Training Call #5: ANS & Self-Regulation Review, & The Two "Ceptions"

Hey everyone, it's Irene again and it is the fifth training call. Who's got their handouts? Yes. Okay. I started off the call a second ago with those live asking, what are people learning this week? So what I'm going to do, I'm just going to read some things out and then we'll get into the training call because obviously there's some people here who are on the recording and they won't see the chat. So some of the things I'm seeing, titration is so hard. So, little tiny bits of work. Who here has been born into the world of pushing and going and doing and always, always on the go? If I could put my two feet up, I would also do that. Yeah, it's very much indicative of Western Civilization society. I mean, look at all the things we've created. That doesn't happen through just regulation. That happens through a lot of functional freeze and numbing out boundaries.

Someone else's learning this week. Waiting before responding so I can have the feelings first. Noticing how many times I hold my breath, who is starting to notice how often they tighten? Yeah. And when we tighten, that stops the flow that stops the quality of our health, et cetera, et cetera. How to navigate anger, anger, healthy aggression, and disgust. Yes, these are things that often aren't spoken about in, kind of, the pop culture, healing trauma worlds, these deeper yuckier, harder, sludgier things, and they're so important for us to gain capacity to be with.

Learning to be whatever it is in a positive way. Yeah. Some positivity is definitely important with this work. Taking it slow and steady. How far I've come. Who here feels, wow, I've actually gone pretty far, even if it's just a little tiny bit? That's a big piece. Meeting pain with curiosity. That's a big one. I actually just got a little shiver through my head with that one, because that's something I've had to work with a lot, is physical pain from all the injuries I've had and suppressed and not dealt with, and felt that I can give myself the connection I need. Yes.

I'm going to pop onto that one because when we get more regulated in our system and we're more connected to the environment, we start to find connection to things that are a little more, we could say etheric, not as tangible, and we become in many ways our best friend, right? We're working with ourselves in a way that is very different from looking for external connection. Not that we don't want connection, not saying that, but we become better at being with ourselves, connecting with ourselves, resourcing to ourselves. Layers. Yes, learning

to accept and love myself. I'm finding my shoulders. So yeah, this work can make us awaken to parts of our body that we had no clue existed.

All right. There's lots of great comments here, and I won't read everything. Integration takes time. Yes, it takes a lot of time. Trying to be aware of my body in various daily circumstances. And then I have a few folks here saying I'm way behind in the course. So this is my reminder to say, what are the alumni going to think that I'm about to say? There is no behind. Just like we would never say to a child, you're behind in learning how to read, although sadly we do that. You're behind and getting onto your two feet. Even though each human has a different body construction. The kid that has the bigger head, it's going to take them a little more time to get balanced on their feet. So we have to really know that there's no behind, and we're exactly where we need to be.

So watch when you might say, I'm only on lab one, or I'm only on lab two, or I've only been able to just do the lessons and I can't take in the theory so well. Okay, now there might be some noise that comes through my microphone. I'm just going to give this a little sidebar. It's fall here right now. So there's a lot of leaves and people like their leaf blowers, and I can hear one coming closer to my alley. So let's hope that it's not so distracting that you can't hear me. I'll make sure that my microphone is right in front of me here. All right, so thank you everybody for your messages, and with this one, I'm letting my daughter let me learn.

That's lovely. I'm letting my daughter let me learn and grow and change and adjust my parenting with her. This is wonderful. I'm actually going to speak to that for a moment because I remember when I was in my somatic experiencing training, there were quite a few folks in the training who were already, let's say, established psychotherapists, established counselors, social workers. And I would say they were the people that had the hardest time integrating the somatic experiencing principles into their practice, because they had a very strict way of how they did their work, and that's okay. But what I found was that they also struggled the most at getting into their bodies and integrating the work into themselves, because they couldn't meld the current ongoing learning into the old.

So when I read that piece about someone is learning with parenting, and that made me think of that, is it's best to start integrating these things in now as opposed to, okay, I'm going to wait until I've quote, unquote done the course and then I'm going to apply the principles to, say, my parenting or my business or my relationship or whatever it might be. So just watch to see if there is a tendency that you're waiting for something to just drop as a big epiphany for you to

start integrating, and see how you can start integrating little bits, little bits, little bits. All right, thank you everyone. Okay, and yes, final two I'll mention, two of our alum or maybe not alum, in their 70s, just chimed in.

At 70, someone says, I often think it's too late. It's not, you're here and another person, me too at 76, but I'm beginning to learn that there might be some hope after all. Of course there is, right? Yes. So for those who are in that age bracket of 70s, 80s, some people might think in their 40s they're too old. No way, Jose, you are not too old. We can learn at any age. The key is that we're interested, right? This brain, it doesn't age chronologically, it ages based on how we use it. Same with our body, same with our muscles.

So with that said, let's get into training call number five, titled ANS, so Autonomic Nervous System and Self-Regulation Review, and the Two “Ceptions”. Very proud of that word. I've made it up, the Two “Ceptions”, so we'll get into what that is in a second. So a reminder that the biology of stress video number three covers the Vagus Nerve 101. And so what you'll hear me talk about in today's call is also in that video, and we're going to pick through the specifics today, and I'm going to read a bit. We're going to have some story time and we'll keep going.

So, a recap of the nervous system. And also just to note that the chat, we want to keep quiet as much as possible. If I have a prompt or if I have a question regarding what we're learning right now, of course I'll ask and then we'll put in the prompt. And Jen is here, one of our moderators and my colleague to help answer any questions that must be answered in this moment related to the training call. And then anything longer, we'll ask you to put that in a general question thread. Okay? So recap of the nervous system. First word. Two. There are two main nervous systems in vertebrates, that's fancy for the spine. We all have a spine. Trust me, even if you can't feel it is there. So we all have a spine.

So two main nervous systems in vertebrates. The first is the central nervous system. Central. Central is exactly what it sounds like. It's in the center. So the central nervous system is the brain and the spinal cord. So play with me here. Take your hands, touch your skull. If you need to close your eyes, you don't have to, you can orient, and just acknowledge that there's a brain under there. It's one of the strangest things, right? We go through life knowing that our brain is there, but often we rarely just say hello to it. It's keeping us upright. It's allowing us to process the words you're hearing. It's allowing you to do all the sensory activities of noticing the environment. It's giving you balance to stay upright, interprets vision, smell, recognition, memory.

All right, so, brain. Central nervous system is the brain and then the spinal cord. And the spinal cord is obviously the cord, the sheath of nerves, within the vertebra. Yeah. Sometimes it's fun to go and look at a picture of this online or in a book, just to see how much goes through that spine, the spinal bones. So the next one down is the peripheral. This is where we get to the next layer, the next nervous system. The peripheral nervous system is number two, peripheral nervous system. So the peripheral nervous system is the, A, autonomic nervous system, and, B, the somatic nervous system. If we wanted to be fancy, we could say the somato-motor, motor somatic, meaning movement sensation.

So if we think again of this spinal cord, which is central, the peripheral is all the nerves coming out. So if you do a little dance with your hands with me, you move them, or you twist, or you feel the temperature of your face and you feel that the face is maybe warmer than your hands or something like that, this is your peripheral nervous system working. It's the sensation, and you're moving the motor actions. This is why if someone has a spinal cord injury at a certain level, they can't move their arms, they can't sense feeling sensation. So it's the spinal cord and the various points of where the spinal cord might have an injury will determine if the nerves don't work and then the motor system doesn't work. Sometimes if it's a real severe spinal cord injury, the bladder stops working, the bowels stop working, right? These really terrible accidents where people have spinal injuries.

So it's not the nicest thing to think about, but that's one way of really understanding, oh yeah, sensation. I can feel the hot cup, I can feel that that's too cold, et cetera, et cetera. And then within that are reflexes. If you've ever touched a hot stove, but you're not sure that it's hot, has anybody done that? You forget that the pot is hot, you touch it, and you jump back. That's the nervous system. The system is saying, "Danger, pain, come away really fast." We need that. Those that don't have those sensory receptors have trouble in life. They move through things, accidents that they don't want to have happen, but they happen because the nervous system is slightly off or not working properly.

So the next paragraph down. Between all these nervous system branches are pathways, sensory and motor that communicate, that's the word. Communicate signals, sensations, stimuli, hormones for function, for human function, metabolism, homeostasis, action. So those movements and survival, fight flight freeze. So there's that example of a hot stove. Ouch, I'm going to pull away. So the signals, also, I said hormones, they're the chemicals, adrenaline, dopamine, cortisol, sex hormones, sleep hormones, all the things that get secreted and go into

our blood to make things work, slow down, speed up, et cetera. So all these nervous system branches are pathways that communicate signals for human function, action and survival.

So we'll get into the next one in a second. Remember to stay connected to your fill in the blank. I don't mean fill in the blank on the page. What I'm saying is can you stay ... I'm pausing. What would it be like to stay connected to, and then you fill in the blank, what is it that you're not maybe connected with right now with your body? What could you pay attention to? What could you orient to, et cetera, et cetera. Yeah, the environment, the chair, your impulse to move. Do you need to shift? Do you feel your feet?

All right, so the ANS, next line down, has two main branches, plus its sub-branches. First line, sympathetic nervous system, which is our fight and flight. So this is like, we're having a quiz today. I think all of you know this, right? Sympathetic nervous system, which is our fight and flight survival system. Parasympathetic nervous system, which is our slowing down, slowing down survival system. That's the word there. Then the PNS, the parasympathetic, is broken into two more branches. The first sub-bullet is the speedy, primitive, unrefined and unmyelinated. That's a fancy word for the nerves that aren't covered in fat, and we like fat around our nerves because it makes the transmission go smoother and quicker.

So speedy, primitive, unrefined, unmyelinated, shut down nervous system. Shut down is the word. This is the dorsal vagal complex of the PNS. This is where this vagus nerve stuff comes in that everyone's talking about. It's not as simple as saying, "We have to get the vagus nerve healthy." We do, but we need to have it firing when it's supposed to and not firing when it shouldn't, and all the things we'll get into today. So this speedy, primitive, unrefined, unmyelinated shut down nervous system, that's where our freeze comes in. It's also part of the rest digest, which we'll get into on the next page.

Next sub bullet down. Again, remember this is the PNS, the parasympathetic nervous system. So we've got this dorsal, one that we just talked about, of the vagus nerve. Now we've got the ventral. So the next one is steady, refined, myelinated, meaning the nerves have that fatty layer. It's a myelin sheath. It's more evolved, calming down. So it calms the system down. And the real key word there is steady and refined. So if you take your hands and you pretend you're conducting an orchestra, maybe someone here has done that. If you've ever seen a conductor and they're, that's refined versus they're not going to get very far if they just smack their hand in the air. It's this refined ability, and we know that through how we write, how we gesture, how we do fine work with our hands, tying up shoelaces. That is this ability for our nervous

system, this myelination, we can manipulate, slow down, speed up. This is where the muscles are important. So who remembers the call where I talked about the importance of motor sensation? It was in the call before about Nina Bull and that sensation, sensing the pre-action, and then how can we shift our motor pattern based on better thinking, quality of breath. I want to make that connection.

So the Feldenkraisian learning that we're about to get into more as we get into deeper labs, and we've already done some of it, it's slowing down the system into that more parasympathetic, steady, easy state so that you can listen and feel and engage with a shift in direction. And that can only happen because we have these muscles that can fine tune. Does that make sense?

A little kiddo, you can't give them usually a very fine tool and expect them to do fine, say carpentry or some kind of toolmanship at age two. It takes some time to get those motor skills. Now, if you give me a screwdriver, it's not going to be very pretty because I don't do that very often, but I could figure it out. And then you have someone who's really good like a musician with their hands and you just go, "Wow, they have so much skill," but they've trained that skill into them and that's happening because of this myelinated nerve fiber that goes to the muscles.

So, no, the fine motor skills are not part of the ventral vagus. I'm speaking more about just muscles in general. They're called striated muscles. They're the muscles of our biceps and fingers and legs and face. All this is striated muscle that has that nerve conduction that can be refined. Whereas the heart, for instance, is a different kind of muscle. It just pumps. It's very simple. It either speeds up or it slows down. The gut, the organs have a type of muscle called smooth muscle because, again, the organs, they don't need to write letters. They just need to expand and contract and secrete chemicals for digestion and all that. So again, I went a little deeper than I thought I would on the difference of muscle physiology, but this is why we can refine our movements. But when it comes to working with say our organs, it's a little different. We actually want to bring in more of what's going to come on page number two. So I'll save that thought for the next page.

All right. So here's where it gets more complicated. So the dorsal vagal complex of the PNS, so that clumsy, unrefined portion of the dorsal shutdown, it's a long sentence. So that clumsy, unrefined portion of the dorsal shutdown has two main modes it operates in. Two main modes; low tone dorsal, that's the first word, low tone dorsal and high tone dorsal. I like to

think of these like a gearbox on a car. So there's not two sets of nerves, they go into different action, different quality, just like you have a manual engine on a car, but it shifts into different gears to either go faster or slow down, that kind of thing. So this is where low, high tone comes into this dorsal branch of the vagus nerve.

So low tone is the true rest digest. That's the next line. Low tone is the true rest digest. Parasympathetic nervous system, and it's responsible for recovery and healing of the body's many organs and organ systems. So remember, if you go back to page one, this dorsal is unmyelinated, it's unrefined, it's primitive. Our organs are primitive. This is why a healthy newborn baby that's come full term, they can poop and pee really well. They're not regulated in their full system, but this more primitive part of their nervous system is working. They know their hunger, they sense fear. If there is a reaction, they'll startle, right? So their primitive reflexes, their insides, the viscera are working.

Now of course, not everything is working, but that kind of gives you the clue that this is this primitive part of the vagus nerve. It works pretty good when you have a newborn that's full term and was healthy in utero. If we use that perfect case study example. Okay?

So the next bullet points, there's four of them, again, remember this is in reference to the low tone, the true rest digest of the parasympathetic. It supports tissue repair. If you've ever been with a little kid or a baby and they're healthy, they heal really fast. It takes some of us in our older years a while to heal a cut, especially if our nervous system is dysregulated, but if you have a newborn, their mechanisms for healing and turning over are quite quick. So, supports tissue repair.

Immune system response, that's the next line down. So this very intelligent part of our neurophysiology that recognizes something's off, I better go in and take a look. I better go in and fix this thing that's a bit off, whether it is a bacteria. We ate food that was a bit too old. I did that the other day. I had a piece of pepperoni that I thought was still good in the fridge and I was so hungry, I went to swallow it and I'm like, "That tasted a bit sour." And then I said to my system, "Now, you take care of any bacteria," and I was fine. When our gut is healthy, it can take care of quite a bit of bacteria, but sometimes it doesn't hurt to just give it a reminder.

So this immune system response is more than what we might think of it as. It's all the things that are occurring that we can't even often measure, right? It's fighting off cancer cells because we're always producing cancer cells. So it's this ability to fight, attack, get rid of foreign stuff

and clean it out of the system. So as we get more true rest digest on board, this starts to improve.

Can you guys hear that? Awesome. Just checking. I can, but I can keep going with that in my ear. I just wanted to make sure you're not being bombarded by the leaf blower. Okay, let's keep going.

So the next one down, barrier keeping of the gut. Barrier keeping of the gut. So our gut is long, I can't remember the analogy, but it's something like a whole football field I think if we were to unravel it. It's massive. And in the gut there's these very thin casings that basically keep the gut protected. If you've ever done an anatomy class, it's amazing that stuff even stays inside because it's so thin, this gut lining. And so every night when we sleep, we want to go into rest digest, this low tone, this low tone of this dorsal vagal, and literally the system stitches up.

Now, there's no stitching mechanism with crochet needles or anything like that, but the intelligence of the system knows we need to repair and stitch up this gut lining because as we eat and as we process, it breaks it down a little bit. Now for those of you who have ever experienced IBS, Crohn's, gut troubles, what we might classify as leaky gut, that's a sign the nervous system is off kilter, it's dysregulated because it's not getting that rest digest when we sleep at night. So we want to repair the gut every time we sleep. We don't think about it, but the autonomic nervous system does it and it does it really well when we're regulated. Hence why we want to grow capacity so that we heal our traumas, so that we get regulation back on board.

So what one might find is as they become more regulated, they have more capacity and they start to dip into more of this true low tone rest digest, not only will their wound healing speed up, your immune system might be sharper and smarter, the gut starts to improve. You start to actually assimilate your nutrients, your minerals, your vitamins. And this is a thing I've heard over and over again with clients and many of you, "I ate so well, I've eaten so well and I've done so many good things. But it's like I'm still deficient in all these things." And if the gut lining and the gut isn't healthy, it can't absorb the nutrition. So that's another reason why we want to bring back this nice low tone rest digest.

Cell repair and regeneration. In some ways, cell repair and regeneration is all of those pieces. It's just how all of the cells do their upkeep, how they do their house cleaning so that they can continue to produce what they're supposed to produce.

So next line down, for healing health and our smarts, that's my code word for our brain sharpness, right? The ability to cognitively think clearly, all these things, for all this to be restored, we want all three branches. That's the word, three. We want all three branches to be in sync with each other. So I'll speak to that for a moment.

So the thing with these low tone, high tone, sympathetic, we haven't got into ventral yet, we will, don't worry. It's coming on the next page.

It's not like a light switch where one shuts on and one shuts off. Again, there's this kind of back and forth. Now of course, if we have a massive shock and our system completely shuts down, what's one thing that often occurs in humans and animals? They void their bowels. They'll urinate. Yeah, I know that from working at the animal hospital. This is why we would often say, "Do not let your dog or cat eat after midnight the night before," preferably 6:00 the night before because you want everything out of the system. Because when you go under anesthesia or if an animal is euthanized, they will void what is inside. It's part of the survival of letting that go.

So this is why, when you have humans who have a huge fear response and their system goes into severe shock and shutdown, they may soil themselves. That is a strong shift to the system going into protection. It's like they go into sympathetic, which is the fight/flight, they realize they ain't getting out of this and then into high tone, dorsal shut down.

Now, if someone literally passes out and they're still alive, the system is still pumping. So there's still something going on. So that's why I said it isn't just on and off, even when it seems extreme. And so what we want in terms of good regulation is, let's say you're feeling a little activation and you sense, if I don't slow down a little bit, I might go into freeze. Has anybody started to catch that as you learn? I'm feeling the heart go up. And if you keep pushing, you might actually get to this point where then you just kind of numb out, or the heart goes so high that you literally have to sit down, put your head down and breathe and take in. But as you become more regulated, you start to sense when that part starts to get a little, little, little higher and then you go, "Oh, I'm getting a little activated. I better slow down."

Someone is saying yes, yes. Someone said, is freeze also dissociating? So classically we would say that dissociation is more within the mind and shut down, disconnection from the body is in the body. I'm not so picky. If someone says, "I'm dissociating from my body," I'm like, great, that's disconnection from the body. But in the psychology world, in the world of Stephen

Porges for example, he would say that dissociating is a cognitive piece, whereas numbing out is the body disconnecting.

So we want to essentially restore regulation, so that we're able to fine tune some of these stress responses on our own, so that as we start to feel things ramping up, we can be aware and alert. And then that's where we bring in our tools. That's where we bring in our resources. That's where we might bring in, "Oh, I need to orient. I've just been so hyper-focused and stressed on something really specific. I need to widen my gaze and see out." Or maybe we realize, "Wow, I've been clenching my breath all day, all week, and it's causing tension in my head and my throat," wherever it might be. All right. So we want to have all these three. So we'll get into the ventral soon.

So I want to read something. So the next line is the two ceptions, so this ception word is not a real word. It's our word for SBSMers, the two ceptions. So the first ception on your handout, interoception, intero meaning internal. Internal. That is that perception to sense, "Holy moly, my heart rate's going up. My gut is clenching." And it's not just the muscles. There's a tightening in the gut, the viscera, or there's a clenching in the throat, or there's a relaxation. It doesn't have to just be activation, it can be the other side. Because if we're not noticing when we're doing this work, the shift into more low tone, into more rest digest, we might miss that we're actually making progress. So the interoception isn't just for the "bad things." It's also for the "good things," when we gain more regulation.

Second concept, neuroception. Neuroception. Neuroception Is the perception of either safety or danger. This term was coined by Stephen Porges, who was sort of the main researcher who put the complexities of the vagus nerve on the books of science. And that's where we know this distinction, not just between the dorsal and the ventral, but also the sub branches of the dorsal, the high and the low tone. Again, that's where if someone says, "We just have to tone our vagus nerve," it's like, well, what portion are you talking about? Right? We want to have this understanding of these different tones.

So I'm going to read from the book Nurturing Resilience by Kathy Kain and Steve Terrell. It's a blue book. It's on your book list. And I'm reading this because I want to read more than what I really should pull out onto paper. So this is from chapter two. And the title of that chapter is Knowing When We Are Safe. So before I read, I'm going to have a little sip here. Remembering, everyone, to stay connected to body, brain, environment, sensation.

So I'm going to read a passage under the title Interoception. So again, this is co-written by Kathy Kain and Steve Terrell. So here we go. "Interoception is the process by which we notice our internal state. We evaluate a combination of sensations and perceptions of physical processes to assess our interior milieu and decipher what it's telling us about what we are feeling, how we are, and even who we are." Not too long ago, so now these are my words, I had mentioned who here has felt, as they do this work, that they're not too sure who they are anymore? Things are changing? That's a good thing, but that shows that our interoception is shifting because maybe we're actually feeling what we've never felt before, and that can be a little weird, but it's good.

Okay, back to their writing. "This includes our perception of physiological processes, such as heart rate, the digestive process, sensations of the skin, and any other internally experienced sensations of our own bodies. We use evaluations of these sources of bodily information. We take action, make meaning, make predictions, like predicting our own illness, by feeling the initial sensations associated with the onset of a cold, for example. And make judgments about who we are, how we are. Are we hungry? Are we safe? Are we loved?"

"Stephen Porges refers to interoception as the infant's sixth sense. So Porges refers to interoception as the infant's sixth sense." I'm going to add in there, my words. It's just the human sixth sense. It's not just for the infant. We have this too. "If an infant or an adult cannot accurately perceive whether or not he is hungry or thirsty, if he needs sleep, if he's too warm or too cold, then he cannot accurately communicate his needs or distress to caregivers. That, in turn, can prevent care providers from responding properly to the infant's needs, which may then increase the infant's distress and instill a feeling that safety and connection are lacking."

So I'm going to pause. There's one more paragraph. So this is where following impulse comes in. Biological impulse, yeah? Having your resources. This idea of when the baby is perceiving, "Am I hungry? Am I thirsty? Am I cold? Am I warm? What do I need?" They're sensing that interoceptively, and then they usually act out a cry, a whimper. We might see the color change. Oh goodness, they're super warm. They're red. That must mean they're too hot. That attunement is so important with an infant, but it's the same with us. This is why we are spending so much time listening to what our impulses are, what they need, et cetera, et cetera.

If we try to jump right into, let's figure out how to take those balls out of the swimming pool, before we even know how to feel these basic physiological needs, we might not get to where

we need to go because we can't process what has to happen once we get that ball, right? Let's say we get that big trauma in our awareness, it's like, what the heck am I supposed to do with this? If you can't even notice when you're hungry, tired, et cetera. The baby needs to learn those things before it can do more advanced skills. Can't have one without the other. So this comes back into that sequencing of our neuroplastic healing.

Okay, back to the final paragraph. Two more. "In this way, it is critical that the infant and child develop an accurate interoceptive language for communicating her more basic needs to care providers. It's an essential component of healthy attachment and bonding process. As the care provider meets the need of the infant, attachment is strengthened."

So back to my words. This is again, why, and this was alluded to earlier on the call where someone said, I'm learning to connect with myself more, what you are doing... Because our mothers aren't here for us. We don't need our primary caregiver now, in the same way we did when we were completely helpless and not independent. This ability for us to meet our own needs, to attach to our system, to securely bond to our impulses, that is the replacement for that not having happened when we were young. It might mean that we have to grieve, that we never had that when we were really little, but that's part of the healing process. Now it's sort of like, okay, as adults, we kind of have to step up and realize this is my responsibility now. I might get support, help, but I have to be the one responsible for making these connections with my biology. Nobody can force you to do it.

All right, final paragraph. "As we mature, our need for nuanced interoceptive vocabulary becomes even more critical. We need a reference system for understanding how we feel about different people, different circumstances, and different types of needs. It's easy to assume that the system of reference develops on its own accord." I'm going to read that one more time. "It's easy to assume that the system of reference develops on its own accord, but in fact, it develops contextually." It develops contextually. "Requiring regular feedback from our social system in order to calibrate points of reference and rely on them with confidence."

What that's saying there, that whole sentence, is the case for nurture versus nature. We nurture these points of reference. We nurture how we develop our interoception, how we develop the ability to engage with the world and go, safe, not safe. And when we're figuring this stuff out for the first time as adults, we have to be aware that we might sometimes get it wrong. We might make the wrong choice. And that's okay. It's the same reason, if you have a child that gets the wrong math problem when they're doing math for the first time, technically,

it's like, that's okay. That's a mistake. You've never done this before. Let's try again. So we have to put that hat on for our learning as adults, that we might go down the wrong path a few times, or 100 times, but then we want to learn from that, right?

Who here has found that they have felt an impulse over the last six or so weeks? They felt it, they know it, and then their inner conditioning doesn't look at it, and then something bad happens. Or something not the best happens. Someone just put their hand out. That's okay. I do that too. But the question is, can you take that nugget of, "I just made a mistake. Mistakes are normal. Let's remember to not do that again. So the next time I feel my impulse to do something, I listen to it." And that little moment between choosing to listen and not, that's where the gold is. That's where the choice, the free will to listen and go, "okay, I'm actually going to choose not to go to that thing, or I'm going to choose to go to that thing." Right? Okay.

Another sip of tea. So that was all on interoception. Again, within the book, Nurturing Resilience. So this is now a passage on neuroception. Same chapter, titled, Knowing When We're Safe. Okay?

So, neuroception is a term coined by Stephen Porges who summarizes the term this way. So these are his words. "Neuroception describes how neural circuits distinguish whether situations or people are dangerous, safe, or life-threatening." He also describes neuroception as a, "Dynamic and interactive process, whereby we respond to cues about safety and threat while simultaneously transmitting similar cues in our social interactions. Interoception and exteroception..." So exteroception is just a fancy word for perceiving the outside world. "Both inform neuroception. If we have a healthy, well-developed safety system, our interoceptive and exteroception systems will work in an integrative fashion to help us differentiate information and determine when we are safe and when we are not. Likewise, our social systems will have helped us experience a sense of safety and security in our relationships, which reinforces our ability to perceive safety and experience a sense of belonging and security."

Okay, I'll pause there for a second. Now, of course, for some of us, our social systems did not do that. So I want to express the elephant in the room here is that that's nice in theory, of course, but sometimes our social systems have not helped us figure out what is safe, right? If we grew up in, I'll use a real simple term, high school environments where you were with the wrong crowd, so to speak, which I think many of us, I know I was in certain instances, that was not a healthy social system. And it pushed bad behaviors, bad habits, and hopefully we learn from those things.

So we also have to realize that sometimes we get into those social systems because it's a way of breaking free from our freeze. We want to feel the fight flight, the exhilaration of doing something a little naughty, a little wrong. And there's also a reason why a lot of that behavior starts when we become teenagers, because we're about to find our autonomy. We want to figure out who we are. And if we've had a lot of shutdown and freeze growing up, this was my case, we're going to look for adrenaline, we're going to look for danger. We're going to look for something that isn't perfect and safe. And it can go the other way. If we had a lot of chaos, a lot of drama, a lot of danger, we might swing to just being a recluse and not wanting any action, any exhilaration.

So there's this sort of sweet spot, I think, when we are adults, to try to figure out, what is it that I actually like? Who are the people I want to hang out with? Who are the people that allow me to be who I am? And this is something that as you go forward in your journey of healing your nervous system, you will find that your people, they may become less and less, but they become higher quality because you become more discerning about who you want to spend time with, and who feeds and fuels your system versus drains it. So I just wanted to add in that little bit.

So, a final little piece here about neuroception. "Neuroception refers specifically to the neurophysiological processes involved in the perception of safety and threat, what Porges refers to as the neural platforms that support categories of behavior, or just differentiates the physiological process from the behaviors themselves. This is important to understand as we work with clients." Of course, this book is written for practitioners. So clients, we could say ourselves. "Whose perception systems may be inaccurately signaling them a false threat. That perceived lack of safety may in turn trigger the behaviors of threat response, even if there's no legitimate threat to respond to. They can create a self-fulfilling process whereby others in the social interactions react to those threat behaviors with their own, and the client's felt sense of lack of safety becomes reality, further justifying his initial reaction."

So I went a little further than I wanted to, but basically what that's saying is, as we become more attuned to our stress response physiology, we might realize, "Wait a second, my behavior is doing this, but my action is saying otherwise. I feel the desire to stay, say, in my home and rest tonight, but I'm getting myself ready to go because that's what I said I would do. But everything in my system is saying, 'Don't go, don't go.' And I'm starting to get a migraine headache. And then finally it's like, oh, finally I have a migraine headache, so I can say, “I can't

come tonight." That's just one quick example. But we will work ourselves up physiologically so that we have to say, no.

This connects with Gabor Maté's brilliant book. When the Body Says No. Our behavior will push and push to the point where the system is like, "Uh-uh." And I talked about that in one of the passages I read from the last training call about how our physiological cues are more accurate than our behavior, if you can recall that quote. This is why learning our interoception is so important. We listen to it and we really trust it, and we don't ignore it, it will feed us the right information to take care of self. But when we go against its grain, that's when things often start to fall and start to go bad. It takes time to build that up.

Okay, primary wiring. So let's go to page three. Yeah, someone said, "We could call this intuition." We definitely can. And I like to add a little bit more nuance to that, that that intuition is not just psychic, it's not just cognitive, it's not just an energetic sense. If we really listen to it, and this comes back to one of the training calls where I asked the question, "Where do feelings come from? Where do sensations come from? Where do emotions come from?" What was the answer? The viscera. And it knows. And we've been trained to not listen to it. So this training ourselves to listen does bring back that sixth sense, that body sense, that intuitive sense.

Okay, page three. So remembering primary wiring. So this was spoken about also in Biology of Stress, video number four and three. So those are also two good pieces to go back to, to review. "So the ventral vagal branch..." So I've really been talking about the dorsal the last little bit. So now we go into the ventral, that's that social engagement part of our autonomic nervous system. "So the ventral vagal branch is not fully refined, nor mature, when we are born." It just isn't as humans. There's a reason a little baby does not come out fully able to self-regulate and talk. Versus other mammals in the world, think of a calf or a doe, they come out and they're a little wobbly, but before you know it, they're on their two feet and they're walking and they know exactly what to do. So they're of a more primitive mammal species, whereas we have this higher brain that requires so much more training, so much more teaching.

I'm not so sure we've really figured that out. This is more of an existential question I'll just put out there, but one of the reasons I think we've struggled so much is we have not really landed on how exquisitely complex the human system is. Because, yes, we have that mammalian physiology, but then we have this higher brain that, to this day, is still unknown where it really

came from. There's a missing link still, right? And so we're figuring this out. We're figuring out what it means to raise humans. We haven't perfected it, but we do know that we need this primary wiring so that we can self-regulate.

So to the bullet points, we have to learn how to use it. We have to learn how to use it. "The refinement and wiring, the wiring must be built up." It must be built up. "And it must be built up via that social engagement from another more mature human." Doesn't have to be an older human. It could be a sibling that already has a little bit of self-regulation. A lot of little people get raised by their older siblings when there's a lot of kids in the family, right? It's very common. At least in the olden days, it was. My mom was pretty much raised by her older sister, and my grandma raised all of her younger siblings. The mother was either sadly deceased or was busy on the farm doing things, and so the kids were responsible for each other. Very different these days, it seems at least.

So it just has to be another more mature human that can attune and connect and offer that little one what it needs. This goes back to what I read in the book, hunger, cold, all these things that we need to... Connection with the baby.

"If the wiring was not optimal early in life, we need to build," that's the word, "build the foundations and teach," that's the next word, "the body what self-regulation and co-regulation is." So, "If the wiring was not optimal, we need to build the foundations and teach the body what self-regulation and co-regulation is."

So I'm going to reference some things on the final page, but I want to just bring in the understanding that if you're here right now on the call live, there's 195 of us, while you might not believe it, you've got enough co-regulation to be here. To be in society, to have hopefully a roof over your head, in the case that we're in right now. There are cases where children are not ever connected with and they don't survive. They die. This is documented research from orphans. For instance, orphanages, I believe it was post-World War I. Deborah Mate talks about these, and it's a common thing you hear. The kids got food, they had shelter, they had safety, but they weren't touched, they weren't connected with, and many of them died. So I say that because if you are here, that means you have enough capacity to have enough self-regulation to show up for yourself, and that's huge. So I just want to put that little knowledge in because it's true. It's very, very true. So even if we didn't have optimal attachment and all those things, it means that we will still have things we need to work on. But if you're here, you've got just enough to be able to keep going.

So next line down, notes on co and self-regulation. This primary wiring is how we learn to self-regulate. So again, I'm talking about the same stuff. I'm just repeating it again. Primary wiring is how we learn to self-regulate. Again, back to that concept of the baby that can't survive, even though they have food, shelter, warmth, they're safe technically, if they don't have that co-regulation. So, next line down. Interestingly, we learn self-regulation by a co-regulation. So they need that co-regulation to learn how to self-regulate. And self-regulation means the system can come out of a shock response. It can come out of an activation response. My sense is those infants that weren't surviving in those orphanages, and I'm just speculating here, but if we think about physiology, their system realized nobody was there and they just went into a dorsal shutdown response. They might've had a bit of activation crying, nobody's there.

And eventually, I talked about this in biology of stress video number four, if you can recall, the crying and crying, nobody's there, dorsal shutdown. And at that young age, the organ systems can only take so much stress and then they stop working, because they're not going into repair. They're just going into shock. So we need that co-regulation. We need that co-regulation. And some of us, that co-regulation wasn't perfect, but again, it was enough. It was enough.

All right. So for example, I'm going to reiterate what I've already been saying, but we'll repeat. So for example, number one, the baby does not have self-regulation when born. Does not. This is why that old way, and sadly, it's still being taught, the cry it out method. Some of us, I know I had that when I was young. I'm sure I did. I know I had a crib. I know I had a room where my door was closed. That regulation needs to be built through interaction constantly with either the mother or the primary caregiver. So this idea of crying it out, the adage that the baby will self-regulate by crying themselves to sleep, that is not self-regulation. That is the baby going into shutdown, going into shutdown, going into a disconnection from themselves. No one there. And then eventually what occurs is the baby stops asking.

So for those of us who had that, a way that that might show up in adult life is I'm just going to do everything by myself. I'm not going to ask for help. And the thought of asking for help is terrifying. And that terrifyingness doesn't make sense. But you are terrified when you were an infant because you were alone, that's how these things connect. Now, this doesn't mean that we don't want to become self-reliant, and independent, but when we need that help, if we know that we were not listened to and attuned to, it can be a big hurdle to get over. But once we get over it, we rekindle that ability to know, ah, others can be there for me when I ask, and I can get help when I need help.

It's a tough one to come to terms with for some of us who have been overachievers. I know nothing about this. That's a joke. So some of these things can help us proceed and progress in life, and then there comes a point where we need to shift these patterns because they're not going to serve us in the end. And if we're raising little humans, it's not going to serve them to have them always needing to be independent and reliant, et cetera.

So, number two. She, the baby, learns how to self-regulate by co-regulating with mom, dad, or caregiver. This is just one of the hallmarks to healthy attunement between infant and adult, having connection with a more mature and regulated nervous system so that infant gets those primary wirings that start to form a self-regulating and more emotionally intelligent human being. We really are complex, and this is why there's no one path for healing. There's an, we could say, an algorithm or formula. We need to grow capacity. We need to get our interoception back on board. We need to connect with the environment. We need to be kind to ourselves. We need to be kind to others. Empathy. Those are key ingredients. And because so many of us were raised in differing ways, we have to listen to the pieces that maybe got missed from our own journey.

It's going to be maybe totally different than your sibling. For those that have siblings, a family system might raise their children completely differently depending on circumstance. There was less money, more money, there was stress, et cetera, et cetera. So even two parenting styles that are exactly the same, I should say, could create two very different humans because we're not living in just the wild. We're not just living in the savanna. We're living in a very unnatural world as humans, and that's okay. But this is why we have to listen to our internal impulse and learn to listen to our physiology.

Three. Final point. She, the baby, learns how to self-regulate based on how she is taught in the co-regulation dance. That's the word, dance. It's this back and forth, back and forth. She is borrowing - I say that in quotes - borrowing her caretaker's ventral vagal parasympathetic nervous system. This is a term that Kathy would use, because obviously the baby isn't taking the nervous system out of the mother and putting it in her, but she's mimicking, she's mirroring, she's seeing the facial movements. It always amazes me when you see a fairly healthy kiddo or baby on the street and you smile, they just perk up and you start to play with them, and they have that. The wiring for connection is in there. They want it. So it's fun sometimes when it's safe to do so, if you don't have access to little ones, if you see them in the grocery store, obviously don't go pick up the kid. Don't want to do that. But just look at them, smile, a little wave, and they'll perk up, because they're looking for that connection.

All right, page four. So there's nothing written here, but some other videos that I've done, I'll explain a little bit of them. Some of them, many of you have maybe already seen. The access to the YouTube link is accessible via the online PDF. Of course, you can't click on that on your paper, but if you just type in the Story of Teddy, the Story of Ryan and How to Tame a Tantrum, they'll pop up on YouTube. Who here has come across these in the past? The Story of Teddy, the Story of Ryan, How to Tame a Tantrum. So, How to Tame a Tantrum. That's a video I did a while ago. We actually just recently put it out, but it's where I talk about how I connected with this little boy who was on a tour that Seth and I were on in Rome, at the Colosseum.

And I won't go into the full, because it's quite the story, but essentially this little one was not having a good time when he was touring the Colosseum and Palatine Hill in Rome, because he was five. Don't take a five-year-old on a eight-hour tour in the heat of the sun in Italy, because he wasn't having it, and he was really, and he was showing it, and then he was getting punished, and it was quite hard to see. So at one point, I actually engaged with him as a child, meaning I got down to the ground and I started playing with him so that he would ease a bit, because I was seeing how he was constantly being hit by his parents, to come. Not nice. And of course, this happens all the time. And so I just went in and started playing with him and he loved it, because he's five. Five year olds don't want to go on a tour of the Colosseum. They want to play. And so that is a fun little example of how we can socially engage, be ventral, and that's how we can bring activation into more self-regulation.

The Story of Ryan is from a book written by Bruce Perry. It's on your book list, called Born for Love. And it's a pretty intense story about a mother who had a little one and really messed this kid up by not allowing him to attach to his nanny. So this is a story of a very affluent family somewhere in the States, I believe. And the parents were off doing their philanthropy and working all day long. And so they hired a nanny to look after this infant, and they fired the nanny every time, when mom came home, the baby didn't want to be with mom, the baby wanted to be with the nanny, as a baby would, because that nanny is with him all day long, connecting with him, feeding him, cleaning him, blah, blah, blah. All those things.

And so I think it was over a course of, I can't remember the exact number, but over a course of a couple of years, I think he had up to 15 nannies. It was past 10. And so this poor little kid never developed social engagement, never developed connection. When his nanny kept getting taken away, he just decided to disconnect. And sadly, he ended up doing some pretty horrific things as a teenager. So he was, we could say, probably on that verge of sociopathy. And it was because of what occurred in those first few years of life. He completely

disconnected from any empathy, because he couldn't handle it. So, that is a powerful story. It's an intense story, but it shows that the folks that do bad things, typically it happens because something really bad happened when they were young and it got missed.

And then the Story of Teddy, again, this is an intense one, but Peter has talked about the story. It's the Story of Ted Kaczynski, who is an American who is currently still in prison, I believe, and alive, who was technically called the Unabomber. And all these aren't nice things, but this stuff happens. And his story is very intense in that he was six months old when he developed this massive rash all over his body. This would've been probably in the fifties. And they left him at the hospital for something like six weeks alone, alone in a room, strapped to a table. Oh, maybe he did recently die. I haven't kept in touch with this story, but because he was so rashed, and he was scratching, they treated him probably with steroids and the mother never visited him.

And when the baby came out of the hospital, the rash was gone. But she even says, because Peter Levine interviewed her, "My little Teddy was never the same." He was limp, he was despondent. He went in as a healthy, happy, jovial little kid, and he came out completely traumatized and in shutdown. And if you follow his story, what uncovers is very interesting because he was the kid that was the culprit. He did things that were bad to other kids. He was trying to get that aggression out. This comes back to our call last week, healthy aggression. When you can't fight back when someone is handling you, even if it's for medical intervention that's important, you want to get that fight out, you want to get that rage out. So what did he do? Unfortunately, he ruined many people's lives by sending bombs through the mail, and there's more to the story. But isn't it interesting that in the end, he ended up in solitary confinement in a prison, where he started as a six-month-old? He was in solitary confinement in a hospital.

So, this is a very odd way that we recapitulate our traumas until we can figure them out. And of course, this was not a good story in the end. It didn't end well. But it's I think always important to understand this stuff goes beyond just we could say chronic illness and fibromyalgia and autoimmune. Those are important too. But the violence and the destruction that we often see in the world, it starts with these early traumas. It starts with us being put into shutdown and needing to protect and fight for our lives. And then if it doesn't get addressed, these bad things occur.

So again, they are intense stories, and yet I find them interesting to put the pieces together to understand why certain things happen in the world in which they do. And again, like I said, Peter Levine has interviewed his mom, and I believe I might quote in that video some of his words. They did do a Netflix series on it. Sadly, they've pulled it completely from the channels. You cannot find it anywhere. I tried and tried and tried, so unfortunately that can't be found. But yeah, I talk about that in that video. So if you're interested and keen to go a little deeper into understanding the social impact of trauma, I highly recommend it.

Lots of stuff in this one. Intense but important. Take a second maybe before we hop off to just come back to the environment. Have you oriented at all in the last 30 minutes or have you been just sucked into the computer? If you have, that's okay. And yeah, someone just wrote, "I was hospitalized around the same time as Teddy was, and the hospital staff were not kind." I've spoken about this too. I had a pretty horrific experience when I was five at a hospital and took some time to work through it. But here's the thing, we can work through these things when we understand what we're working with. So it is very important to understand the things that, maybe, have occurred to us, and then how can we heal and work and integrate those things moving forward? So again, orient, come back to this environment. Where are your feet? Have you found them? Did they go away in the last few minutes?

Keep practicing your lessons, whatever lesson you might be on this week. Keep connecting to your impulses. Keep working on your own system. If I could give anybody a homework assignment, in addition to doing and moving through SBSM, be a little selfish this week. Focus on you. There's a lot that can pull us into other spaces and places, so remain aware of the environment, but really come back into your own, nurture your own healing. I've said this for years and years, but when we heal our bodies ourselves, we work with our traumas, it shifts the collective, and it's very important to remember that. So, thank you everyone for being here. Thank you for alum and folks here who are new. And to all those on the recording, thank you for coming in afterwards and listening and learning. Thanks to my team who is here today helping, and we will see you next week with our part two of Anger and Healthy Aggression. All right? Okay, everyone. Take care. We'll see you next week. Bye.