Webinar Transcript - Trauma-Informed Services

Welcome to the National Criminal Justice Training Center webinar, Trauma-Informed Services. We use the term trauma-informed services because it really is applicable to all professionals working with individuals in their community, either human services, corrections, treatment, but we broaden the term to be trauma-informed services that each of us can learn about and work with individuals that are impacted by trauma. My name is Greg Brown, and I will be moderating for you today. This webinar was provided under an award provided by the Bureau of Justice Assistance, BJA; Office of Justice programs, US Department of Justice. The opinions expressed by presenters and their oral or written material are theirs alone and do not necessarily represent those of the National Criminal Justice Training Center of Fox Valley Technical College, or the Department of Justice.

I'm pleased to introduce today's presenter, Dr. Anjali Nandi. Anjali is an associate with NCJTC and a human service consultant. She is a member of the International Motivational Interviewing Network of Trainers, a licensed addictions counselor in the state of Colorado and a nationally certified masters addiction counselor. Anjali, thank you for joining us today, and the time is now yours.

Thank you, Greg, and welcome, everyone. It's so wonderful to see you all saying hello to each other on the chat. That's just great. And selfishly, it also tells me that you all have access to the chat because I'll be using that to get some feedback from you all and some engagement. So this is wonderful, and welcome.

It's also really cool to see people from just all over the place. I mean, we have New York, and Alaska, and Minnesota, and it's just wonderful. Well, welcome. I think, yeah, from Alaska to New York is pretty cool.

OK, so here's the focus for today. We're going to talk a little bit about trauma and the brain, understand the neurological impact of trauma. We'll take a neurologically informed approach. We'll talk about a few skills to work with people when they're going through a trauma response, and then to also build our own awareness of ourselves as we're sitting with somebody who may have had a trauma.

So that's really the focus for today. But let's start, if you don't mind putting into the chat, when you hear of trauma, what are examples of trauma events that come to your mind? What do you think about when you think about somebody experiencing trauma?

What kinds of trauma are you thinking? Give me examples. Pop those into the chat.

Victimization, good. So victims of assault-- physical assault, sexual assault, childhood violence, parent abandonment. Leanne says epigenetic trauma. We'll definitely talk about that today. Abuse, physical or mental, accidents. Yes, these are amazing examples.

Extreme substance use, sexual abuse. Yes. So just notice these amazing examples that you've all have provided. They are big, huge things. And frequently, we call these capital T trauma events-- domestic violence, experiencing somebody else's death or severe injury to themselves, violence in the workplace, all of that. Yes excellent examples.

So when we talk about trauma, we frequently think of these sort of capital T trauma events. And the definition of trauma has to do with exactly what you all are talking about. So it has to do with the experience of something that's happening to you that you cannot stop, and that you don't have control over.

And that's a really important part of the definition because some of the ways to heal is to be able to understand what I do have control over, and supporting people taking more control in their lives, feeling empowered. That's one of the ways in which we start to heal some of the neurological impact of trauma. So in the definition of trauma, we say it's an experience of some violence or victimization, just like you all have said, that's out of our control, and where we cannot make it stop. It's often threatening to our life, or some part of our body, or it signifies that we're going to lose something.

It also can be defined as extreme stress-- an extreme stress that makes us feel like we cannot manage where it overwhelms our ability to manage, or what we believe is our capacity. So it could be one event like a big capital T trauma event, but it could also be an addition of a whole bunch of other things. Meaning over time, there could be little things that happen along the way that actually add up to having the same brain changes as if we've experienced a capital T trauma event-- something big.

So an example might be-- one of you had provided this example-- emotional abuse that happens over time. That maybe one event is OK, and we think maybe that the person might be joking or we don't really know what's happening, or how to read it. But over time, when it continues to happen, it can accumulate in the brain and can cause the same brain impacts as if we've experienced some kind of a capital T trauma event.

So those are a couple of ways to think about trauma, but I did say that it has an influence on the brain, right? It has an impact on the brain. So let's talk about what those kinds of impacts are, meaning what exactly happens in the brain.

Now, I recognize many of your names. So you-- you've probably seen me talk about the different parts of our brain, so just hang in there if you feel like, oh my gosh, we've gone through this already. Let me just cover it really quickly, and then we can keep going from there.

So our brain-- I'll use a hand model of the brain-- I'll try and get right in front of my camera here-- hand model of the brain to try and explain what happens and how our brain is put together. So we have right in here what we call the lizard brain, and it sits in the center of our brain. And wrapped around it is what we call the wizard brain, so the lizard and the wizard.

The lizard is responsible for keeping us safe. It's responsible for high emotion. It's responsible for fight-flight reactions. The reward system lives in our limbic brain. It's the part of our brain that processes all the information that we get from the outside world first, and then it decides to send information to this part of our brain, the frontal cortex, or what I call the wizard. So lizard brain, limbic system. Frontal cortex is the wizard brain.

So this is hard to even fathom, but every minute we are receiving sometimes 11 billion pieces of information every minute. To me, that's unfathomable. So the kinds of information that we're receiving-- colors of different things, objects, sounds, sights, smells-- all of that, we are receiving countless pieces of information. Internal stimulus-- my knee is hurting, my back is hurting, or whatever it is. Or I'm getting this weird sensation in my neck.

All of that information is processed by the lizard brain first. So the lizard brain has to be very, very efficient at sorting through information that we don't need, that we don't need to process in the frontal cortex, versus things that we might have to pay attention to. So the lizard brain does a really wonderful job making quick decisions, figuring out what's important, what's not important, et cetera.

So that's the lizard brain. And then we have the wizard brain that can slow down and think things through-- the part of our brain that allows us to make thoughtful decisions, that allows us to weigh different sides of an argument, the parts of our brain that allow us to think about the future. Unfortunately, from the lizard brain, we cannot think about the future. We cannot imagine a possibility, or have hope, or those kinds of things because that involves creativity. It involves thinking beyond what our experience is.

And so the lizard brain, what it does is it uses experience to make decisions. It uses our past experiences to make sense of whatever is happening in the present. So I think that makes sense to you so far. If you have questions, just pop it into the chat and I'll explain further or answer whatever questions you have.

But here we have the lizard brain, the highway that takes information from the lizard to the wizard, our wizard brain. And under ordinary circumstances, this brain is functioning pretty well together, meaning the lizard brain is processing a lot of information. When it has to go to the wizard brain, it goes up to our frontal cortex.

So imagine that you're just driving. You're driving a street or a route that you've driven countless times. Let's say you're driving from home to work. You've done it many, many times before. It's not a new route.

And so you don't really have to be terribly conscious as it's happening. Your lizard brain is taking care of all of the things like I have to move into this lane in time, and I have to put my indicator on at this moment, and whatever. There's not a lot of conscious processing.

But let's say as you're going along, there's a detour sign. That's when the lizard brain sends a message to the wizard saying, hey, pay attention. We don't usually see this detour sign. You might need to do something different.

And then we go through this decision making process. Or maybe not all of us. I know I go through this decision-making process.

Should I take the route that the detour is suggesting, or do I know a different way that might be faster? I don't know if any of you go through this complex process, but every time I see a sign that says detour, and then it tells me which way to go, I'm like, "Hmmm, I wonder if there's a different way to go." So that's my frontal cortex getting involved, thinking about possibilities and things like that.

So when decisions have to be made, we can slow down. We can get the frontal cortex involved. And that is just the brain functioning normally.

Here's what happens when we experience a capital T trauma event. What happens is that our brain goes through a neurological impact when we're experiencing trauma. Because when we're experiencing a trauma event, this part of our brain, the lizard brain, which is our fight-flight brain, gets overwhelmed, and it gets stuck. Meaning it says, we are not safe right now. We have to be in fight-flight, and it disconnects the system so it doesn't involve the frontal cortex.

And what happens as a result of trauma or conglomeration of smaller-case T trauma events is we lose the connection. This connection between the lizard and the wizard gets damaged. We lose that connection, and we lose mass in the frontal cortex.

Now, all of this can be repaired. We can come back from it. So please don't start to feel hopeless or those kinds of things, but I do want to just make sure that you understand that there's actual neurological impacts that happen as a result of trauma that we experience.

And specifically, the impact of trauma is we lose mass in the frontal cortex. There's damage to this relay between the lizard and the wizard. And so we frequently get stuck in the lizard brain.

So imagine that perhaps we are experiencing something that reminds us of a trauma. We will do what we call flipping our lids, meaning we lose connection with the frontal cortex, and we get stuck in our lizard brain. We flip our lids.

So I want you to think a little bit and add to the chat, what are examples of your experience when your lid is flipped? What happens for you when you are triggered and you're stuck in your fight-flight mode, or your emotion system? What are some examples of behaviors that you might engage in? If you're willing to share, type it into the chat.

Yeah, Tiara, me, too. I cry when I'm mad, as well. And it bums me out that I do that because then people say, oh, so sad for you, or whatever. Like, no, I'm mad. So Tiara, I'm right there with you.

Micaela says, I panic. Yes. Elena shuts everyone out. I get defensive, Danielle says, and lashes out. Heart rate increases. You freeze. You're quick to anger.

Yes, you get flooded by emotion. Very, very good. These are amazing responses. Gosh, this is phenomenal.

You get anxiety. You yell. You start pacing, yes.

So pacing is a really interesting thing, Holly. It's really interesting that you mentioned it, because actually, when we start pacing, it's our body's way of trying to self-regulate. Pacing, rocking-- I don't know whether some of you will rock from side to side, or forward and back, or start to shake your leg or something. It's our body's way of trying to self-regulate. So pacing is really interesting.

You withdraw, you zone out, yes. You cry, yell and curse. Yes, you sweat, you get irritated, annoyed, anxious. These are amazing.

And then Corinna says, I laugh when I get really angry. This is really important for you all to think about because clients will do this, as well. They'll have an inappropriate emotional response to whatever the issue is that's happening. And Corinna, you and me both. I get into this, as well, where I feel so uncomfortable, or I'm really angry, but I use a different emotion to mask it or something.

And so it's a very good cue for us. We know that a client is really struggling if their emotion is incongruent with what they're talking about. I hope that makes sense. And let me know if it doesn't, and I know that Greg will pop in if he's confused about what I'm saying, as well.

So isolating, elevated blood pressure. Keri says, I feel overwhelmed and can't find my words. Yes, because our words actually reside in our frontal cortex. The kinds of words that we have in our limbic system are pretty basic words. So when you can't find your words, that's a really good indication that something's happened.

You flipped your lid. You're a little triggered. You're worrying about something. Something's got you. Something's got your limbic system on high alert.

And I want you to think about our clients for a second. Because when our clients can't find their words, and they're struggling to articulate something, it's very easy for us to say, oh, they are using substances, or they're being defensive, or they just don't want to be vulnerable and share. And we have all of these judgments that we sometimes make. But unfortunately, what might be going on is they're having a trauma response.

And we can relate to it. So, Keri, I so appreciate you shared that. You cry, zone out, panic, talk louder. You become paralyzed. Yeah, you freeze.

So the automatic responses, the most deep responses that we have are fight-flight. And flight means either to run away, or in social situations to withdraw. And fighting, of course, is getting angry, or sarcastic, or whatever it is, fight. Flight, withdraw. Freeze. As Barbara's saying, become paralyzed, or just frozen, and stop.

And then sometimes we do something else, which is called appease. Where we try and make the other person feel better. We try and say how wonderful they are, or we try and appease them by saying, yes, yes, I'll do whatever you ask. It's OK. I've got this, whether we really want to or not. So those are pretty ingrained responses, and some of us have preferred pathways. But those are some of the common ones.

So you get angry, anxious yes-- more upset. With tone, you have a strong feeling of just having to get out of there. Yes, that's a flee response. So sometimes, it feels like you panic.

Leanne says I clean the house, which is brilliant. It's also a coping mechanism which I wish I had. I don't have that coping mechanism. I wish I did. I would have a much cleaner house.

But it's essentially the body's way of trying to bring order, and trying to control what we can control. So remember when I said that the definition of trauma is feeling out of control? When you clean, you're trying to bring control back in.

Megan, I so appreciate you sharing that with us-- that you will give yourself physical pain. And sometimes, that will actually help us come back into our bodies. It'll reground us into our body.

So there's a wisdom behind that. So don't judge yourself too harshly. But then if it turns into self-harm, which it sometimes does for some of our folks, then that's something to pay attention to. Greg, I saw you--

Yeah, it was actually one of the questions, which is, what does the cutting or self-harming behavior do neurologically so we understand it? And then are there any statistics about how many people do that-- how many people use that as a trauma response, some way to soothe?

Yeah. So there is a lot of information about self-harm behavior, and it could be a variety of different things. Self-harm comes from a bunch of different places.

At the root of it is feeling out of control, or feeling like the emotions that I'm experiencing are so intense that I need to engage in some behavior to help myself come back to myself. So-- oh, Keri actually just said exactly what I was thinking, bring myself back to my body-- back to try and get grounded-- so pinching myself, or sometimes using a rubber band on your wrist. The way I do it, actually, Keri, is-- and Megan, since both of you shared-- I will wiggle my toes because nobody can see what I'm doing.

So I'll wiggle my toes, or I'll rub my hands together, or just rub my forearms, or something like that. And that's, I think, what you both are talking about, which is grounding, coming back to reality. But I think Greg's asking about something different. He's asking about when it actually becomes self-harm, and it was more, as Corinna says, that it's whatever I'm experiencing is so painful, this is a pain that I can control.

Some people describe it as a way of distracting themselves from other emotional pain that they're experiencing. Some people will describe it as the only way that they can release, that they get a sense of relief from whatever horrific experiences that they're having. Then it starts to move. It could-- not always, but it could start to move into something that people get a reward from.

So hang with me in this for a second. When we experience pain, in order for our bodies to help us manage the pain, our bodies automatically will release certain feel-good chemicals. Those chemicals are things like certain kinds of endorphins. You may have had this experience.

If there are any moms on the call, maybe you had this experience when you were giving birth-- like horrifically painful, but then our bodies produce a certain level of endorphins or opiates. Maybe if you've twisted your ankle or fractured some kind of bone, intense amount of pain, but then this other emotion, other feeling of, OK, I think I can handle it now. Those endorphins start to become addictive. Over time, you could have somebody-- not everyone, but you could have somebody who needs that emotion, that feeling, the endorphins, to feel normal, to feel human, to feel like they matter. And so they will self-harm in order to get a rush of those endorphins. And that process can start to become addictive.

And Micaela's giving us a question in the chat, as well. Yes, you put it so much better than I was able to. I just want to feel something because I feel so numb. That's another way of talking about it. Greg, does that answer your question?

Yeah. And what you reminded me of also the question that comes up a lot is people who disassociate, and it sounds like that's part of another coping mechanism. And I probably have seen what I think are people disassociating more often than I've seen people who actually-- or seen evidence of people self-harming unless they describe it. Could you talk a little bit about that and how it fits in, and maybe what us as non-clinical people primarily would look for.

I mean, I think of a person with a out of body experience. It's going to be very obvious, like it would be in the movies or something. But it may not-- but it's much subtler than that. But what are some things that we can look for? Because I think that happens more often than even us detecting self-harming behavior.

Yeah, for sure. And we don't always detect self-harm, right? Oftentimes, when we think of self-harm, we're thinking of cutting. And people, if they want to hide it, will be pretty careful about how they self-harm.

So, for example, they use their upper thighs as an example. That's usually covered by clothes. Or they'll always wear long sleeves or something like that. So it's not always detectable. And if we want to overgeneralize, we could also say that certain amount of substance use is self-harming as well-- engaging in substance use.

But Greg asked a slightly different question. What he said is, what does dissociating look like? And actually, dissociation is-- or yes, Corinna, you're totally right. Over working out, developing an eating disorder, all of those fall under this umbrella.

So dissociation, what does that look like? It's a great question. Dissociating is a way of protecting ourselves. Because if our brain wants to manage what's happening, if we can leave our bodies, the pain is less. So dissociation is moving away from the present moment, and what it will look like is you're talking to somebody, and it seems like their physical body is present, but there's no one home.

And you'll see it in their eyes. You'll notice it in their eyes. And you and I have all done it. I don't want to make it sound like it's some completely out-of-body kind of experience. It isn't.

You've probably dissociated when you've been completely bored with something, and gone off somewhere, and then came back a few minutes later into your body thinking, what just happened? Or you got really uncomfortable with a situation. Let's say you got in a really big argument with somebody, and you then wanted to tell your friend about it.

You probably dissociated if, when you're telling your friend about it, you don't remember everything that happened. So that's neurologically dissociating from it. Emotional dissociation, Stacy, is often called emotional numbing, where we do not have the ordinary level of emotional response to a particular thing.

And then Randy asks, what do you think of someone who is self-harming, but in places where people can see? Is that a cry for help? Yeah, and it's so worth a conversation. Anytime you notice something, it absolutely is a place to express concern and come from a place of curiosity.

So things not to do is, what's wrong with you? Why are you doing that? Look at how you're harming your body. Any of those we stay away from. Even if those are judgments that come into your brain, we put them aside.

And we get curious. We say, how are you? What's going on? It seems like you're struggling. I'm noticing these cuts on your arm. Tell me a little bit about what's going on.

Correct me if I'm wrong, but from my experience in the work that I do, when people show up like this, they're usually struggling pretty significantly. And I'm here to support you. So share with me a little bit about what's going on-- so making it OK for people to share what might be happening when you see some kind of self-harm behavior. Randy, I hope that answered your question.

Perfect. So neurological impact of trauma is the loss of mass to the frontal cortex-- this disconnection here between the lizard and the wizard. Your emotion system becomes a little dysregulated, or you get emotionally numb. Or you move to the other end of the extreme, which is hypervigilance.

I'm not sure if some of you have noticed that, but you'll have people who just constantly seem on edge. Little things make them jump. So that might be an example of hypervigilance.

And also, along with hypervigilance is a deep sense of distrust. So constantly reviewing what you are saying, and how you're being, and taking that through a filter of, I can't trust you. You're out to get me, et cetera. And that happens because, let's say in the past, people have experienced whatever the trauma is from the system, or from authority.

And there you are, and even though you're being a wonderfully compassionate, supportive human being, they are in their lizard brain. And remember, I said from the lizard brain, you can only understand what's happening through your experience, not by looking ahead. So they are viewing you through the lens of everybody else who's harmed them. And so they're very distrusting of your behavior. So even though you're being perfectly wonderful to them, they don't quite believe it, or don't quite trust you, or say, you're just a part of the system. You're out to get, me as well, or whatever it is.

So Patricia, you asked, can a person blame someone for something that happened years ago to cover up a more recent trauma? Absolutely, yes. And unfortunately, the way our brain works is we lose track of time when we're in our lizard brain.

So let me use a different example. Let me use an example of grief that maybe you all can relate to. Let's say we just recently went through a loss. The loss that we go through brings up every other loss that we've had in the past. So when we experience a new loss, it doesn't just-- it isn't just about that particular loss. It's about all the other losses, all the other people that we've lost, or all the other transitions, or all the other stuff that we've gone through that's similar. That's housed in the same bucket as grief and loss.

Trauma is that way, as well. So let's say I experience a new trauma. It can actually bring up lots of old stuff. And when Patricia is asking the question about whether somebody can blame something that's happened in the past to cover up for a current trauma, they may not be doing it consciously.

So they may be conscious about it, but they may-- just leave some room for the fact that they may not be doing it on purpose-- that their brain might just be saying, oh my gosh, this is so similar to that thing. And that's what's in my memory more. So that's what they're bringing up.

Alana is asking, can people with intense trauma have a hard time waking up in the morning? 100%. So what are some very common diagnoses, apart from PTSD-- trauma and stress are related disorders, of course-- what are the most common co-morbid diagnoses with trauma? Meaning, what is the health diagnoses that you most commonly see when somebody also has experienced trauma? Type into the chat what your guesses are.

What are some common co-morbidities? Yes, exactly. Good. OK, wonderful. So if you can scroll through the chat, you can see there's a theme, right? Anxiety and depression are the two most common co-occurring disorders that will happen with PTSD, or with some kind of a trauma, and stress, and related disorders.

So depression, anxiety is what I'm seeing a ton in the, in the chat. And so one of the key factors in depression is struggling waking up in the morning, struggling to have the motivation to do anything, not because the person suddenly is lazy, but because they are lacking in particular chemicals that allow us to wake up in the morning. In order to get out of bed in the morning, we need a particular two chemicals primarily. We need cortisol, but we also need serotonin.

And when we are depressed or experiencing depression, our bodies are not producing enough serotonin. We're not producing enough dopamine. And so it reduces the amount of energy, motivation, all of that we feel hope. So those are some very, very common experiences for someone who has experienced trauma.

Some of you-- Holly said difficulty sleeping at night, but tired during the day. That comment that you just made immediately signifies some kind of a cortisol disruption. And a cortisol disruption is when you feel wired but tired, meaning, you know you're supposed to do something, but you're exhausted. You're trying to go to sleep because you're so exhausted, but you feel wired, right?

So this wired but tired is a cortisol issue, and it frequently comes from either trauma, but it also can come from chronic stress-- when we've been overworked or overstressed for a really long period of time without being able to recover, to rest and rejuvenate. I'm not saying stress is bad, and we'll actually talk about stress in a little bit. But when we don't build in periods of rest for ourselves, that's when it can really cause some of these problems that we're talking about. I'm just making sure I haven't missed anything.

Bathea mentioned borderline personality disorder. So personality disorders are really fascinating. And we still don't know exactly how people form personality disorders, but the current thinking is that it might form as a result of a trauma that takes place when attachment is supposed to happen when we are really, really young.

So as babies, we're supposed to learn how to effectively attach to other people-- like have healthy attachments. So, for example, if there's a baby and the baby cries, ideally, the caregiver comes along and soothes the baby, makes the baby feel better, and everything is fine. Life is good.

But what if, instead of that healthy, empathic response, the baby gets something entirely different. Sometimes when the baby cries, the caregiver comes and instead of soothing the baby smacks the baby, or gets angry, or something like that, and makes it even worse. What if sometimes when the baby cries, the caregiver doesn't come at all?

What starts to happen is this formation of a personality disorder that Sophia is talking about based on that attachment trauma. And personality disorders are about us not being able to get our needs met. So when we're a baby, we tried to get our needs met, and we got confusing responses. As adults, we then develop these structures in which we don't know how to get our needs met.

And so sometimes, we cry and we expect something. Sometimes when that thing comes, we don't know whether to trust it because we don't know whether we're going to get retraumatized or what. So somebody comes to our aid, and then we push them away. And that's an example of borderline personality disorder, Sophia, is what you're highlighting.

So the current theory is personality disorders might be attachment-related traumas. But of course, the jury is out. We still don't exactly know.

Some other things that you all have put in, sometimes being so busy that you don't have the time to sit, or grieve, or deal with the trauma. Gosh, this is probably true about many, many of us, especially through COVID times where we all went through so much personal loss-- professional loss for sure, but so much personal loss. But then, we were also trying to be there for other people, and maybe work got even crazier and all of that. I know for us in our work, the acuity that we see, the intensity that we're seeing, has definitely significantly gone up.

And so when we don't allow ourselves the time to process, and grieve, and allow the impact that has happened to move through us, it gets stuck in our bodies. The expression that we often use is our issues are in our tissues. It gets stuck in our bodies, and we'll feel it. Like Tiara's saying, we'll feel it in our shoulders, or in our neck or back from not resting and coming back to homeostasis.

So this concept of homeostasis is really, really important to understand, not only for our clients, but for our well-being-- for you and for me. That when we get stressed-- and again, stress is not bad. It's just us ramping up to deal with an event. We then need to allow ourselves time and space to come back down to homeostasis to get rest.

It would be like us trying to, how do I put it, run sprints in the middle of a marathon-- which I feel, by the way, is part of my life. But if we never take the opportunity to bring our heart rate back down to normal, we would probably die a very early death. So if we go out sprinting, we need to allow our heart rate to come back down.

And that's the same analogy with stress, and trauma, and all of those things-- that we need a period to come back to homeostasis. And so for our clients, it's important to get curious about what is that? And then for us, as well, how do we keep ourselves healthy?

OK, so let's wrap up the brain piece. Again, on the diagram that you see, the forward thinking brain is the wizard brain-- future-focused. The lizard brain is past-focused. You will notice that people's lid has flipped when you're trying to be logical and they have no access to logic.

Pop into the chat, how else do you know that the client that you are sitting with, or the person that you're talking with has flipped their lid? How do you know that? What do they do? What do they say? How do they act? How can you pick up that somebody is having a trauma response?

Good. You can see it in their body movements. You can see it in their eyes. They become really upset, or they shut down, or some kind of change through their body. Yeah, really good.

They get really agitated, or maybe they start closing off. They start to shut down. You can almost see it when people get triggered or traumatized. You can see them progressively just shutting down.

Stephen, that's a really good, important point. They won't consider alternative options or thoughts, and that's because that requires creativity. It requires possibility, and they don't have access to the wizard brain. So that's a great way of knowing somebody's triggered.

So they could be managing their physical responses, but then you'll see it in the way that they don't consider other options or thoughts. Yes, you'll see it in verbal responses. They shut down. They get argumentative.

Sometimes, they won't stop talking, and they'll get really loud-- so the volume change that many of you are talking about. Suzanne is saying that they're overly reactive to something that ordinarily they wouldn't have been reactive. So overly reactive to something insignificant, yes.

And that's an example of where their reaction doesn't match the situation, or their emotion doesn't match the situation. Inappropriate emotional response, yeah. Sometimes they just shut down or they put up a boundary. I don't wish to talk about this anymore.

And any time somebody does that, it's really important that we respect that. That we say, I so appreciate that boundary. Thank you for letting me know. And we do that because the opposite happened during trauma.

Remember, we defined trauma as not being able to control the event, and not being able to stop it. So if they're getting retraumatized by whatever, it doesn't even matter what you did-- you could have done nothing and they're triggered-- if they put a boundary, we respect the boundary. Because it's a way of healing that process. We tell them-- the message that we give them is you are in control. You get to stop this conversation.

I don't remember if I've shared this with some of you before, but one of the things that I do in my office when I'm meeting with clients, because sometimes they maybe have traumatic brain injuries in addition to trauma, or sometimes they have cognitive delays, or they're just neurodivergent, or whatever the issue is, I don't trust just verbally them telling me that they don't want to have this conversation. And so what I have on my desk is a big red circle and a green circle. And when I'm doing an interview, for example, trying to gather information from somebody, or having them tell me what happened during the event, I'll say to them, if I ask questions that make you really uncomfortable, or at any point you want me to stop and change direction, or you feel like you need to take a break, you can either tell me, or you can slide this red circle towards me and I'll know that that's your way of telling me we need to pause.

So I have these red circles and green circles. And that way, it's another very nonverbal, visual way of them putting up a boundary. And I've just found it so helpful, particularly for people who are just not comfortable saying no for whatever reason.

OK, what else do people do? They physically break things. They breathe hard, or they yell, or they stop making eye contact. Yeah, great examples.

So anytime that happens, it's really important for us to get out of the content and back into making things safe. So when you see any of these, and you all have created an incredible list of ways in which you know somebody's lid has flipped, that they are triggered. Anytime you experience somebody as being triggered, pause, get out of the content, whatever you were talking about, and help them feel safe again.

That might sound something like, you know, I noticed I just asked you that question, and I noticed you pulling away a little bit. And I'm sorry. I feel like I maybe have asked something that you're not comfortable talking about. So let's just check in for a second and see how things are going.

Or maybe I do it a little bit differently and say, actually, let me take that question back for a second, and let's actually talk about something else. Let's talk about what are some ways in which you-- what are some hobbies that you have? So change the course of the conversation for a few minutes.

Or I try and make them feel safe by saying, I noticed that you suddenly started crossing your arms at me and pulling away. And normally-- I'm not saying this is you, but normally when people do that, it means I asked something that I probably shouldn't have. So let me back up for a second. I just want to remind you that I completely respect your boundaries. And if you don't want to have this conversation, I can stop, and we can go to something different-- so reinforcing choice, and reinforcing control.

Tiara's sharing a really great one that you use with younger kids. The mood-changing octopus plushies, one side is happy, the other side is upset. And that, yeah, it's a great way of talking about things. And Tiara, that would work with adults, too, not just kids.

But because what it is allowing us to do is engaging fully with welcoming parts of our lizard brain and allowing the lizard brain to express whatever-- upset or happy-- and then keeping us as grounded as possible. Other ways that I help people feel safe is I do grounding things with them. I'll say something like, let's just take a deep breath together because this is a really tough conversation that we're having. And so let's pretend to blow out candles together, or let's just actually stand up and stomp our feet for a second because this has been-- we've already spent 45 minutes together, and this has been a long conversation.

Or I'll say, let's take a pause and get some water together. And what we're doing then is we're shifting our bodies. Remember, issues are in our tissues, so any movement really helps if we walk, get some water, come back.

I have lotion on my desk. Sometimes I offer people lotion, and that just allows them to ground themselves again. Some of you were talking about ways in which you pinch yourself, or wiggle your toes, or whatever it is. So motion helps in the same way.

So those are some examples of grounding techniques. So remember, anytime you see that a person is triggered, start to help them feel safe again to ground. Another thing that helps pretty immediately to help people ground is expressing empathy and compassion.

That might sound something like, I can see how hard this is for you, and I'm so sorry. Just that. Or empathy might be, it sounds like this has been a really, really tough experience for you, and I so appreciate your willingness to share it with me.

Just any of those things in a really calm, empathic voice helps people feel safe. The really cool thing about helping people feel safe is that we can co-regulate as human beings. We are such social animals that our nervous system impacts the nervous system of another human being. And actually not just human beings, we do this to our pets, too.

But you've probably noticed this, as well. I don't know if you've had this experience, but I know some folks who have a lot of anxiety. And they have a pet, and the pet has a lot of anxiety. Maybe some of you can relate to this.

But me, I have one of my dogs. When we got her from the rescue, she struggled with a ton of anxiety. And so we worked with her a lot to calm down, but she picks up on my emotion pretty darn quickly.

So if I start to get anxious, she immediately has an anxious response. So I have to work really, really hard on grounding myself so that I don't get her all riled up. And Megan is sharing a similarity. You said, my cat and I are both on anti-anxiety medications. Yes. [LAUGHING] Oh my gosh, I so hear you, Megan.

So, yeah, we as human beings, we can co-regulate. So it's not just Megan, and me, and our dog, and our cat. It's-- we can regulate each other. So if Megan and I were in the same room, and Megan started to get anxious, if I really stay grounded and keep myself calm, that will actually help Megan stay calm.

And that's true about our clients, as well-- that when our clients start to escalate, if we stay calm, we help their nervous system calm down. And Leanne, you're saying when you get upset, your dog has a reaction, right? He goes into guarding mode. That's his fight mode. He knows something's up, and then he licks your face. The sweet thing.

So when we get stuck in our lizard brain, it actually releases a ton of chemicals and starts to change the way our brains work. Meaning what it starts to do is when we get stuck in our lizard brain over, and over, and over again, we get used to being in our lizard brain, and we start to make very quick judgments about things-- safe, unsafe. I like you, I don't like you-- very quick sorting, very quick decision-making based on, sometimes, very little information that could be completely inaccurate. It's a part of what contributes to our biases sometimes. Some of our stereotypical biases, they all come from our lizard brain.

So one of you just asked, is there a trauma relationship with the creation of narratives about people? Example, vilifying or turning them into antagonists? So Marcus, let me know if I'm answering this question right, because I'm not sure if I fully understand. But we can have a certain narrative about something that happened to us. And if we form the narrative in a particular way, that can continue to retraumatize us.

If the narrative makes the other person the villain with all the control and me the person with no control, and if I continue to apply that narrative, I'm essentially keeping myself stuck in a trauma response. I'm keeping myself stuck in not being out of control, not being able to control the situation. I'm the victim of the situation, et cetera, and it keeps retraumatizing.

So I want to be clear I'm not saying that they weren't a victim then, absolutely. But it's the putting that narrative on the rest of their lives, or on other parts of their lives that becomes problematic. Most traumas are relational traumas, meaning most traumas that happen to us happen in relationship. Yes, there are car accidents, and natural disasters, and those kinds of things. But in terms of the percentages, those are few.

Most people you will come across who have experienced trauma, it's relational trauma. And so we have to really help them not find similar trauma relationships with other people. It could be any relationships-- intimate relationships, absolutely, 100%, but it also could be authority relationships.

It could be even friendships that we will find ways to-- we call it recapitulating the experience, where you're having the same experience over, and over, and over again. Maybe you all can think about a time in your life where you're like, oh my gosh, this has happened again. Why do people suck so badly?

And then it happens a third time. And then maybe it happens one more time, and you're like, maybe it's not people who suck. Maybe I'm doing something that's creating this. That's the awareness that we need to develop.

Now, again, please don't hear me incorrectly. I'm not saying that at some point the person was absolutely victimized. Yes, 100%. And we now have to help them find responsibility so that they don't have that same event repeated in different ways because I'm searching it out.

I hope that makes sense. Pop something into the chat because I really don't want to come across as I'm blaming the victim in any way. I just want to make sure that we're balancing, yes, it happened, and there's some responsibility to develop awareness to know, am I searching that out again?

Anjali, as you're talking, it makes me think about my work and interactions with survivors of domestic violence or sexual abuse. Can you speak to maybe those individuals? I mean, I think as a non-clinician, it's like this trauma bond, or there's some dynamic that's happening that helps us understand this rather than go, I can't believe X went back to X. I mean, after everything they've said, how can they do that?

Yeah, and Randy just put it into the chat. It's kind of like going back to what you know, and here's the thing. And this is a bummer, but it's the way our brains work is what we know feels more comfortable. It feels safer, even though it may not be good for us. Even though it may not be the right thing.

And so we're trying to help rewire that for people. And the way we rewire it is by being empathic, by providing control, by giving them choices-- the very things that they-- treating them with respect. The very things that they didn't get in that relationship. And yes, it's hard to convince people to get help and to get support. It's very hard to-- sometimes people have to go through the same pattern.

And I say people. Sometimes you and me, right? We're these folks. We are the people we're talking about. We've had to go through the same experience over, and over, and over again before we say, OK, wait, what is my contribution to this? In what way am I following a particular pattern that I might need to increase my awareness about? Greg?

So in that trauma response, and then people doing that, I'm thinking about, we're so patriarchal as a system. We say, OK, you can't have any contact with that person. Is that helpful? I mean, we're telling people what to do, yet we want them to make the decision, and them to get to their own place. And do we interrupt that sometimes, and should we be cautious about when courts do that, or we try to do that, or maybe even our laws require that there's something like that in place? How do you navigate that?

Yeah, it's super tough. Unfortunately, when you tell another human being not to do something, they do it. When you say you cannot do X, that X becomes even more important to them. That's just-- it's a normal human response, and the theory upon which it is based is reactance theory. It's just a part of the mechanism. The way our brain works is if you tell me I can't do that particular thing, that thing becomes more salient.

So think about you all on this call. If you've ever tried to quit a particular thing, let's say you wanted to quit coffee. At least for the first two weeks, all you can think about is coffee. All you see is coffee.

I had a friend who was trying to quit coffee, and she said, oh my gosh, there are Starbucks everywhere. There are 12 between my home and my place of work. Now, did these Starbucks pop up last minute just to taunt her? No, but it becomes so salient for us because it's in our faces over, and over, and over again.

And so when we, as a justice system, when we say you cannot do a particular thing, we actually sometimes trigger that same thing. So Amanda, you're right. It speaks to how our system is not terribly trauma-informed. I'm not saying that we shouldn't have protection orders in place or things like that, but that's not the point.

The point is that just doing that does not facilitate behavior change. We actually have to have a conversation about it. We have to talk about it. We have to explore that ambivalence about it. We have to get curious with them, and ask them, and help them develop awareness around it.

So should there or should there not be protection orders shouldn't be our conversation. Our conversation should be, whether or not it's there, it's actually not influencing behavior correctly. So let us improve our conversation skills to delve, and get really curious, and help the person increase some of their awareness around it.

Now, if you have the ability to influence the sentencing for a particular person, if you have the ability to make recommendations or those kinds of things, then absolutely do. But just know that where change happens is in the interpersonal interaction. It's through the conversation that change will actually get inspired.

So my first reaction, which is this person just wants to violate every order on the planet. Is never going to follow a rule. They must be anti-social, might not be the correct assessment to make. There may be other things in play here?

100%. I mean, how many of us see a speed limit sign and use it as a challenge? How many of us on this very call, us law-abiding, pro-social people, how many of us tend to speed and have amazing reasons why we do it? (LAUGHING) Right, it's more of a suggestion. Right, exactly.

And some of us go over. Some of us go under. Yes, it takes all kinds. And we're disobeying the rule not because we are antisocial, or bad, or those kinds of things, but because we're human.

And because we're human, our responsibility to each other is to help in these human behaviors as opposed to blame, or judge, or label people as problematic versus as just being stuck with us in this human condition. Donovan, I love your interpretation. That was really funny.

So here are some things-- [LAUGHING] no problem-- here are some things that happen when we experience trauma, and we might be triggered. There are some behavioral changes that also happen. So we talked about some emotional responses. We talked about depression, anxiety, those kinds of things. But there are other things that might happen.

So as a result of trauma, we will have a decreased resilience to stress. Meaning any time we get-- even if there's a little amount of stress, we might feel totally overwhelmed. So we're not able to handle stressful situations.

You might sometimes see this in clients. Something happens for them, and they just completely fall apart. So a decreased resilience to stress is a very common thing that happens when we're triggered, or when we are experiencing trauma.

Increased impulsivity, meaning a lowered ability to self-regulate, to have some self control over our behaviors. We tend to take risks and engage in some riskier behaviors. We tend to withdraw. We might disconnect from social situations, or even from the conversation. We might re-experience the event. And then, of course, we had talked about symptoms of depression and anxiety already.

I said that we were going to talk about stress. Let's do that real quick. Stress is good in certain amounts. Without stress, we don't get better. Without stress, we don't experience satisfaction.

Satisfaction is this feeling of a job well done. It's this feeling of, oh my gosh, that was hard, but I did it. It was tough to write that report, but I finished it.

Yeah, there's good stress, and the good stress is called eustress. It's the first word, or the first bullet on that slide-- E-U and the word stress. That's the good stuff.

But then over time, maybe we turn in the report. We feel good, but there's not enough time to feel good. The next one is due. And then this other thing happens, and then this fourth, and the fifth, and the sixth. And there's no time for us to come back to homeostasis. That's what's problematic.

In the short term, we can recover. When it happens over a long term, it results in the same brain impact as if we've had trauma. Meaning stress over time can have the same brain changes as if we've experienced a capital T trauma event.

So I want you to take that pretty seriously. Because many of us have experienced a ton of stress, and then we don't take the time to recover. We don't take our rest periods. And rest doesn't have to look like vacation. It needs to look like something different from what the stressful event is.

So if work is 100% stress, the entirety of work is stress, then what does not working look like even if it's for a period of eight hours? If parts of work are stressful, meeting with clients is stressful, what are kinds of reliefs that you build into your work day that are not meeting with clients? Maybe it's hanging out with each other. Maybe it's texting a friend, or chatting over the phone with somebody, or maybe it's taking a walk.

And yeah, Randy, you're highlighting something that's really important. That sometimes, it's not culturally acceptable for us to take the time. And I hear you loud and clear, and we've got to find a way to give it to ourselves, and to give it to each other. Because otherwise, we're all stuck in this trauma response.

And maybe you all are seeing this in our society. We are so-- we're all so triggered, so reactive to each other. We're all functioning on this flipped lid with each other.

Somebody says something. We flip our lids. We respond in this inappropriate way, and it's just a cycle of stress. And so what does that look like when we take some responsibility, and can we help our clients take some responsibility?

The choices are normal, we have normal responses. But when it happens over a period of time, it influences our biology. We start to release excessive amounts of cortisol. It influences our neurology, our nervous system, where we end up with this flipped lid problem. And it influences our genetics.

And it influences the way we pass down our genes. One of you had talked about epigenetics. That's when we experience a ton of stress, it changes the way our genes get expressed in the next generation.

So talking about stress is really important, not just for ourselves, but for our clients, as well. Because stress is the number one predictor of relapse. So if you have a client who is experiencing a ton of stress, and they're not taking care of themselves, relapse rates will go up. Chronic diseases go up.

You'll find that they get sick a lot. Their immune system is down. And they become more susceptible to other trauma, or more susceptible to treating their children, if they have any, in ways that perhaps cause trauma to their children. So they end up passing on through adverse childhood events.

So it's really important to pay attention to the ways in which stress influences us. And stress could be work-related, but then there are also other things that our clients have experienced, and perhaps we all have experienced-- systemic issues, systemic inequalities, stress in relationships. It could be poverty or food insecurity, which cause a whole amount of stress, or it could be historical stresses or historical trauma. So when we first talked about what are examples of trauma, many of you wrote down or typed into the chat generational trauma-- or historical trauma.

Historical trauma, what it is, is that a whole generation has experienced something that has been traumatic. And what it does is it influences their genes, and they pass down genes that increase the likelihood of susceptibility to certain factors. What we end up passing down are things like a decreased resilience to stress, decreased resilience to trauma-- meaning that if I experience something, I'm more likely to flip my lid-- higher impulsivity, and smaller or reduced mass in the frontal cortex.

That's what gets passed down. And again, it's not a given, but it's an increased likelihood of. That's what epigenetics is. So genetics is a given. I was going to say red eyes, but that's not accurate. Brown eyes versus blue eyes, or green eyes, or whatever, that's a genetic direction.

Whereas epigenetics is the way in which genes get expressed. And it increases the likelihood of certain things happening. So for the Native American population, as, Randy, you're pointing out, there has been so much trauma that has been experienced for generation after generation that it has impacted the way genes are passed down. Now, I don't want to paint a completely negative problematic picture. All of this is healable, but it puts you behind the starting line, meaning it makes it way more difficult for someone who is born with this epigenetic inclination to manage all of the trauma that life just sends their way.

So it's unfair to say you are using substances more than you because there's a problem with you versus your genetics have increased the likelihood that if either party uses substances, you would more likely get addicted than anyone else. That is what epigenetics is about. And again, I don't mean to take away responsibility. There's a ton of responsibility that we all have to take, but it is not trauma-informed to say you're acting that way because there's something wrong with you. That is not trauma-informed.

What trauma-informed means is that we use a lens through which we understand people's behavior. We use a lens that helps us understand that there is wisdom behind whatever behavior they're engaging in, even if it seems inappropriate, or it seems problematic, or it just seems bizarre to us. But there's a reason that they're engaging in that behavior.

And sometimes, the people who are engaging in that behavior, they cannot even explain why. And that's what Leanne is talking about. And sometimes, it shows up as a mistrust of the system, a mistrust of authority, those kinds of things. There have been a ton of studies around this that really helps us understand how we pass down some of this mistrust from generation to generation. We don't even really have to talk about it to be able to pass down mistrust.

So yes, when you say, Leanne, that the bearers of epigenetic trauma cannot explain why they seem to have a more difficult time, it's because it's happening in them. It's happening with them. Yeah, Greg?

So if a person has experienced historical trauma, they're not always aware of it. So how do we find out? I mean, you talk about trying to be curious about people's lives, and what's gone on for them, and their journey, and the layers of the onion. What do we do? I mean, how do we start exploring that?

Yes, so as Leanne said, it absolutely can be repaired. And the repair takes time, but is ultimately things that you and I can all do. So let's see if I have-- I have just very bad statistics here. So maybe we'll skip over those.

You have access to these slides. Rachel put them in there. But let's talk about literally what we can do.

So what does it mean to be trauma-informed? What it means is, one, we don't make things worse. And we definitely don't label people as being problematic, or whatever language we sometimes use-- defensive, all of the things-- before understanding what might have happened to them, or what they might be experiencing. So it gives us a little bit of a different lens in which to interpret people's behavior.

So that is one. We avoid retraumatizing, meaning we are careful-- and we know that sometimes we can retraumatize people, but we're watching for flipped lid stuff that we've talked about. We're watching for what's happening with them. Are they reacting to something that I'm saying, and I need to back off?

Sometimes, as you can all tell-- maybe you can't, but I talk with my hands. And I can get really big with my hands. And sometimes, that can be really retraumatizing for people.

And so I'm going about just being me, and I notice the person withdraw and shut down. And I say, oh my gosh, I'm so sorry. I absolutely did not mean to cause you any fear.

And then what I do is I start to sit on my hands. Like I literally put my hands underneath my legs, and I sit on my hands so that I'm not retraumatizing them. I don't continue to make this hard. Just because I didn't mean to harm them in any way doesn't mean I don't have to take responsibility for how my behavior is impacting them.

So that's what avoiding retraumatizing means. It's like, will you be increasing my own self-awareness-- understanding, recognizing it, using it as a lens through which to see what people are doing, being really sensitive. When I see fear in somebody's eyes, trying to be as patient as possible with them. And I don't take their commentary personally. Sometimes, people will say you're just a part of the system, or you're acting like you care, but I know that you really don't, which hurts me deeply, can I just tell you.

It hurts me so much when people say that because I do really care. And yet when they respond like that, I have to remind myself, it is not about me. I have to continue to be me and continue to care. And slowly, they'll come around if I do certain things, if I continue to be consistent, if I show up when I say I'm going to show up, if I always, at all times, keep them as safe as possible, and, if it becomes too much, to know when do I refer somebody?

So again, more practical things. Engage them. Work on the relationship. Again, like I said, most trauma is relational trauma. So your relationship with them matters.

I cannot tell you how important that is. Provide them with a safe, calm environment, and give them attention. I think, as Randy said, meet them where they are. You can get curious about where we need to go, but start where they are. And start by pretending like we have all the time in the world.

Talk about their concerns and give them a ton of choice. The more choice you can give, the easier it is for them to start to heal their brain. Help them make decisions with you.

So all of that, there's the big question about, what do we do with them? But equally important is what do we do with us? What do we do with ourselves?

And of course, these ideas that I have apply to our clients, as well, but I don't want to lose how important it is to take care of you. Because if we're not taking care of us, we're not going to be able to be trauma-informed. We're going to get triggered.

We're going to have reactions, et cetera. So start with us. It starts with us taking care of ourselves to the best of our ability and really showing up.

So what I've done is put the strategies into what we can do in the moment-- when we're talking with somebody, how do we take care of ourselves-- and then what we can do over time. So ways in which we can show up and, in the moment, take care of ourselves, those are the examples on the slide right now. Manage your body. So again, our issues are in our tissues.

So when we sit in power positions, when we sit comfortably, and we're sitting up straight, our nervous system gets the message that we're OK. I'm OK, and I'm safe. So keep your body in a position where you feel safe and you feel comfortable.

Move your body if you need to. Cross or uncross your legs, or sit differently in the chair. Take a deep breath. Exhale. Take a break if you need. Take a sip of water. Any of that is really, really helpful in the moment.

Now, let's say the client just-- it was a very difficult conversation. You feel a little traumatized. Client's a little traumatized. Client leaves, and you want to share it with somebody.

Try not to play trauma tag, meaning don't barge into somebody else's office and blurt it all out. Ask them permission first. Even just by saying, hey, Greg, this thing happened. Do you have a second? I want to run it by you, or I just need to download for a second. Do you have some space to listen?

Even just asking that, it prepares Greg's nervous system to receive information. So when I say don't play trauma tag, I mean, don't just go into the office and blurt it out to somebody where now we've passed on the trauma to them. That's what we can do in the moment and right after.

Other strategies that I'll talk about are things that you can do either right after, or when you get home, or however you can think about that. But manage your mindset. And by that, I mean we have to work on not getting stuck in our lizard brains.

Our lizard brains tend to not have hope. Our lizard brains tend to scan for problems and threats. And because we're scanning for problems and threats, we don't see positive things.

And so we have to manage our mindset by looking for the positive. So if you start to fall into this trap, you'll notice it at home. You'll notice it at work. Maybe you're sitting with a client, and all you can think about is negative stuff, or you're with your partner, and your partner says something, and you just have a negative reaction one after another after another.

That is a good sign that something is going on. So pause and work on finding the positive. That's what we mean by managing our mindset. Making sure that we continue to find hope. And I don't know whether positivity is the right word, but maybe hope and possibility would be a better way of talking about that.

I've talked about this a lot, but work on finding ways in which you are building rest periods. Again, rest doesn't have to be a vacation, or a nap, or something like that, though it could be. But it just means a break from what is causing your stress.

So it could be, if what's causing you stress is meeting with clients, then taking a break from that and talking to a friend, or replying to email, or taking a quick walk before you get the next client. But doing something different, and consciously building in these periods of rest so that you are keeping yourself safe and healthy. And then building mindful practices.

Mindfulness doesn't have to be just about meditation, though it could be. It could be about prayer. It could be about spirituality. It could be about anything that works for you.

But fundamentally, it's about bringing your attention to the present-- bringing your focus and attention to what's happening right now. And what that helps us do is it allows us to relink to our wizard brain. Being present means that our lizard and our wizard are talking to each other in the moment. So that's what mindfulness does.

Exercise, which is also on this page, releases a ton of really healing chemicals. But it does another thing that's really interesting is it teaches our body how to metabolize cortisol. Anytime you exercise, you increase cortisol, and your body has to metabolize it. And what you're teaching your body is how to get good at coming back to baseline, which is what managing stress is all about. It's about cortisol, and our body metabolizing cortisol to come back down to baseline. That's what helps build resilience.

And social connection. I hope I have a slide on social connection. There it is. Because it's so incredibly important. So if you don't do anything that we've talked about today, please do this.

Connect with other people. Because community, social connection, that is where we get the most amount of resilience. Spending time together, or doing things with each other, laughing together, it releases this lovely chemical called oxytocin that helps us heal. It literally helps us heal our brains.

So reach out, connect, do something socially. Ideally, don't talk about work when you're connecting with somebody socially. Talk about something else.

Also, have, to the best of your ability, boundaries. And boundaries are, just because I understand, it doesn't make it OK. Meaning just because I understand why you're behaving like this, or why you're engaging in this behavior doesn't make the behavior OK.

So just make sure that you're saying no, that you're clear about what's OK and what's not OK, that you're saying no to things, so boundaries is really important in taking care of yourself, as is gratitude. You all probably are familiar with this research, but there's a ton of research on how helpful and healing gratitude is. It's healing for trauma. It's healing for intergenerational trauma, for stress.

It helps link our lizard and our wizard, and gratitude could be any of the examples that are on here. Ideally, a really personal kind of journey, whether it's writing a thank you note or a letter of gratitude to yourself. Whatever it might be, you pick, but gratitude has just such a significant influence, a significant positive influence on healing our brain.

OK, Greg, I have used so much time, and we have about seven minutes. If I'm doing my math right, we have about seven minutes left. Is that right?

Yep, that's exactly right. So if you have any burning questions, please go ahead and put those in the chat. So, Anjali, just a couple of things. We know that there are treatments available for people who have trauma. I mean, some people, it's so significant they actually need therapy around trauma.

Can you talk about what those do, and what they are? Just some that are out there that are being used pretty regularly and have shown success rates.

OK, yes. There are some types of therapies that specifically address trauma. EMDR is one of them. It stands for eye movement desensitization and reprocessing. What EMDR does-- as well as brainspotting, which is another modality that heals trauma-- what it does is it attends to the amygdala in the brain. So the amygdala is the house of negative emotional memory, emotional trauma or trauma memory. The amygdala is these little kidney-shaped things that are at the end of our hippocampus as part of our lizard brain.

What EMDR and brainspotting do is they reduce the reactivity of the amygdala to whatever the trauma triggers are. So it's not like we won't remember them, or it doesn't change our memory. What it does is it reduces the emotional response to the memory. So we don't have the same trauma response.

The really cool thing about EMDR, and brainspotting, and somatic desensitization, and those kinds of things, the really-- oops, sorry-- the really cool thing about it is that you don't have to share the trauma experience. The person doesn't even have to talk about it. They can just think about it, and EMDR can still address the trauma.

And it's a bilateral stimulation of the brain that allows the amygdala to dump the emotional memory. I hope that answered the question.

Yeah. I mean, for us that are not neuroscientists or experts in neurology, I think of it as integrating trauma into parts of the brain that are supposed to take it so we can continue to function. This memory goes here, and this is what I do with this. And just those kinds of things is an easier way for me to understand it since I don't get all the other stuff.

What about the relationship-- and I know you touched on this-- between substance abuse, and mental illness, and trauma-- the cause effect, the response effect and percentages? And then specifically to Native Americans, what do we know?

Yeah, great. And then, Greg, I also just want to point out Randy has a question about cortisol disruption that I want to try and get to before we finish. So let me try and answer both questions.

So when we have a trauma response, it increases our likelihood that we will try and cope in many different ways. As human beings, we are just trying to cope. We're just trying to do our best. And sometimes, the coping strategies that we take on are not so healthy in the long run, though they help us immediately.

So substance use helps us immediately because it allows us to numb out, and that allows me to not experience that trauma. It allows me to not experience it over, and over, and over again. So sometimes, people's entry into substance use is as a result of a particular trauma experience. So in that way, they can be related.

Sometimes, it's the reverse where because I'm using substances, I'm exposing myself to risky situations that increase my likelihood of getting traumatized. I'm intoxicated, and therefore, I'm at risk for sexual abuse, for example. So those are some of the ways in which they're interrelated.

And then Randy asked the question about cortisol disruption. So cortisol is a stress hormone. When we get stressed, cortisol increases in the body.

When we get into this pattern of being chronically stressed, there's a disruption in how we produce cortisol that we actually wake up in the morning with lower levels than we need. So we wake up tired. And then we need events, we need crises, to start to feel cortisol coming back into our system. So it's almost an inverse curve that happens with cortisol. We need high cortisol in the morning. We need low cortisol in the evening to function normally, but that gets disrupted by chronic stress. And we end up with low cortisol in the morning, and high in the evening.

And so we really have to manage that. And there are many ways to manage cortisol disruption. Exercise is absolutely one of them, but also, resting is another.

OK, I know we've run out of time, Greg. I'm so sorry.

Thank you all for the questions and the great webinar. This is going to conclude our webinar for today. Thank you, Dr. Nandi, for sharing your time and knowledge. Thank you all for the great questions. And I hope you enjoy the rest of your day, and we'll see you at future webinars. Thanks, everybody.