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Transcript: Part 1: Invisible Injuries: The Complex Intersection of Domestic Violence, Behavioral Health, Traumatic Brain Injury and Strangulation

Presenter: Rachel Ramirez, LISW-S, RASS
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JEN WINSLOW: Welcome, everyone. We're just going to let folks get into the Zoom room here, and we will begin in just a moment. Well, welcome again to today's webinar, Invisible Injuries-- The Complex Interaction of Behavioral Health, Domestic Violence, Traumatic Brain Injury, and Strangulation, with our presenter, Rachel Ramirez. And this is part one.

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A few housekeeping items. If you are having any technical issues, please individually message me, Jen Winslow, or Rebecca Buller in the chat section at the bottom of your screen, and we will be happy to assist you. If you have any questions for the speaker, please put them in the Q&A section at the bottom-- on your Zoom toolbar, rather than the chat section. That way, we can better keep track of the questions. If captions or live transcript would be helpful, please use your Zoom toolbar to enable them by going into the More section. Select Captions and Show Captions. At the end of the session, you will be automatically redirected to a very brief survey. Certificates of attendance will be sent out via email to all who attended the session in full. This can take up to two weeks to process. Please keep an eye on your junk and spam folders, as sometimes they can land there. The recording of this presentation will be available on the [INAUDIBLE] MHTTC website within a week. We will also email you a PDF of the slides following the presentation.

Our presenter today is Rachel Ramirez. Rachel is the director of Health and Disability Programs and the founder of the Center on Partner-Inflicted Brain Injury at the Ohio Domestic Violence Network. In this role, she oversees several initiatives on the intersection of domestic violence, disability, and health access, with a focus on trauma-informed services and partner-inflicted brain injury. She also provides extensive statewide, national, and international training, consultation, technical assistance, and

program support. Rachel has been with ODVN for 15 years, and has co-authored several peer-reviewed journal articles, as well as been featured on National Public Radio, the New York Times Magazine, and the Washington Post discussing brain injury and domestic violence. Welcome everyone again, and I will turn it over to you, Rachel.

RACHEL RAMIREZ: Well hello, everybody. Good. It was so fun to see all of the people in the chat box and where we're all joining ourselves-- sorry, we're all joining ourselves from, that doesn't make any sense. So at least I've gotten my sentence that doesn't make sense out of the way early. But thank you all for being here, and good early afternoon or lunchtime or maybe morning or late morning.

Hi, Tina. Tina is from OneEighty, one of our member programs in Ohio. Everybody, please continue to introduce yourselves in the chat. And I am joining you at two o'clock our time. And we have an amazing thing going on in Ohio today. It's called sun. Some of you might be more familiar of that in other states. We don't have a lot of sun in these months, but it is March 1st. It is supposed to be 70 degrees today.

Anyone who comes from Ohio-- and I don't know if this is Ohio or all of our states kind of in our area-- it's probably going to be really, really cold and really, really nasty again, because it happens where you get this nice weather for a day, and you're like, yay, spring, and then it's not spring yet, and you have to wait a little longer. But I hope that, wherever you are, it is beautiful. If it's not beautiful today, I hope it gets beautiful soon. And I just want to thank you all for spending your time with me today. I know that you have many, many things you could be doing and that our time is a really, really valuable resource. And I thank you for spending it with me. And when you're done with this time we spend together, I hope you'll feel like it was a good use of your time. I will do my best to do that for you.

And I would also thank you to Isa and Jen and all of you for having me to talk about this really, really significant and really, really important issue related to this kind of what I call in some of my trainings, or I call these trainings kind of like a missing piece, I think, of our conversations when working with people who have experienced or are experiencing behavioral health issues, people who are experiencing addiction, people who experience violence, and talking about the role of brain injury. So I will be doing the first part of this training now. We will have a part two that will be, I think, two weeks from today, I believe, Jen? Probably same time, same place, I think.
[INTERPOSING VOICES]

JEN WINSLOW: I'll put the link in the chat, too.

RACHEL RAMIREZ: Put the link in the chat. So please, remember, this is going to be so interesting, you're going to want to come to part two, I hope. But again, really excited to be talking to you and be really starting to think about this piece.

I'm going to pull up my slides, but also just give you a little bit of background. I know that Jen introduced me, but just to give you kind of where I am and where I came from in the framework of this work, so again, I'm from Ohio. I work for the statewide coalition on domestic violence called the Ohio Domestic Violence Network. We have 76 member programs across the state of Ohio. Ohio has 88 counties.

And our 76 member programs include domestic violence service providers, of which 58 are residential programs, programs that all domestic violence programs provide more services than just shelter services, but have some kind of residential component, have a shelter or have housing. And the other 16 programs are a combination of culture-specific organizations, as well as non-residential programs. That could be an organization that provides legal advocacy, counseling, safety planning, works with courts, provides other types of services, operates hotlines or chat lines.

So that's me, and that's the work that I've done. I want to learn just a little bit about some of you. And I know you have introduced yourself in that box. I think I miss training in person, though I know that if I was doing this training in person, probably many of us wouldn't be able to be together.

But I just want to ask you just like a little fun question that I like to start some of my trainings with, and see if Jen will be able to pull up the poll for me. Or maybe I could pull it up myself if I need to. But phew, I always-- that's one of the things I love about doing these things. And I want to ask, if you could have a superpower, what would it be? And your options are flying, swimming under the sea, being invisible, the ability to teleport, or being immortal. And if there is a superpower I forgot that you would pick instead of one of these, please put it in the chat box.

But I just find this very interesting. So I'm going to give you all just a few more seconds to answer that, and we'll see what people are saying. And it looks like we have a good group of people, where about almost 70% of you have answered this poll question. So we're going to give you all, I'm actually going to give you a kind of a countdown. I really want to see what's in the chat, too. We'll go to five, four, three, two, and last minute for our last-minute people, one.

All right, we can go ahead and end the poll and share the results. Is everyone able to see that? I don't know what other people can see. It looks like we have, like I said, about 80% of you answered. 8% said flying, 8% said swimming under the sea, 29% of you said being invisible, 43% of you said teleporting. I do think teleporting would be-- I wonder how many of you live in places like I do, like in Ohio, where it's like, oh, wouldn't it be nice to just teleport somewhere beautiful for a few hours. 11% said being immortal.

So teleporting won, but it looks like we had everybody who had a little bit of things. And I'm just going to see if anybody-- Dina said being able to call any superpower on demand. Oh, that's good. Melanie said teleport so I can travel all over the world and paint and visit my kids, and I have kids who live all over the US, nine kids and 20

grandkids. Elizabeth said time travel. Diana said mind reading. OK, I'm going to make sure that I add some of these.

So we have mind reading, time travel. If anybody else has a really important superpower that I've forgotten, please let me know, and I will make sure to include it next time. But thank you all for sharing that. I just think it's kind of fun to think about and just kind of-- I know that we spend a lot of time sitting around all day, just to be able to think about those things.

So I want to see if also anybody else would just be willing to share in the chat box kind of what made them want to come to this training. As I said, I know that you all have valuable time. And what were you interested in? As people are thinking about that, I want to say Nicole said magically clean areas with a snap of my fingers. Nicole, that is freaking genius. Just be able to-- I have three kids. We're also getting a-- yeah, I've got three kids, and it's just our house is a mess all the time.

But anybody want to share, like this whole area of brain injury and domestic violence? Feel free to put something in the chat box about what made you want to come, if you have any. As Jen said, we do have a question and answer box, which I think you should see at the bottom, which is right next to the chat box. Feel free to ask any questions there. But we're just trying to-- sometimes things can get lost in the chat. And I know that Erica says I'm a behavioral specialist in a school district.

We are seeing trauma with DV. The children are mirroring behaviors. Absolutely. Jennifer says clients and their providers routinely overlook strangulation, and no one seems to know or talk about the long-term consequences. DV is majorly on the rise, so I need to know. Absolutely. Thinking about strangulation, and particularly the long-term consequences that we just don't talk about very much and just aren't very familiar with.

Shelley says I work with inmates, and they have so many issues that are surrounding domestic violence, childhood issues, and brain injuries. So I think when we talk about-- that's one of the things we'll talk about, kind of brain injury in the context of domestic violence, it's always a piece of a larger puzzle or kind of one-- I don't know, one-- I'm not having some great analogy, but like one link of a fabric. I don't know why that's coming up. It doesn't really make any sense.

But it's a piece of a puzzle. But it's important to remember that it's a piece of a larger puzzle. We have to look at all of these things together. Dina says personal experience and advocacy for proper education. Absolutely, thinking about how do we need to help people really understand this. I have experienced what we're about to discuss, and will be great to understand why I have difficulties at this time from Alison. Alison, thank you so much for sharing. We're really proud of you for being here, and we know it just takes incredible strength to survive abusive relationships, and particularly when people have been impacted by head trauma. And that has not been a part of the conversation.

I'm going to read just a couple more. And I'm sorry if I don't get to yours. I'm so glad people have so many thoughts about this. But talking about brain development and behaviors, to see perspective on how brain injury affects different typical functioning.

Witnessing DV causes brain changes, too. Yeah, so there's a lot of that overlap. You know, Michelle, we have another brave survivor with us, who is a survivor of domestic violence and have a TBI and cervical issues that I'm still dealing with 15 years later, and wanting to know more information about the subject, the long-term health impacts, the health impacts of domestic violence and chronic stress, the health impacts of long-term traumatic brain injury.

One of the thing about just even what we know about brain injury, there's really a dearth of research on brain injury in women, just even in female populations. So much of what we know about brain injury comes from a couple of places, which are overwhelmingly male spaces, which is the NFL, which is obviously, like, 100% male, and then places that-- the military.

We have some information about TBI in the military. Blast injuries are different than domestic violence in lots of different ways, but we know that the vast majority of even soldiers who are impacted by TBI are males, too. So people want to learn about more injuries as it related to DV. Renata is also another brave survivor. We have a survivor and a peer support that has lots of conversations with people who came out of DV. We're glad to have you here. People who work in the field of recovery.

People have a daughter, Melanie has a daughter-in-law with brain injury from a previous partner. Nicole, we have so many thank you to all of you survivors who are here. And I'm sorry, we won't ever get to any of our presentation if I end up-- actually, I am going to just continue to look through these. Learn more about brain injuries. We encounter all of these.

Work with women and inmates who have experienced DV as a peer recovery specialist with personal experience. My husband just recently had a memory surface of being strangled as a small boy. With brain injury, it's complicated to read so much, so I'm happy you are having this as a class. Thank you, Michelle.

So there's a couple of pieces I just want to acknowledge here. And anytime, for anybody who ever talks about this topic with domestic violence and trauma behavioral health, we always know that there are survivors in the room. So I want to thank you brave, courageous survivors who shared with us. I want to value your experiences and want to let you know how important all of you are to helping us move this work forward and really understand what this whole intersection of trauma, domestic violence, behavioral health, and brain injury is.

I think another thing that we learned, as we had several people mention, this is just not something that, those of you who come from the domestic violence field-- and I'm going

to-- those of us who come from the domestic violence field, it's not something that we talk about very much. I have been in the domestic violence field for 16 years. I don't know if I might have said, but at the-- over, actually, 20 years, but have been at the Domestic Violence Coalition for 16 years.

And it wasn't until about six years ago that this came on my radar, this whole issue of brain injury, and had been doing leading work in Ohio and really related to trauma-informed approaches across the country for many, many years before we ended up getting a grant to look at this whole brain injury piece of things. And a part of the reason why we wanted to look at this was there were a couple of reasons.

One, it was something we didn't know anything about. Our organization, the Ohio Domestic Violence Network, has provided training and support and really been a leading voice on domestic violence in the state for three decades. When we got this grant, I didn't know what brain injury was from a hole in the wall. I didn't know what it looked like. I didn't know how it was caused. I didn't know how the brain worked or how it functioned.

And it was one of those things, I don't know if you've ever had a time like this in your life, but it was really, you know, talk about-- and I don't want to be cheesy with the light bulb moments, but it was really-- I don't know if you've ever had anything that, once you learn something, you can't unlearn it. And it didn't take very long for me sitting with the brain injury information and thinking, holy moly, how on Earth did I manage to-- did this manage to not be on my radar for the first almost 15 years of my domestic violence career?

I did want to acknowledge, and we talked about that, that we do have survivors in the room. So survivors who are joining us, we are very glad that you're here. We want to make sure that-- you know, one of the things is-- and we know that domestic violence in and of itself is pretty terrible.

It's not a-- I don't know if any of you who do domestic violence work, it's an easy way to shut down party conversation, when people are like what do you do, and you're like, oh, I work in domestic violence. It's awful to experience this, and it really, really can be hard stuff to talk about. So I do want to let you know that I have a few kind of video clips of survivors talking about their experiences.

I don't have any, like, really graphic pictures or anything. I think one of the things when thinking about head trauma and domestic violence, though sometimes it can look and be very graphic when individuals are assaulted in the head, a lot of times people just look like you and me. And that's one of the reasons why this violence, strangulation very rarely can leave any kind of external marks. Sometimes head trauma, people are often targeted in the head in places where it's hidden, where it won't be shown, where it won't be visible.

But I just do want to encourage all of you who are on this webinar to use all of your great, great advocacy skills and your self-care skills and those boundaries that you have. If any of the stuff is a lot, please feel free to take a break or do whatever you need to do. I also will make sure that you all have my email address and can follow up with me. I don't know if it's realistic, but sometimes I even stay after for a few minutes if anybody wants to talk to me. But I am very accessible.

And I will let you know, for the people who have had personal experiences with domestic violence, or have had personal experiences with brain injury or concussions or head trauma, regardless of whether it's from domestic violence or not from domestic violence, what I've overwhelmingly heard from people is this information has been really helpful and has helped them think about their situations and think about their circumstances in a different way. But I just did want to acknowledge that this is heavy stuff.

And all of us wish that partner-inflicted brain injury or brain injury caused by domestic violence was not a thing and did not exist, and that everybody was safe in their relationship. That's not how the world is, but that is the world that all of us are working toward and working for.

So and again, thank you, everybody, for sharing, and again, especially all of people who are talking about gaining tools, people have family members that have gone through this. As you know, Erin is a survivor of domestic violence working with children. And I'm sorry, Jennifer, it says we won't be able to stay on past 2:30. I should have asked you that before. And often, it doesn't work, and everybody's got another meeting at 2:30, myself included. But please make sure you want to reach out to me if you can.

So now I've talked a little bit about myself. Like I said, I'm the director of Health and Disability Programs. I founded the Center on Partner-Inflicted Brain Injury, which I'll talk about in just a minute. I've been in DV work for 18 years, spent a lot of time doing trauma-informed work, and really have had my life and, really, I think, kind of my professional direction shifted as I've learned about this whole topic of brain injury.

And that really has become just a very deep kind of passion and conviction, that this is kind of what I'm here on this Earth to do right now, is to share some of this information with you, do some of this training, work with you all and think with you all about some of the implications of this work. I don't want anybody to think that I'm coming here to present everything that we've learned and we've figured everything out and we totally know how to deal and totally know how to handle this. I think we're just starting to scratch the surface of this.

But I think one of the very important pieces that is moving forward around this work is we have recognized that this is an issue. Brain injury is an issue that needs to be talked about. It needs to be discussed in the context of domestic violence, even if we don't have all the answers. A problem or an issue or concern has to be identified before it can

be addressed or before it can be treated. So I think even this whole role of putting kind of a name on this and putting a context to this is really important progress.

And like I said, in all of the years that I did this work until I started doing it, I've spent lots of my years doing lots of trainings, go to lots of conferences, presented at lots of events. I had never been to a session on brain injury anywhere. Not to say that there weren't sessions occasionally, but as people are starting to really kind of recognize this interest, and I talk to people and do trainings and work with agencies really all across the country on this issue, and really doing this in the framework of trauma-informed services, and understanding, like I said, this is brain injury in the context of trauma, in the context of traumatic stress and traumatic experiences. So we need to really be understanding and integrating those things together.

I also supervise a project here at ODVN on-- it's a substance use and mental health program, which is really around doing capacity building work with domestic violence programs about working with survivors who are using substances. Substance use is such a significant challenge with domestic violence programs, very intimately tied to both domestic violence and trauma. So we'll talk a little bit about that, too, later.

But I think one of the things that I'm hoping to do is I think that, for many, many years, we've kind of known and recognized that intersection between behavioral health and trauma. While we know that there are behavioral health concerns that aren't trauma-based and there are traumas that people experience and trauma-related issues that do not become behavioral health concerns, for many, many of the people, especially for those of us who work in organizations, kind of violence-based organizations, work for domestic violence organizations, sexual assault organizations, crime victim organizations, we do trauma-based work, that our whole-- I don't know, I'll say industry, system is probably the best word-- exists to really help mitigate some of those impacts of trauma.

So I think that those of you here who are doing behavioral health work, who are in mental health or addiction, even many people who might be here who are doing prevention work, part of what work you're trying to do in the prevention capacity is for us not to get to this point where we have behavioral health and trauma concerns that are really impacting a person's life and a person's ability to live the life that they want to live. But I'm going to get started by just sharing a very quick video. It's about three minutes long. I'm just going to stop my share and share this in a new screen. Give me just one second.

I just muted myself. Thank you all for joining us. Alison, I think Alison is no longer with us. But Alison, if you are with us, we're glad that you're here and hope you're getting the support that you need. But wanted to see if anybody wanted to just kind of share what stuck out to them in that video, what it is that that looked like, what they remember from that, and thinking about that whole role of brain injury, which I know somebody had said early was caused by strangulation was kind of what happened her that ended up

causing these long-term problems. But if anybody wants to share in the chat box, please do. I'm going to pull up my presentation again and just kind of share some of the thoughts from my perspective on some of the things that we learned.

I know the long-term-- Pam said the long-term effects of brain injury, kind of thinking about those things that continue to impact your life. Jennifer said concussion, strangulation, TBI overlooked all the time, even by an EMS worker. So yeah, Paula probably knows more about the brain than the average person on here. I'm not saying any of us aren't smart, but just has that knowledge about the body and how that works. How TBI can be overlooked in domestic violence. Katrina says what we don't see or questions we don't asked. Nicole says the deprivation of oxygen in memory, things we just don't think about that much.

Kimberly is talking about-- Kimberly, I'm really, really sorry about your daughter's experience and what that was like. And I think the other thing is-- Kimberly talks about-- so many people who experience domestic violence think this wouldn't happen to me, this happens to other people. This could happen to anybody. Michelle said it doesn't seem like doctors want to address these injuries. Renata said can definitely be overlooked. My ex headbutted, so the injuries were internal, not external. Yeah, so I think it is one of those pieces about how much of so many invisible injuries is often what we call the things we can't see. And when this is not brought to people's attention, when we're not asking these questions, when we're not providing information, when we're not raising awareness about this, we really have survivors that could be struggling with things that honestly have no idea and no context-- I've got to plug in my computer real quick-- no context for some of the struggles that they may be having.

So please feel free to continue to share thoughts in the chat box. I mean, you know, Dina says a lot of professionals miss this because the injury can actually take time to see with patterns. Yeah. So sometimes, one of the things we need to know about brain injury is it can be things that don't happen right away, that you're not immediately impaired, that it can take time. And sometimes, it is those who are close to people who have had brain injuries who really see some of those differences. We'll talk about the brain and its functions, but one of our brain functions is really our self-awareness. We also know all of us have situations where other people can see things that we can't see. Tabitha talks about how TBI can cause confusion and lack of judgment, further contributing to the victim staying with their abuser. So yeah, how does that compound itself. And not just confusion and lack of judgment, but we'll move in a little bit to talking about brain functions.

There's lots of ways in which it's very, very hard to get out of an abusive relationship without thinking and planning and prioritizing and kind of organizing things and figuring out money situations. And there's also a whole bunch of other reasons related to people's financial ability, and do people have places to live, do people have access to resources, kind of thinking about the confusion and that risk assessment. Talking about doctors really being trained.

I think that that's something, I think one of the things we just have to acknowledge is, a lot of times, we've had a very long kind of connection-- this is why I talked about behavioral health and trauma and domestic violence. We've recognized for lots of years the ways in which domestic violence can really impact people's behavioral health, the post-traumatic stress, even though-- if we have any clinicians out here that work with PTSD or post-traumatic stress disorder, one of the things I would challenge us to think about when we talk about this type of abuse and when individuals are in abusive relationships, so we know the whole kind of understanding of post-traumatic stress was really kind of created from the experience of, again, talking about different groups of people, different communities, from men coming back from war, who were having-- we say something's a kind of disorder when it's maladaptive, where you had a soldier who was no longer in a combat situation who was responding to things like they were in a combat situation. And the kind of classic image being a veteran hears a car backfire and jumps behind a tree because they feel like they're being shot at.

Domestic violence victims often aren't in that when we talk about post, when we talk about post-traumatic stress disorder. That means that the cause of danger, the person is not in danger anymore, that that situation has ended, that it's over. For a lot of domestic violence victims, even if they do leave or escape relationships-- I think escape is probably the best word, a better word because very few-- a relationship is not abusive if you can just leave it.

If you can walk out of a relationship and there are not any consequences, then you're kind of not in an abusive relationship. But really thinking about how there are ways in which even domestic violence victims who have escaped relationships still share children with their abusive partners, their partners are following them or stalking them or doing all of those kind of things. So what is it that that looks like?

And I think that there is just so much that we haven't thought about. I know Kimberly says, I'm working with someone who has described multiple head injuries from DV over the course of a decade. She just asked me this morning, is there a way to find out if I have brain damage, as she is experiencing memory issues in frequency and severity. [? Dina ?] says a neuropsychologist can be the best help.

Michelle says, my TBI showed up a decade later as mild cognitive decline and mild dementia. The neuropsychology exam for 4 to 5 hours showed that specific first area damaged. So there's a lot we don't know about this, and really-- but just thinking about how many survivors we've worked with that even might not still be in an abusive relationship right now. I have survivors that reach out to me from across the country.

And I think there are so many things that are so stark about their stories and their experiences, but one of the things is how many survivors I've talked to that have been out of abusive relationships for years. So thinking about those long term-- and they're still having problems with just their daily lives, just functioning in their daily lives and

holding their jobs and being able to remember what they need to do and just those kind of cognitive issues that there's so much more that we still need to learn about this.
I think for whoever said in the chat box, talking about a survivor who's wondering, do I have brain damage? Is there a reason, feeling like things are things are getting worse-- that that can be very true. And I think one of the reasons why it's so important for us-- and I'll talk about some of the resources that we've developed in Ohio.

I don't know if we're going to get into that as much today in today as we will in our next session, but how important it is to be able to provide some education and information about this because so many domestic violence survivors that we talked to have said, I think I'm stupid. I might just be stupid. I'm crazy.

Maybe this isn't real, thinking about how much of those messages they've gotten from their abusive partner, that they're stupid, that they're crazy, that they're not able to do things, that they're not going to be OK without their partner, that their partner needs them, that they should be grateful that their partner is staying with them, that some of these survivors do manage to escape relationships and are having problems, problems that a lot of times they're blaming themselves for, that they think it's due to them, that it's some kind of weakness or some kind of deficiency, but could be connected to the ways in which their heads were hurt, which, again, was not their fault, that it was not something that they caused.

But I did want to-- and like I said, if people have questions, make sure to put questions in the Q&A box. We'll try to catch them if they're in the chat, but if you put them in the Q&A box, Jen knows to interrupt me if I don't manage to see them. And we'll make sure to address those.

And I know that, just really kind of thinking about-- and please continue to have your discussion and your comments that you all are making. I'm glad you all are talking to each other. I did want to just point out when-- these interviews that we did with survivors-- one of the things that I think always blows my mind whenever I see that video-- I know Paula well. We'll probably hear from her again a little bit later on today and in our next session.

But just to tell you a little bit about how we went about this project. So we got this grant to look at brain injury and mental health. And how do we create DV programs that are more accessible? Sorry, let me close my door real quick-- DV programs that are more accessible for survivors, for survivors, our domestic violence programs.

And we wrote this related to brain injury and related to mental health for a couple of very different reasons. Any of us who work in behavioral health issues or work in domestic violence know that when we have domestic violence or any type of violence, trauma, and behavioral health, that's just complicated, particularly coming from a DV program's perspective. If somebody is in shelter and is struggling with serious mental illness or the serious impact of trauma, we have a lot of just-- shelters are great, amazing places.

Nobody wants to live in a shelter. We do not have the space. We do not have the privacy. We do not have-- just the disruption of moving somewhere is not good for anyone.

So that's always a challenge. And I don't think we'd find a domestic violence program in this country who would say, oh yeah, we totally have it figured out really, really well for how to perfectly meet the needs of survivors with serious mental illness who are experiencing abuse.

So our programs have talked about, it is hard when we have behavioral health and addiction, talking about addiction or substance use, and our agency is really not being prepared for that. We know how substance use is connected to trauma, connected to coping. We'll talk a little bit, I know.

I think that you all have had some previous webinars about the role of substance use, coercion, which we'll touch on a little bit. We know sometimes people very intentionally interfere. Abusers very intentionally interfere with a survivor's mental health, introduce them to drugs, get them hooked on drugs, pressure them to use drugs, interfere with their recovery, all of that substance use coercion.

So we know that that's hard, but then we threw brain injury-- like I said, brain injury-- into this piece because we were kind of in the other side of that. It's like, we've never really thought about this, and this is not anything that we've ever really considered. And maybe this would give us a chance to learn about it.

But we went out, and one of the first things that we did-- we partnered with five domestic violence programs in our state and went out and did groups with staff who work there, talked to staff, and asked them about their experiences working with mental health. One of the just stark reflections of this, one of the questions we asked staff was just, tell us, obviously without identifying information, but tell us about an experience that you've had working in your services with a survivor who struggled with mental illness. And everybody had a ton of examples.

When we asked staff about, tell us about your experiences working with a survivor who might have had a brain injury, this is often what we heard. First of all, we heard the silence with everyone just kind of thinking for a minute and then heard people saying, huh, I don't remember having thought about things in that way.

But what was interesting in the group is even as we started to talk, people started to share, oh yeah, remember that survivor who came in and had been hit in the head or assaulted in the head? I wonder if some of her challenges were connected to brain injury. Or oh, remember that survivor who was strangled and was having problems with this. I wonder if that was connected.

So it really was like that whole issue around-- there was just this disconnect. We didn't know. When we talked to groups who are working with brain injury, we asked, how much training have you had in brain injury? Like me, I was like zilch. Yeah, I might have been teaching the whole state about domestic violence for the past decade, but I've never known-- I've never been to any training on brain injury, didn't know what brain injury services looked like, didn't know what to do if you had brain injury, didn't know how you got a brain injury.

But then we went, and we talked to survivors. And we asked survivors questions about their experiences with head trauma, and you will see we talked to 49 survivors in the five different programs that we work with. About 60% of them, a little over, about 2/3 of them were getting shelter services as well as other type of services. Many of these survivors got many different types of services.

But when we asked, have you ever been hit or hurt in the head, 86% said yes, and you will see the graph that shows how about-- and I think that that-- and that's like 86% is a freaking lot. I don't know if anybody wants to share in the chat box if that is higher than you're expecting or lower than you're expecting. I think for those of us who work in domestic violence, a lot of us know that head trauma is very common, so we know about what this is and what that looks like.

49% said that they were hurt, and they-- I don't even know how many times they've been hit or hurt in the head. We asked if it was once, never once, a few, or too many to count. They said if we had to put a number on how many times people were hurt in the head, I just don't even know.

We asked the same survivors about, have you ever been choked or strangled? And 83% said yes. One of the things in-- well, we might get to talk about this a little later, but we're going to talk about head trauma in just a minute. But when people are choked or strangled, what it does is it deprives the brain of oxygen. That's how it causes a brain injury.

A lot of times-- and if any/many of you have worked in the domestic violence field, I think we've actually talked a little bit more about strangulation than we have about traumatic brain injury or concussion or things like that. But we often talk about strangulation connected to lethality. We know that individuals who have been strangled have about a seven and a half times more likely to be murdered by their partners. Most often, when they're murdered by their partners, though survivors are strangled to death, most often murdered by their partners with firearms. So somebody who has a history of strangulation plus their partner has access to a firearm is somebody who is definitely in danger.

But we see that when the brain is deprived of oxygen, that causes brain damage, and it kills cells and does things like that. So it was just this disconnect between-- we heard survivors saying, we have really extensive experiences of head trauma. Now an

interesting piece, if we had asked survivors, have you ever had a brain injury, what percentage of them do you think would said yes? Probably a very small percentage. So I think that that's another one of those disconnects where those of us who work in domestic violence know-- I mean, I worked in a shelter. We could see the physical evidence of head trauma. We have lots of research, particularly with people who are accessing emergency services, the majority of people who end up in the emergency room for domestic violence assaults. It's some kind of head trauma.

But taking it that next step to thinking about, oh, this is also a concussion-- this could have impacted my brain. This could have impacted my brain in a way that is impacting me in the services, in the domestic violence services I'm getting right now. None of us had gone there. None of us had taken that additional step to really think about that. So I know that this is-- please feel free to, like I said, continue to use the chat box. Please put any questions in the chat box. Elizabeth asked, can the pass-out game we played as kids cause brain injuries like DV choking? Yeah, it can. I mean, what happens when we talk about-- for any of you who work with young people, who work with prevention, who work with the choking game, which often is seen as something that's kind of fun.

There's lots of information out there on the internet that basically if you are almost to the point of strangulation-- can be used in sex and sexual coercion. I think, particularly, one of the things that we have known about-- I'm just going to take a little detour for just one second to talk about sexual violence and particularly the role of internet and pornography and access and just how much more violent pornography is now than it used to be and how much more accessible that it is.

Lots of domestic violence and sexual assault survivors who ended up in situations where they might have been played a choking game whether it was in a sexual context or in a friends context or other things-- there are choking games where it's supposed to give you a high before you pass out. It has been something that's really, really bad for your brain. If you are-- but one of the things I have-- my research colleague who you saw in that video works with runaway and homeless youth, groups of runaway and homeless youth and has asked some of these questions.

The other thing for those of you who work with teenage populations or work with young populations or young groups of people, we do want to be talking about the choking game. We do want to be talking about sex and consent and what that all looks like. There are actually many, many states that have legislation about how you can't consent to something like strangulation. Strangulation is deadly, so consenting to something like that is deadly is not possible-- what it is that that looks like.

But I would also encourage you-- in the research that my research partner has done around runaway and homeless youth-- yes, some of them have played the choking game and done that and those kind of things-- had a much, much, much higher prevalence of having been hurt by a partner or by a peer but in a fight. First was an

intimate partner. Second was a peer. First was intimate partner by a lot when we talk about, have you ever had any kind of head trauma?

It was through relationships, so we need to be talking about this in the context of relationships. There are teenagers who are hit or hurt in the head or choked or strangled by their partner. Violence is a cause of brain injury. It's just, again [AUDIO OUT]. I just muted myself for just a minute. I'm very sorry.

I know Kimberly says, good point. I have trained providers to listen for keywords, as many deny strangulation or will say, he throttled me or choked up on me or grabbed me by the throat and pushed me into the wall. Our terminology-- again, talking about choked or strangled, talking about, has anybody done anything to you that made it hard to breathe?

Because we even know that oxygen deprivation in the context of domestic violence can look like suffocation. It can look like somebody putting a pillow or putting a hand on their nose and mouth. It can look like a chokehold. It can look like-- we've worked with survivors who had been sat on, sometimes that they are on the ground. And their partners sit on them, and they can't breathe. So any time our brains are deprived of oxygen, that kills brain cells.

But really thinking about, if we ask people, have they been strangled, a lot of people don't resonate with that language-- so really thinking about, is there anything ever been done to you that makes it hard to breathe? It's almost impossible for those of us who work in domestic violence to list all of the ways in which domestic violence victims' or sexual violence victims' head can be hurt.

And I hate to use my-- I think there's-- I don't know-- more severe versus less severe. Somebody, if they have a good way to say that-- I mean, there's violence that is directed at the head, neck, and face that is very, very severe, like strangulation to the point of passing out. I've worked for survivors who have been kicked in the head with steel-toed boots, have been hit in the head with baseball bats.

There's also-- ugh, I want to see if somebody pulled that like-- "minor." I don't know if minor-- people are slapped across the face. I'm talking about people being shaken, violence that might not seem to be as severe as other violence, but our brains are just like any part of our body. If we have had a severe or a serious kind of insult to our brain, if we have had a concussion or were hit over the head and then two days later are smacked across the face when our concussion hasn't had time to heal, those injuries can compound.

So when we really think about those repetitive brain injuries, which almost all of our survivors have experienced-- repeated, repetitive brain injuries that have hardly ever been identified, that have very rarely been treated medically because of a ton of different barriers, that when you talk about even some of the best practice protocols-- I

don't know if people have ever had friends or family or them themselves have had a concussion in the context of sports or something like that-- and all of the recommendations that they make, which include things like, you know, taking a break from activities that bother you. There are concussion protocols that say things like avoid stress. Stress is really, really bad for your brain. It's bad for your brain in general, but especially bad for your brain after you've had a concussion.

Any of us who work in domestic violence know-- like, how realistic is it for us to avoid stress? Most often, these survivors are being hurt and are jumping right back into their lives with no recognition with no acknowledgment that this has even happened, and then maybe they're having some challenges and having some problems and they have no context for what that is. I also think that there are enormous implications for thinking about police and police response. If anybody has ever seen a concussion on the football field, then you know all of the medical professionals go out, and they're running out there, and doing kind of immediate assessment and evaluation. That's another huge difference between domestic violence and sexual violence and some of the kind of ways we've developed to manage concussions, because there's nobody there.

There's nobody there after someone's been choked or strangled. There's nobody there to intervene in the middle. And what they're doing on that football field is they're really trying to-- they're checking some of not only vital signs, they're checking things like response to people. If I'm talking to you, are you responding? Are you looking at me? They're checking physical signs. They're also really trying to assess if you are oriented in time and space. That's what makes something when we talk about a brain injury-- we'll talk about definitions a little bit later. I'm giving you a little preview, people. When we talk about brain injuries, it really is-- what happens is if we've had some kind of blow or jolt to the head, some kind of external force to the head, our brain function has been altered. That's what a TBI is. Concussion, mild TBI-- concussion is the same term for a mild TBI, but when it's a clinical diagnosis.

There's no test that you can give. There's not a blood test. There's not a-- it's not like COVID, where you do the little Q-tip in the nose. It's a clinical diagnosis. So if you have had some kind of altered consciousness after you've been hurt in the head, that's a concussion.

But what they're doing is they're checking these football players. They're asking what quarter is it that you're playing in, what stadium are you in, who did you play last week. You think about the number of domestic violence victims who have been assaulted in the head, and the police show up right after they've been hit or hurt in the head. And they are cagey or evasive, or aren't answering questions. And what does that always get written off as? The survivor is afraid, which she probably is-- or he probably is. We know that domestic violence can impact people of all different genders and all different races and all different groups of people, though particularly head trauma is overwhelmingly disproportionately women who experience this head trauma with abuse perpetrated by men.

But they're sometimes not able to answer questions. People often think, oh, she's trying to protect him, trying to do these kind of thing, what it is that that looks like. And [INAUDIBLE] I didn't understand. I wasn't processing that language. Like, I didn't understand what he was saying.

That's what they're assessing for on the football field. We think she might be using substances. I just did a training a couple of days ago when I was-- there was an advocate who was talking about working with a survivor who had slurred speech. And the slurred speech was actually-- the survivor actually didn't realize she had a-- there was somebody she was working with, this survivor. Her previous case manager said, I just wanted to let you know her speech is slurred.

She's not using substances. She's not on drugs. Often, where people come to, she's using substances. She's got mental health issues. She just has slurred speech. And this new advocate who was working with her commented this to her-- to the survivor. The survivor didn't realize it, didn't realize her speech was slurred. Went to a doctor, talked to the doctor about her speech, and they discovered a brain injury. But even thinking about that-- when people have slurred speech, what are those assumptions? Where is it that we jump to? So this is really just, like, putting a new kind of understanding of some of the things that we have probably been seeing ever since we started working with domestic violence.

JEN WINSLOW: Hey, Rachel?

RACHEL RAMIREZ: Yep.

JEN WINSLOW: All right. Really quick, to interrupt-- once in a while, I think it's your chat box will go up, and your Zoom toolbar is making a gray box on your slides.

RACHEL RAMIREZ: Let me see if I can change something. Sometimes that comes up. Thank you for letting me know. Please let me know if this looks any different. It's hard to know, because sometimes, if I can use-- let me just pull this up. Do you see a gray box on this, or no?

PRESENTER 2: Nope.

RACHEL RAMIREZ: OK. For some reason, just if you ever facilitate Zoom, if you have the little boxes in the bottom checked for, like, a video-- this has nothing to do with the video-- then the gray box seems to come up. If you don't, it doesn't. Not connected to videos at all.

But thank you for letting me know. And I'm sorry about that. When the gray box comes up, that just means I'm checking the chat.

JEN WINSLOW: Most of the time, it wasn't blocking anything, but—

RACHEL RAMIREZ: OK. And sometimes, like I said-- thank you for letting me know-- if anything like that ever happens, please do interrupt me, because everything is just fine on my end, and that's why I keep talking. But that's one of the weird things about this whole virtual world. But thank you again for letting me know.

So you know, I think what we really kind of discovered was what we're calling-- and we're trying to really carve out and recognize that this is a kind of a different type of brain injury-- it's called partner-afflicted brain injury, which is when a person's brain is hurt through intentional strangulation or blows to the head by their partner. Can cause a traumatic brain injury, concussion, or other types of brain injury. And we could obviously spend, like hours, days, weeks, years talking about this. I have spent the last six years talking about this.

But I think one of the things that's really, really different when talking about how we're studied and what we understand about concussions, in other types of brain injuries, almost always accidental. Even if people are in a situation-- if you are playing sports, even in some of the martial arts-- it depends on the martial arts-- but you can't, like-- you get ejected for targeting someone's head in football. So if someone's getting a concussion, it's not that somebody is tackling to give you a concussion.

Even we'll get concussions that come from-- lots of concussions come from accidents, come from falls. That is actually a part of many definitions of brain injury, is an accidental brain injury. This is different, because this is intentional. It's intentional. It's personal. It's done on purpose.

And all of those differences that we've talked about with-- it's done in private. You know, one of the ways in which we've figured out how to address and manage and identify concussions-- so I'm in Ohio. I have three kids. Whenever they play sports, we get a concussion fact sheet from the Ohio Department of Health, and we have to sign off that we've seen it.

We train parents, and we educate parents about concussions, and coaches, and other people. And so if we see something on the field, there's people watching that can say, stop, wait. This could have been a concussion. That's not even a realistic framework in domestic violence.

And we think about some of the barriers that survivors have. You know, after your head is hurt, you should go have it checked out by a doctor. There are financial barriers to doing that. There are very legitimate safety barriers for doing that.

There are other barriers related to housing. How many domestic violence survivors victims that I've worked with who have told me, like, after my partner has assaulted me, you think I'm leaving the kids alone? Like, I'm not going to leave my kids alone. So this

is really, really different, that inability to separate brain injury from the larger traumatic experience in which it happened.

We can't take psychological trauma and neurological trauma and separate them. We're looking at those things together. We're looking at those things overlapped. So it really is thinking about talking about a traumatic brain injury or concussion.

We'll talk a little bit about strangulation. Actually, it does not-- contrary to popular belief-- we did this all the time. I thought strangulation was a traumatic brain injury when I started. Strangulation is not medically classified as a traumatic brain injury. It's called an hypoxic anoxic brain injury.

There are kind of differences in traumatic brain injuries which comes from some kind of external force, what happens. And I'll get into this the brain science in just a minute. But there are different things that happen. Are brain injuries from oxygen deprivation-- that's what the brain injury comes from, not having oxygen. So a stroke is an example of a anoxic brain injury, a brain injury-- hypoxia means our oxygen to the brain is reduced. Anoxia means our oxygen our brain is totally cut off. And we know that brain is very, very sensitive to oxygen deprivation, and needs a lot of oxygen to be able to do the amazing things it does for all of our bodies.

And we talked a little bit about that. It's just recognizing that brain injury caused by domestic violence really is often this, again, inability to separate out trauma and partner-afflicted brain injury, where you have these often multiple traumatic events. So people are being hit or hurt in the head again and again and again, sometimes in the same event. Sometimes, somebody is pushed to the floor. They bang their head. Their partner jumps on them and strangles them.

It's multiple traumatic events within this ongoing traumatic environment. And when that assault ends, I am still in a very, very traumatic, very, very unsafe, very, very high-stress situation. So that's where I'm trying to heal from my brain injury, my potential brain injury, that I didn't even know just happened.

I think that it's just really kind of recognizing what some of those differences are. And one of the things I'm really advocating for and pushing for is we've had a psychological framework to look at domestic violence for a long time, and really thinking about the psychological impacts and trauma-based impacts. We need to bring a neurological framework to that, too-- particularly any of you who work in domestic violence services or who work in services that are designed and created for victims of abuse. When somebody is at the point where they're getting a service for domestic violence, that they're going to get a domestic violence protection order or reaching out to DV agency, calling the police for domestic violence, we really, really need to be talking about possible brain injury and head trauma very, very early.

I think the other thing is so many domestic violence victims that I've worked with have had some of their-- and domestic violence victims themselves will say, like, oh, I'm scatterbrained, and you know, my memory is bad, because of the trauma of the abuse. Like, that is a piece of that. But it also could be, and I think it is-- I hear the frustration of survivors who, you know, again, years and years later, who are saying, like, my short-term memory is still shot. And I used to be able to-- you know, I worked with a survivor who was a paralegal, and she read briefs.

And she'd do, like-- I don't know exactly what-- you know, write briefs. You'd have to read lots of information and write briefs. And her talking about how hard it was for her to be able to read. Like, how that really gave her a headache, that really, she couldn't remember the information. She had to read so much slower.

That is a neurological function. Psychological trauma doesn't usually make it, like, hard to read, hard to kind of comprehend that reading. But this is something that I think we just need to really be introducing and having on our table and in our framework as helpers.

I know that there are people here who don't work in domestic violence. We know that head trauma experiences of prisoners-- those of you who work in addictions, one of the pieces that we're thinking about is-- you know, when you think about people who work with people who have multiple overdoses. Anoxic brain injury, or hypoxic brain injury. You stop breathing for a little bit, and then you might get naloxone or have Narcan and be revived from that. That is like a strangulation. Your brain did not have oxygen for a little bit of time.

Talking to people who work in addiction-- so people who are in active addiction often experience violence. Sometimes, people fall. People injure themselves. All of those types of pieces. But as of the way our service systems are set up right now, nobody is taking this neurological framework into account. And that's something that you all and me are really going to work on starting to figure out what that is and what it is that that needs to look like.

So Jennifer says, am I hearing that concussion strangulation can cause problems with reading and comprehension? Absolutely. And understanding. And what I'm going to do is we're going to move into, a little bit, talking about the brain and the different functions of the brain. And I think that will really help us to understanding these things.

But my argument is that we have-- this is a three-legged stool. This is not a Venn diagram. This is not two circles of behavioral health and trauma and domestic violence. Brain injury is a piece of that. And just like I very, very much do believe, brain injury as significant of an issue for domestic violence victims as trauma.

We weren't wrong about the trauma. The trauma-- and we could have a whole training set. I did, freaking, six years of training on trauma and the impact of trauma, the impact

of psychological trauma on the brain and on our stress response system. All of that stuff is still in play. But we talk about being trauma-informed. What does it mean to be trauma and brain injury-informed?

And that's really what we're working on, trying to figure out what that looks like in these different systems. So again, you have this person who is experiencing all of this stuff. Again, often unidentified brain injury. So somebody who could be having serious challenges, but doesn't have any idea that it could be connected to the violence that they've experienced. But that person is also experiencing-- has the stuff going on around them, too. So we have historical and cultural trauma that people are experiencing.

The stigma about these issues. Telling someone you had-- you know, you tripped. Whether it's telling a neighbor, telling a doctor, disclosing to a medical professional that you tripped and fell on the ice is very, very different than disclosing domestic violence. We have the systemic prejudice, discrimination, and oppression which often leads to unequal access to resources. We know that when people-- you know, how we assess and come across and interpret anger and people who look differently can be very different.

We know that not everybody is able-- again, that access to resource and all those social determinants of health. And social determinants of health include things like housing, education, access to food. All of those things play a role. And then there's these cultural forces and pressures.

So we have a very, very complicated picture. But what I'm going to do is we're going to spend a little bit of time kind of talking about the brain. And I know that there was a question just earlier about concussions and strangulation, and can cause those brain-- some of those problems with readings and comprehension.

I know [? Michelle ?] shares, yes, that is my diagnosis. Several concussions paired with alcohol use for a decade did not allow the brain to heal, and now I cannot read very much and have low retention. [? Michelle, ?] thank you for sharing that. Congratulations. On your year in recovery that has helped you deal with these issues more clearly.

But Michelle, you know, I was thinking about that situation, where if you were somebody-- what is one of the things that's the first thing that we do in domestic violence programs? We throw you a bunch of paperwork. Right? We assume. We make a lot of assumptions about what people can do-- and we're going to get into talking a little bit about the brain and the brain functions-- and then, you know, we give you all this paperwork to read, and then all these rules to follow, go over, and get it done, and then you're not doing what we-- we gave you this information.

Really, being able to do things. Like, there are some people that reading can be very different. There's other people that comprehension can be very difficult. Our brain is

really, really complicated. And we're going to take just a minute to go back and talk about our brain and our brain functions.

This is then, actually, a framework I learned from occupational therapy. Occupational therapy, I think, is going to be a huge, huge, huge, huge ally for us in this work. And they have a framework. Occupational therapy, for those who don't know, it's a kind of a rehabilitation specialty.

And what they work with-- you know, some of you might have heard of speech therapists, who often work with speech and language, but can be very, very important for brain injury survivors. Physical therapy. But occupational therapy-- what they're tasked with and focused on is what they call activities of daily living, so all the different things that you need to do in order to be able to do these things that we'll talk about below.

So sometimes, they often work with people who have strokes who need help learning how to bathe again, who need help learning how to put their clothes on again. But they're really tasked with helping people to kind of develop the skills to be able to do-- when we think of our life, there's all of these different things that we do. There are things that we want or like to do.

A very, very important part of our lives-- think about all of the things that bring you joy, that help you relieve stress, that you look forward to doing. I remember somebody telling me if we didn't have anything that we wanted or liked to do, there really would be no reason to live. If we just had to spend our whole life in these buckets of things we need to do and things we're elected to do, then we would just probably have died out as a species, honestly. Because that's one of the things, being able to look forward to things that we want or like to do.

For those of you who are working with clients or survivors, recognizing this is an important part of people's lives. We can get very focused on all of the things that people we work with need to do. Thinking about our expectations-- we know we all have expectations. We have expectations from our children, from our family.

We have expectations from our job. We have expectations from our community. We also have expectations from the places where we get services, right? So I am encouraging you, as we talk about this, just to think about within your system, and within your work, what are some of the expectations we have for survivors?

And I will tell you just a simple one that I had never really considered. I mean, we talked about one of them earlier. We expect you to just fill out the paperwork. We're going to give it to you, and you're going to fill it out, and you're going to understand it all, and you're going to remember it, and you're going to know what to do, and you're going to know what it means.

The other thing that we expected all the time when people came into shelter-- and often, we had people who had to share rooms-- we expected everybody to get along. You're supposed to come into shelter. You're supposed to have just been through a very traumatic experience. You could be struggling with a concussion that you have just recently experienced.

And we're going to put you in a room with a stranger and their kids, who are on a totally different sleep schedule with you and two of your kids, and we just expect everything to go well. We expect you to get along. We expect everything to be hunky-dory.

But I think it's acknowledging that our amazing brain makes it possible to do all of those things. And the reason we're allowed, we're able to do those things, is because of our brain. So when we talk about basic brain organization, we have brain cells that are neurons, and these neurons connect. I'm going to take you back to high school science for just a minute. I promise I won't get too deep.

But these neurons connect, and they form efficient pathways. This is one of the reasons why if any of you does kind of early intervention work, or does prevention work, and works with age 0 to 3, there's such an amazing brain growth in that era of life. And you think about a baby who was born-- we know that babies' brains aren't fully developed. There's so many things that happen.

And you think about when they're born, babies cannot-- sometimes, they can't eat. They can't sit up. They can't express any emotions. They can't control their body.

And in 2 to 3 years, they are running, and they're talking, and they're learning language, and they're expressing emotions, and they know who people are, and they're able to recognize faces, and what's good and what's bad. Those are all of those neurons connecting and forming those pathways in our brain. One of the things that a lot of people do brain science say-- neurons that fire together wire together. And that's how you will have a baby who sees a primary caregiver or a parent a lot, and will be four months old, and their mom comes in the room, and they know it, because their neurons have connected and formed those pathways.

We want to think of a healthy brain as like a city that doesn't have any traffic jams. So we think about multitasking and other brain function. I know many of you-- I know everybody who is on this webinar is just sitting there, just 100% absorbed in what I'm talking about, not doing anything else. I know a bunch of you are doing other things.

I've been on a webinar before, and that's OK. But you are able to listen to the webinar. Someone might be next to you. Someone might ask you a question, you're thinking about what you're doing-- that ability to multitask. And being able to do that, even me being able to talk and think about what I'm doing next-- I'm moving my hands-- that is my brain without traffic jams.

The other piece that we know about our brain is it needs nutrients and protection. So blood vessels bring oxygen and nutrients to the brain. So our brain gets oxygen from a couple of different ways. We've talked a little bit about the importance of oxygen.

Our brain weighs approximately 2% of our body weight. It uses about 20% of our body's oxygen. So that's why it's very, very sensitive to oxygen deprivation. If any of you have ever had a friend or family member or someone you've known who has had a stroke, that's one of the reasons that stroke response, quick stroke response, is so important, because your brain or a section of your brain not having oxygen for 1 minute versus 2 minutes can be the difference between some challenges that can be rehabilitated with all of the occupational therapists and the speech therapists and the physical therapists that we've talked about, or can be so severe that someone might have a permanent disability.

So our brain gets oxygen through a couple of ways-- obviously, through breathing. But the other thing that happens is oxygen starts in our heart. I'm taking you, again, back to high school science. We have our blood that flows all the way through our body, and it gets oxygen in our heart. So it pumps through our heart, comes up to our brain, deposits some of the oxygen, goes back down to our heart to get more oxygen, comes up and pumps it down in the brain, and kind of does it. It's like a cycle.

So our brain needs that in order to be healthy. Our brain is also protected by the skull tissues and fluid. So you want to think about our brain's kind of material as like a gelatin-like material. So think about Jell-O. That's about the consistency of our brain.

Our body is really, really smart, knows our brain is so important to our survival-- the most important thing to our survival-- and it needs to be well-protected. That's why our skull is really hard. You've got some fluid and some tissues there that keep it packed tightly within our skull. So that's what our brain looks like.

The other thing that we want to talk about is we'll talk quickly about these different lobes of our brain. Our brain functions-- each different kind of piece and part of our brain is responsible for doing different things. It is very important that kind of each lobe or each section of our brain is healthy and able to do its job. But our brain also needs to work together.

When we think about-- we see these different lobes, we have the brainstem and the cerebellum, which are kind of-- think about our survival brain. So our brain controls things like our heart rate, and our swallowing, and our breathing. Our cerebellum is our coordination and our balance. And then when we talk about these lobes of our brain, our occipital lobe, which is kind of right back here in our brain, is our sight.

So one of the things that-- it's being able to accurately see things, and our eyesight. Any of you remember Looney Tunes? When you have Wile E. Coyote used to be running

behind the Roadrunner, and he would smack into the wall, and he'd fall back, and he'd have stars circling above his head. A visual disruption is a sign of brain injury.

When we were talking about a concussion, if you have a visual disruption-- if you see stars, if you don't see things right, if your eyes are blurry, or you can't see things, you're seeing double, that is a neurological function. And that is one of those things. Head trauma plus disrupted brain function? Concussion or brain injury.
But we also know even in a healthy brain, when we see things-- so we see a dog, we hear a dog-- the parietal part-- see that yellow part? These parts are not these colors in our brain. But the yellow part of our brain really takes all that information from all of our senses.

So we see a dog. We hear a dog. We know what it looks like. You know? We might feel a dog. It puts it into kind of, like, one thing. It's a dog. It also coordinates our movement. But then we see, we might get all this information-- putting that language onto what that thing is-- that's a dog, right? That's our temporal part of our brain. So we see a dog, we have all of these-- we hear a dog barking, we know that's a dog-- we're able to put that language to what that is. The language, hearing, and comprehension is in that temporal part of our brain.

Our long-term memory-- one of the things that we know, our short-term memory is more in this part of-- our working memory, we'll talk about that in a little bit-- is more in this part of our brain. Our long-term memory is more in another part of our brain. And how many of you-- I'll give you an example of this-- how many of you can't remember what you ate for breakfast yesterday? Most of us can't.

You hear some song you heard from your high school prom that you have not heard in 20-ish years-- I'm dating myself a little bit-- and you can start singing that song right away. And you're, like, how come I can't remember I needed to get milk coming home, but I can remember the song I've never heard? Again, those are different parts of our brain.

We know the temporal lobe has a lot to do with emotion, but we're going to talk about this frontal lobe, which our frontal lobe is really, really important. It's one of the things that makes us different from all other animals, is this frontal lobe, which has to do with things like reasoning and judgment, and learning and recalling information. So when you learn something-- everybody who got on this Zoom today-- well, maybe not everybody. I even remember the first time they got on a Zoom meeting?

And you're, like, oh my gosh. I don't know what it is. I don't know how to mute myself. I don't know where anything is. How do you see people?

What that is-- being able to learn something. Most of you probably just popped in, you popped on, you know what to click on, you know how to unmute yourself. Because

guess what? You're able to recall that information. You learned it, and then when you need it again, even if you haven't been on a Zoom in a week or two weeks, you're not starting from new.

Social understanding-- being able to incorporate just kind of, how I am behaving socially, what are social expectations, that's a part of this brain. Even our personality has to do with that. And that's something that we heard from domestic violence advocates who had long-term contact with survivors, who worked with survivors for years. Some of them had said, you know, personality has changed it's been very, very different.

And executive functions. So we're going to spend a minute talking about executive functioning. And I know we've talked about some of this a little bit. But these are those mental skills that include things like working memory. So again, working memory. Being able-- if you've ever started a new job and you learn a little new thing every single day, you're able to recall what you learned yesterday and incorporate that in your work today.

Flexible thinking, which is really being able to think about things from different perspectives. Anybody ever worked with survivors who just kind of had one way of doing things, and we couldn't do things any other way? Really, really hard time taking other people's perspectives, really hard time coming up with a plan B. Self-control-- being able to control ourselves.

These are all really kind of essential skills for not only everyday tasks, but I want you to look at this list of things. Executive function involves things-- I'm not sure. I don't know why there's a blank there. I'm sorry. I have many things I could fill in there. But things like problem-solving, and time management, and starting tasks, and organizing and planning, and managing emotions, that self-awareness and that prioritizing-- we think about this.

You know, Nicole says people don't really understand how trauma affects this functioning. Trauma affects this functioning. Brain injury also affects this functioning. But I want you to take a minute and think about-- you know, we talk about what people are expected to do when they get services. And I would challenge you, if anybody wants to put it in the chat box-- if you were to pick one of these skills in order for someone to be successful in your services, which one would you pick?

And go ahead and put it in the chat box. You know, I think this is one of those things. We expect people to often have all of these skills. I don't know how many times we've talked with survivors-- and I think that this is one of the big takeaways that I have from starting to do this work around brain injury and domestic violence-- is a lot of things I just was, like, are things that people can just do.

Guess what? Those are not things that people can just do. Those are brain functions that people do well, depending on how healthy their brain is. And if their brain is not healthy, through no fault of their own, these things are harder.

I want to see-- I think someday we can have a big debate. I'm going to see what people are putting in there. People say problem-solving, managing emotions, self-awareness. I think for many of us, all of these things interrelate and interconnect. Right? How many times have we said, working with a survivor, she didn't have her priorities straight. She just needs to get her priorities straight.

Guess what? Prioritizing what we need to do is a brain function. When we wake up today, and I have 15 things to do, and I can't get all 15 things done, my brain helps me figure out what can wait tomorrow. How can I pick up bananas? Well, I'm on the way to work, because the store's there.

Really thinking about-- and you know, feel free to keep putting in your chat box-- some of these things would say-- like, you can have time management, but if you can't prioritize what you do with your time, how helpful is that? Or if you can't organize what needs to be done-- thinking about starting tasks, figuring out what somebody needs to go get a job or to go find housing. What is the very first thing you need to do to go find housing? Breaking that down into pieces. Those are all brain functions that, if our brain has been hurt again and again-- you know what I mean?

If our brain has been hurt again and again, it makes it harder to do. I know [? Renata ?] says, I have to set an alarm app to help me remind me of tasks I need to do throughout the day. Absolutely. And we all have ways which we do to kind of help with this executive functioning. Trauma can impact executive functioning. Brain injury can absolutely impact executive functioning.

Substance use and addictions. Some of the drugs we know-- like, not only can people have overdoses and not oxygen to the brain, a lot of the drugs people take are just really, really bad for our brains. But one of the things we talked about, this frontal lobe-- it's really what makes us uniquely human, and this is what transfers information into memory.

So information is not a lot of help if it doesn't get transferred into memory. So every single time I need to get on a Zoom call, I have to start over, and I don't know what it is. And I didn't learn how to do that and then I'm able to remember it. That is really, really critical to us being able to live our lives.

I remember the number of survivors I worked with who got lost coming back to shelter again and again and again. I didn't have any understanding of brain injury there. But thinking about how that should have been a red flag. That should have been a sign.

It also helps us put brakes on the impulses, put the brakes on our impulses. So if we want to do something, it really helps us either do or not doing something now, because it's better for us in the long run. So you remember when you were in college or you were in high school and you had a big test the next day, and your friends wanted to go out, and you really wanted to go out with your friends?

But you were able to not go out with your friends, because you said, oh, this is going to be hard now. I'm going to be glad tomorrow when I take the test. It's hard now, but it's better for me in the long run.

All of you who work with addictions, thinking about this ability to put our brakes on impulses, this ability to manage through triggers, this ability to be, like, oh, I really, really want my drug, I really, really want to take a drink. But I'm able to figure out I know in the long run, it won't work for that. Being able to override that is really a brain function.

So I think-- and I know we just have a couple of minutes left. And just to let you know, we will pick up on this when we come back to part two. Part two will also be recorded. I hope all of you will able to join us.

But it really is-- when that brain is healthy, it's the smooth kind of set of things where everything works together well, you know? Again, we're able to just kind of go about our lives. But when the brain gets hurt, kind of everything ends up getting complicated, all of those tasks that we talked about.

You know, I think that one of the things that I'm going to just talk very briefly about is we know that this frontal lobe-- remember, those executive functions-- that's the part of our brain that's most likely to be impacted by brain injury. One of the reasons is when our brain is hurt, if you think about our skull, right behind our skull, there are bony ridges.

Like, the interior of our skull has, like-- it's got these ridges and got these like points. And what happens is when your brain-- remember, your brain is like Jell-O-- slams into the front of your skull because you've been hurt, that creates frontal lobe damage. Like, your brain tissue is damaged by that. We know that brain injuries caused by lack of oxygen disproportionately impact this area of the brain. So anoxic injuries. This part of our brain is what needs all of the oxygen.

And how this part of our brain connects to other areas, how it connects to our language, how it connects to our cognition, how it connects to our sight, and how that ends up-- and maybe we'll stop on this slide, because it's 3:27, and I want to check the chat box and get a couple of questions. And I wish I had another 10 hours to continue talking about this. Wasn't that the fastest hour and a half of your life? Maybe not the fastest hour and a half of your life, but it sure went by fast for me.

But it's just recognizing that all of this becomes more difficult-- problem-solving and time management and planning and managing our emotions. One of the things that we

realized, and I think was kind of horrifying for me-- I'm going to use "I'm to talk about me, personally-- was realizing how much things like this interfere with survivors' ability to get our services. So I'm working in domestic violence programs, and people are getting asked to leave programs because they don't manage their emotion well, or because we have survivors who come in and they aren't doing anything.

So I think that this-- and they have brain injuries, or have head injuries-- which, again, I don't diagnose brain injuries. I'm not a medical professional. I won't be doing that. That's something a medical professional does. But have an impact of not only head trauma, neurological trauma, but psychological trauma that makes this stuff harder. And they got that from their abusive relationships. And our DV programs are not taking this into account.

And I think that that's really what the challenge is to really think about this. And I'm challenging-- I'm hoping that many of you will be able to join us next week. I know that this will be-- or two weeks, on March 15th-- I know this will be recorded, and so will our next session, if you're not able to join us. But I want you to think about this during the next couple of weeks.

I want you to think about this. Think about head trauma. Think about how that shows up or doesn't show up. Think about how people talk about that.

I'm going to just see-- I know that we have the registration in here. If there are any questions, it's on March 15th from 1:00 to 2:30 Central time, which is 2:00 to 3:30 Eastern time. Make sure you register, because then you'll get it at the right time, I think. For that, there is an evaluation. So fill out the evaluation and say you want more stuff on brain injury, and I'll come do more stuff on brain injury. But please fill out the survey. I'm going to put my-- if there are any questions that I didn't get to, I can-- please email me, and I'm happy to talk to you further.

Thank you to all of the survivors, and thank you for all of your participation in today. I have learned a lot from you, and looking forward to continuing to talk with you more, and talking about empowerment. I think that's huge. We'll be talking about signs and symptoms in the next webinar.

We'll be talking about signs of symptoms, a little bit more about concussions and strangulation, what they look, and we will talking about our CARE approach-- our approach that was developed, and some of our tools, our educational informational tools we've developed in Ohio that are available for you, that are free for you to use, that can help you start talking about these things with survivors, providing information for survivors. So tell all of your friends to come, and we hope to see you in a couple of weeks. Thank you all for spending time with me today.

JEN WINSLOW: Yes. Thank you, everyone. You will be automatically redirected to that brief survey. Please check our website for the recording. I will also email you a PDF of

the slides, and we hope to see you at the training on March 15th. Have a great day. Bye-bye.

RACHEL RAMIREZ: Take care, everybody. We'll talk to you soon.