinating that they self-select into it. Do the people who self-select into it, you said that this may work when other therapeutic approaches or treatment haven't worked. Have they tried medication assisted treatment before and failed? Are these people who've had issues with relapse in multiple attempts of treatment who are now looking for something different?

Laura Lander: Some of them have, the folks to be eligible they have to have 90 consecutive days of sobriety. They've been in the program for a little while, and some people really like talk therapy, and some people really don't. Or they've been in multiple treatments before and they're done with talk therapy. They're bored with it, or they're all talked out. This is another opportunity for growth where they don't actually have to sit around and talk about what's happening.

Robert Bossarte: Why do we think this is going to work? Why mindfulness when other strategies have not worked for these folks?

Laura Lander: There's a fair amount of evidence looking at mindfulness based treatments. They help with chronic pain, they help with sleep, they help with anxiety disorders and depression and PTSD. It's not been applied to the co-according disorder population as much, but there's evidence certainly to suggest that it helps with mental health disorders. Mindfulness based relapse prevention obviously has some evidence behind it with regard to individuals who use substances.

Robert Bossarte: This is going to be a naïve question, I'm an epidemiologist so I'm allowed to ask naïve questions I think when it comes to psychotherapy. What do we think it is about mindfulness that works here? Why would it work with this specific population, and why would it well suited for co-according disorders?

Laura Lander: I think specifically because one of the things that people seek to achieve with the use of substances, in addition to feeling good or not feeling bad, is to numb. People are very disconnected from their physical and emotional self, and this reconnects them. Then they also need to, it helps with gaining a sense of self awareness, which often people have lost and are not even thinking about when they enter into treatment.

Robert Bossarte: The judgment part must be tough. If you're trying not to judge yourself in something that's been so heavily stigmatized in our community and society, and there are so many ... We tend to personalize substance use, particularly opiod use. It's the individuals choice, they got themselves into this and I'm sure that people internalize some of that as well and begin blaming themselves for the situation potentially.

Laura Lander: Yeah, the first step is, people aren't even aware that they're judging themselves. They're aware that other people are judging them, but they aren't aware of the self judgment, and this helps with that awareness.

Robert Bossarte: That's a component of this intervention is to help them be aware of what they might be judging themselves on and what the potential negative impacts of that are going to be?

Laura Lander: Absolutely.

Dan Shook: Oh I can ask my one question now?

Robert Bossarte: Yes, but keep it short.

Dan Shook: I guess I've been limited to only one question, I'm sorry to my followers out there. I think what you're doing is really pretty cool. I gotta say, I grew up in Boulder, Colorado in the '60s, and this kind of talk I thought was crazy talk even back then with rolfing and all the other stuff they do. There was a nurse about 20 or 30 years ago, at a healthcare system in Ohio, that was trying to bring mindfulness to the employees. Again, I thought it was just a bunch of, you know, poo. But now-

Robert Bossarte: He's trying not to swear.

Dan Shook: Now over 60, this is really pretty darn neat stuff that I even try to practice every day with some of the issues and things that I'm dealing with. Eating, for example, is the mindless eating to reduce stress.

Dan Shook: This is my question. Being an exercised physiologist, I like to see pictures of things, and chemicals to see if things actually change when you do something like this. Are there any studies that show changes in your brain through neuro scans and stuff like that that people who go through mindfulness training, that your brain is remodeling or doing something in response to your mindfulness?

Keith Zullig: Keep in mind none of us are neuroscientists here so Laura may know a little more than I do, but we understand from previous research that the white matter in your brain is considered good aspects of your brain, and mindfulness has been shown to increase white matter in your brain in previous research.

Keith Zullig: Now for a pilot study that we did, we were attempting to do MRI scans here at West Virginia University. We didn't have a large enough sample size, but the folks that we were working with would tell you that we were trending in the right direction in terms of mirroring some of those previous findings in terms of the brain.

Dan Shook: I'm going to ask two questions.

Robert Bossarte: I'm sorry, you've reached your limit.

Dan Shook: I didn't hear that.

Dan Shook: How long does a mindful session take when you're working with the subjects you're working with right now? Does it start off for a short period of time and extend, or is there a certain duration that you use in order to see if it's effective or not? To get those response.

Laura Lander: The group sessions are sixty minutes, but people are encouraged to practice on their own in between sessions. Those gradually increase because people often really struggle with how to do mindfulness correctly. As I said, the only way to do it is to be aware, and to not judge yourself. If you are judging yourself, just be aware you're judging yourself so once you simplify it, most people can do that. Sometimes it's hard for people to find the time and the space to develop a practice. We encourage people just five minutes a day, or five minutes every other day, and then gradually increasing that over time.

Dan Shook: Three questions and I'll be quiet.

Laura Lander: Oh my gosh.

Dan Shook: Do you work with, or teach them to practice these techniques at certain times or events that occur to them during to try to help manage or get a handle on what's happening to them?

Laura Lander: Many of the interventions are targeted towards craving, or urge surfing, is one of the interventions [inaudible 00:11:21] that people are taught. Often times peoples triggers are really around stress events also, and the idea is that if you practice mindfulness in the middle of a stress event, it is not always that helpful, but to bring your baseline stress down, then stress events won't actually be as stressful when you do encounter them, which they will continue to encounter them. It's not like mindfulness based relapse prevention is going to take away stress. It's going to enable people to respond to stress more effectively.

Keith Zullig: Yeah, in a sense it would allow them to stop, and pay attention and realize it, and be able to have a better coping mechanism.

Dan Shook: Four questions, we're on number four, and then I will, you can turn off my mic. Is breathing or breathing exercises part of the mindfulness training that you give the subjects?

Laura Lander: Yes, so breathing is one of the grounding skills. It's one of the most basic skills taught at the beginning of mindfulness because sometimes it's easier for people to focus on something than not focus on something. Most people can focus on their breathing and it actually helps them get grounded, and be self-aware.

There are body scans that people do, so you take them up from their toes to their head, or there are specifically breathing meditations that people can do.

Laura Lander: There's so much on the internet now, so people have all kinds of access to tools on the internet through apps and such.

Robert Bossarte: It may be a little early, but I'm wondering how it's going and what kind of feedback you're getting from participants. How they feel it's helping them as they're trying to seek long term recovery?

Keith Zullig: We have quantitative data that we could talk about if you want. We also are collecting exit interview survey data. I think one of the things we've gotten is that people are like, "This should be longer." We're doing it for 24 weeks, and in essence what we've done is we've taken the standard timeframe and just fit it within a naturalistic setting. Some people don't think the dose, they would like to continue. And they're like, "Wait I have to go back to my group?" We're getting that sort of feedback, which is very positive from a qualitative perspective.

Keith Zullig: We're also seeing, in the preliminary data, we're seeing people come down from clinical levels of depression and anxiety to below clinical levels, based on our diagnostic tools. Which is super exciting for folks.

Keith Zullig: The people that are self-selecting are a little bit higher, not statistically higher, but have higher anxiety and depression, which is why they're self-selecting. Which is why we have the design, quasi-experimental design, because we just felt that that would be the best way to go.

Keith Zullig: The other thing we're observing is craving. In our pilot work, we did not see any differences in craving. Now with a longer time frame we're out to 36 weeks, or 12 weeks post intervention, we're really seeing differences in craving coming down, which is very exciting for us. That was one of the pieces of feedback when we were submitting our work initially for publication, was that we didn't see any differences in craving. Some of the reviewers were like, "Well you would expect to see some of this in a longer timeframe," and now we're seeing that. That's exciting for us.

Robert Bossarte: Do the participants in the intervention tend to stick with the mindfulness practice after it's done? Do you follow up with them to see if it's become a normal part of their everyday practice, and whether they're sticking with the techniques and routines that you've taught them?

Laura Lander: They do, we follow them for twelve weeks after. We have a post intervention survey that we administer, and at that point we also do the exit interview. They struggle to find the time, but they really have a new sense of what's possible.

Laura Lander: One of the interesting findings is that we also have a mindfulness evaluation survey, and we've currently there's no difference between the control group and the intervention group on their mindfulness rating. My interpretation of that is actually that people have become aware of what they don't know. Whereas the people who aren't in the mindfulness group go, "Yeah, I do mindfulness." I'm like, "Mindful." Whatever that is, they don't really understand what it is.

Laura Lander: For the people in the intervention, they're like, "Oh my gosh this mindfulness stuff is really hard." They get better at it, but they have a completely different understanding of what it is. They know what they don't know. They begin to learn that skill.

Robert Bossarte: You're picking up on there's no change because you have one group who's just kind of naïve to the experience, and the other group that is very aware of the fact that they may not be fully experiencing things about the day.

Keith Zullig: I will say this, Laura is absolutely right in saying we're not seeing any significant differences between our groups in overall mindfulness. That's when we just look at our instrument as a single type of mindfulness construct.

Keith Zullig: However, there's five constructs of mindfulness. I can't say with any definitive way right now, because it's still very preliminary, and I just did some of the analysis yesterday because we are starting to roll out some of our work and such. We are seeing some differences in the individual constructs.

Keith Zullig: For example, being non-reactive or non-judgmental, or observing our awareness. Even though we're not seeing an overall difference, which is sort of surprising to us, but we are seeing some differences within those individual constructs and movement in the hypothesized direction, with both groups really.

Robert Bossarte: Which will help you tailor it in the future perhaps.

Keith Zullig: Absolutely.

Robert Bossarte: Where do you see this going? What's the hope for this?

Laura Lander: My hope is to have this be a regular part of our clinic experience. Then people can choose to go into a mindfulness group, and then we have multiple groups that they could go into. We are also, in behavioral medicine, are part of a hub and spoke model where we are expanding medication assisted treatment throughout the state, and that we can also share this intervention with the places we are training to do medication assisted treatment.

Robert Bossarte: One of the things we often hear about, particularly in places like Appalachia and West Virginia, when you talk about mental health providers, we just don't have

enough trained clinicians who specialize in things like CBT or just mental health care in general. Is this likely to face the same barriers and limitations, the mindfulness approach, if it's something that becomes wide spread and there's attempt to adopt? Are we likely to see a shortage in people who can provide training?

Laura Lander: Possibly, although the dream is, we have some funding to expand treatment around the state, and we could roll this into those opportunities so we could have people on the grants who can then train people at locations all over the state to do mindfulness based relapse prevention.

Robert Bossarte: Yeah, I was wondering about the requirements for training, or would it be a train the trainer model right? You could train other people to expand your workforce. It seems one of the attractive things about mindfulness is that it is possible to train maybe a broader group of people to administer the intervention. Without the need for long term graduate education, or specialized training right? From a pragmatic perspective, there might be great utility for rural regions where this model can spread a little more easily than others.

Laura Lander: Absolutely.

Robert Bossarte: All right Meghan, we're not going to let you get out of here without speaking.

Meghan Tuscano: Oh I know.

Robert Bossarte: Meghan's a graduate student. What's your role been? How's your experience?

Meghan Tuscano: It's been great. It's been a huge learning experience for me, this is my first real life intervention that I've been a part of. Most of the work that I do is usually data collection, recruitment, entering the data into the system so that they can figure out if it's working or not.

Robert Bossarte: Graduate student tasks.

Meghan Tuscano: Yes exactly.

Robert Bossarte: We love graduate students.

Meghan Tuscano: Exactly. I've learned a lot by just going into the clinics. I've sat in on some of the mindfulness sessions. I've sat through some of the recordings, so I've gotten an understanding of what it is and how they teach it. That's been a great experience for me.

Robert Bossarte: Is this something you'll carry forward in your graduate studies, and beyond?

Meghan Tuscano: I think so, yeah. I mean I'm definitely practicing it more at home, personally, so I really like mindfulness and how that can help you with basically any issue. You

just focus and calm down, and just become aware of yourself. Yeah, I think that's something I want to carry on.

Robert Bossarte: Excellent.

Laura Lander: I just wanted to give a shout out to Laurel [Falkenberry 00:20:01] as well because she is our therapist who runs the groups. She has a lot of experience in not necessarily mindfulness based relapse prevention, but mindfulness.

Laura Lander: She once shared with me that her mother took her to her first transcendental meditation when she was 16, so she's been doing this a long time. She's an amazing clinician, and the patients love her. She does a great job.

Robert Bossarte: I just have to thank you, that was our first on air shout out. We haven't had a shout out yet.

Laura Lander: Really?

Robert Bossarte: Yeah.

Laura Lander: I figured that happened all the time.

Robert Bossarte: Oh no, no you've broken the ice now. Everybody's going to be shouting out. Shout out to my peeps back in Boca.

Robert Bossarte: I think that's it, unless, what are some final thoughts from you all. Anything you want us to know about the study, or your work, or anything else that we want to take away from this?

Keith Zullig: No, we're just grateful to have the opportunity from CDC to actually engage in this work based on our pilot work. I'm glad they put some faith into us to see our results, preliminary results as promising, to allow us to do a little more sophisticated, and greater recruitment to really investigate this a little more deeply.

Robert Bossarte: You're sort of like a NASCAR driver, when you get out of the car, "I'd like to thank Coca-Cola," and put on a Mountain Dew hat or something. I'd like to give a shout out to CDC, thanks for the money. Thank you CDC. Yeah. Laura and Meghan, anything? Any other shout outs or pitches?

Laura Lander: I'm certainly just excited to spread information about what mindfulness really is, and what it is not. It's all over the press, and I think there's a lot of misconceptions about what it is. As Meghan was saying, it can help with almost anything which is unusual I think with an intervention. We're hoping it can help reduce overdose deaths, and provide treatment to people in West Virginia.

Keith Zullig: I think one thing, sorry, one last thing I do want to ... I think there's also a misconception that this is a panacea, and it's not a panacea. I think one of the interesting questions going forward is, when we think about precision medicine, is who does this ideally work for best, and who does it not? It's not for everybody, so I think that's one of the lingering questions that our research team, eventually down the line, would like to help form some of the research base for making those decisions. I think it's very frontier science.

Robert Bossarte: I absolutely agree, and it's something we focus on here as well is trying to find the right solution for the right person, knowing it's not going to work for everybody. Maybe this population who's looking for something new with co-occurring [inaudible 00:22:32] mental disorders is a great place to start. Absolutely agree with your findings as you move forward.

Dan Shook: I would like to see one thing come out of this. I would like Dr. Zullig to produce some meditation and mindful tapes because you have that smooth sexy voice. I listened to last weekend when you led us through some exercises, so you can be very effective.

Keith Zullig: Well thank you very much.

Robert Bossarte: You're not just smooth, you're, sexy so congratulations there. All right, yes. I think Dr. Lander wanted to speak. You done?

Dan Shook: Yes, I'm done. I'm just thinking about Dr. Zullig's voice in my head.

Robert Bossarte: Well, this feels like a really great place to close. Thank you all for coming in today, and for speaking with us. Excuse me. I'd like to thank our listeners and the people who help for WVU. There's a 24 hour helpline for West Virginians who need help with addiction or mental illness, call 844-help 4 WV, text 844-435-7498 or visit them online at helpforWV.com.

Dan Shook: Thank you again for tuning in for your conversation with Keith Zullig, Laura Lander, and Meghan Tuscano. If you have any questions or comments, make sure you share them with us on Twitter or Facebook using #ask, just kidding, #askWVUICRC. Again that's #askWVUICRC.

Robert Bossarte: It was a number symbol on a rotary phone right?

Robert Bossarte: We hope that this conversation has helped you think about mindfulness and substance abuse disorder in a new way, be sure to subscribe to our podcast on iTunes. Goodbye from your friends at OOMPH!, we make injury control cool.