# Shared Co-Factors for Co-Occurring Substance Use Disorders and Eating Disorders webinar transcript

**May 10, 2023**

la-shell_johnson@med.unc.edu: Good afternoon, everyone. I would like to welcome you to today's presentation feature and Dr. Carolyn Ross. There's a few things to note. Participants will be muted upon entry and videos turned off.

la-shell_johnson@med.unc.edu: We'll ask for any technical assistance questions that you use the chat feature located at the bottom of your box. You will also receive an email approximately one month from today, requesting feedback and impact on today's presentation.

la-shell_johnson@med.unc.edu: Also,  we ask that you visit WWW: NCEEDUS.ORG/training to view other training opportunities from NCEED.

la-shell_johnson@med.unc.edu: This training will be recorded and placed on our training site 2 weeks from today.

la-shell_johnson@med.unc.edu: Slides, and an evaluation will be sent to you immediately following the webinar.

la-shell_johnson@med.unc.edu: We will also have 10 min allotted for questions and answers at the end of this segment. Any unanswered questions will be sent to you with responses via email one week from today.

la-shell_johnson@med.unc.edu: I'll now go ahead and introduce today's speaker, Dr. Carolyn Ross. Dr. Carolyn Coker Ross is an African-American author, speaker, expert.

la-shell_johnson@med.unc.edu: the treatment of being disorders trauma and addictions. Dr. Ross is a graduate of the University of Michigan Medical School. She completed a residency in preventative medicine and a Master’s in public health at Loma Linda University, and a fellowship in integrative medicine at the University of Arizona.

la-shell_johnson@med.unc.edu: She is board certified in preventive medicine and addiction medicine. Dr. Ross has been an international speaker and consultant on issues of mental health, trauma, workplace productivity, and intergenerational trauma.

la-shell_johnson@med.unc.edu: Dr. Ross presented a Tedx Pleasant Grove talk on historical and intergenerational trauma in January, 2020.

la-shell_johnson@med.unc.edu: She is co-founder of the Institute for Anti-Racism and Equity, a consultant group that offers DEI trainings to organizations on diversity, anti-racism, and equity in the workplace.

la-shell_johnson@med.unc.edu: I'm now turning over to Dr. Carolyn Ross.

Carolyn Ross: Thank you, La-Shell. It's great to be with you all.

Carolyn Ross: So let's get started.

Carolyn Ross: So today I'll be talking with you about shared co-factors for substance use disorders and eating disorders.

Carolyn Ross: I think this is an important topic, because anybody in the field who works with, with either of these disorders knows very well that often

Carolyn Ross: you will treat the substance use disorder, and then all of a sudden the eating disorder will pop up, and vice versa. So it's good to understand what are the co-occurring underlying factors that promote this this relationship between the 2.

Carolyn Ross: So here the objectives, here is my extensive bio for your night time reading. And I'm gonna start by just talking about the neurobiology of trauma, because it's important to understand that trauma is not just, you know what happens to us, and how we react to it.

Carolyn Ross: That probably the most important thing to understand about trauma is, its impact on brain development, especially in children.

Carolyn Ross: So Bruce Perry, who is a well-known child psychiatrist and trauma expert talks about the fact that the brain has plasticity.

Carolyn Ross: That basically means that our brains can change. But this is most available, the most available when we're young.

Carolyn Ross: And I want to just draw your attention to the part in red where he says,"Trauma, neglect and other experiences of maltreatment, including prenatal experiences like exposure to drugs or alcohol, or impaired attachment or early bonding all influence the human brain."

Carolyn Ross: So just briefly, I don't wanna bore you with a lot of detail. But there's a couple of things that I think would help you to know. First of all, brain development is bottom up. What does that mean?

Carolyn Ross: Well, when you're born, the things that the, the, the brain is developed enough to secure your survival.

Carolyn Ross: So this part of the brain, the reptilian brain is the survival center. It's where the fight flight or freeze response comes from, and it is completely developed at birth, and that helps with breathing digestion, heart rate, sleep, hunger, any instinctual behaviors, and any behaviors that sustain life.

Carolyn Ross: So when the baby is born, they're born with the brain that helps them to survive.

Carolyn Ross: And then from birth to age 5, the emotional or limbic system in the brain is developed, and this is the part of the brain that processes emotions, memory, response to stress, nurturing, caring, separation, anxiety, fear, rage, social bonding, and hormone control.

Carolyn Ross: And then, finally, the last part to develop, as we know, is the executive center or the thinking part of the brain called the prefrontal cortex, and this can develop and fits and starts between 5 and 6, 11 and 15 all the way into the early twenties.

Carolyn Ross: And this is the part of the brain that helps us think logically, have empathy and compassion, creativity, be able to self-regulate our emotions and behaviors.

Carolyn Ross: It in it also includes self-awareness, predicting, planning, problem solving, and attention. So if you think about this, and you think about the timing of any kind of maltreatment, child maltreatment.

Carolyn Ross: You can see that timing really is everything when it comes to the brain development. So if a child is, experiences adverse experiences between the ages of 0 and 5 that will definitely affect their emotional capacity.

Carolyn Ross: They, they may find themselves in fight flight. They may experience a lot of outbursts in problems with impulse, control problems with bonding or attachment, and so on.

Carolyn Ross: If, however, it occurs after that time. Then we're looking at people who may have attentional issues like ADD, ADHD, have trouble regulating themselves, have a lack of self-awareness, and so on.

Carolyn Ross: So brain development is bottom up and it all of it works together.

Carolyn Ross: So it, this sequence has to go together, and then the the next fact is, timing is everything.

Carolyn Ross: So, I think this is something that we don't really think about clinically, but we see this in our patients all the time.

Carolyn Ross: I remember in some of our, you know, when I worked in a treatment center we would talk about how some of the patients had emotional, regular, the, the emotional regulation skills of a toddler, for example.

Carolyn Ross: And that's that's, true, because if they were harmed before the age of 5, they don't know how to regulate themselves.

Carolyn Ross: So let's keep that in mind as we go through and talk about trauma and substance use disorders and eating disorders.

la-shell_johnson@med.unc.edu: I hate to interrupt you before you go to the next slide? Is it possible for you to put the closed caption on? I'm: going to ask in at the bottom of your screen, the closed caption.

Carolyn Ross: Okay.

la-shell_johnson@med.unc.edu:  Do you see where it says CC? Yeah, perfect. Thank you.

Carolyn Ross: And what does that do? Actually.

la-shell_johnson@med.unc.edu: For anybody that may be hearing impaired

Carolyn Ross: Oh, Gotcha! Now I see what it says subtitles aren't available.

Carolyn Ross: I'd have to restart everything

Carolyn Ross: I mean. Do you want me to do that, or I'd have to restart the whole PowerPoint and everything? I don't know how to go through and do that.

la-shell_johnson@med.unc.edu: To do it from the beginning. Yeah.

la-shell_johnson@med.unc.edu: I think we might have to restart it and then get to your current slide. Let's see if that works.

Carolyn Ross: I, you know it's asking me to do permissions, and that's the part I'm not sure about.

Carolyn Ross: Could you do it in the transcript, or do you give a transcript of we do get?

la-shell_johnson@med.unc.edu: We do give a transcript at the end.

Carolyn Ross: Can't they view it with the transcript then? I can try it. But I don't, I don't want to lose all of my time, either.

la-shell_johnson@med.unc.edu: Yeah, I understand. I apologize too.

la-shell_johnson@med.unc.edu: I guess we all we can do is try. I guess I'll let you go ahead and try it, and it's the option.

la-shell_johnson@med.unc.edu: If somebody just said, let me see at the bottom, so anyone can enable it by using the options at the bottom.

Carolyn Ross: I I didn't hear what you said.

la-shell_johnson@med.unc.edu: Someone just wrote in that at the bottom of the bar. It allows the close captioning for anyone that needs it. Well, that's what we clicked on, and then it's so I guess I'll let you just restart it and get to your current slide, and then we'll see what it does for your.

la-shell_johnson@med.unc.edu: If not, then we'll have to see how do we program this in the future. I'm not sure what, what happened.

la-shell_johnson@med.unc.edu: But we do have a transcript that would be available with the slides at the end of the presentation for everyone that's on.

Carolyn Ross: Yeah, I I was just trying to see where I could give the permissions, but I'm not sure I know how to do that and have to figure it out.

Carolyn Ross: Yeah, it's, it's not easy. Yeah, I just I'd have to figure it out. I want to do it. So I'm sorry about that. But next time

la-shell_johnson@med.unc.edu: That's, that's fine, I understand.

Carolyn Ross: Okay. So let's get back to where we were.

Carolyn Ross: All right. So we're talking about the development of the brain.

Carolyn Ross: So often when we talk about eating disorders and substance use disorders, we also talk about the reward center, the dopamine reward center of the brain. And that part of the brain is where the pleasure happens, where we get reward for you know, eating, playing with our kids, petting a dog watching a sunset, but also using drugs or food.

Carolyn Ross: And this part of the brain has 2 functions. It works with judgment, thinking and executive function in the prefrontal cortex which I told you is the last part of the brain to develop, and it works on the limbic part where there's emotion, memory, and impulsivity.

Carolyn Ross: So obviously trauma that occurs before the development of the prefrontal cortex would affect judgment, thinking, and executive function and we know that most eating disorders and substance use disorders, start before the development of the prefrontal cortex.

Carolyn Ross: So, as I said, the child's brain has plasticity more than an adult brain. And this applies to good or “bad” experiences.

Carolyn Ross: I'll show you in a little bit, but more on this, but it's important to recognize, especially for parents, that if you protect your child from every experience that they can possibly have, you are harming them because they do, then their brain doesn't, develop the ability to self-regulate, to regulate emotions, to be able to think through things and have judgment and so on.

Carolyn Ross: So we need to expose children to good, and not so good experiences; and a way to do that is to always have adult supervision and support when bad experiences happen.

Carolyn Ross: And the timing of adverse childhood experiences does make a difference. The biggest impact of child maltreatment is children who are maltreated under the age of 3.

Carolyn Ross: But we go all the way up to age 18 as having a big impact.

Carolyn Ross: I wanted to just finish with this last one, so neglect also affects the child's brain. For example, a 10 year old child may have the speech and language skills of an 8 year old, the social skills of a 4 year old, and the emotional regulation skills of a toddler.

Carolyn Ross: And I think that's something. If you think about it, you see in your patients, especially if you're working in a residential or PHP-type facility.

Carolyn Ross: So when there is a threat to the child that is prolonged and repetitive, and there isn't enough adult supervision or support. The brain then goes into certain changes. It changes the brain's response to stress in particular, and the response to stress may become what we call hyperactive.

Carolyn Ross: And the brain, then will reset acting as if it is under constant and present threat, even when the threat is no longer there.

Carolyn Ross: So I just want you to think about that for a moment, and you see a patient who may overreact or have impulsive outburst or emotionally dysregulated, and there is no threat around them.

Carolyn Ross: It's because their brain has altered, and, and the brain perceives that it's still under threat, even when there is no threat.

Carolyn Ross: These are just some statistics to kind of just emphasize the fact that it's not just the United States that has a high levels of child maltreatment. It's pretty much across the world.

Carolyn Ross: and it's all sorts of maltreatment, whether it be physical abuse, psychological abuse, sexual abuse.

Carolyn Ross: and these that it should, it also applies to armed conflict, like we're seeing the war in Ukraine, and I'm sure there will be a lot of fall out there with pregnant women who, you know, caring babies during this stressful time that may have an impact on their children, also refugee settings.

Carolyn Ross: We, we saw a lot of this at the border, at the Mexican border, with immigrants who were separated from their children. That's going to definitely have long-term consequences for the children.

Carolyn Ross: And again, child maltreatment is a global issue that affects psychological functioning, mental health, health risk behaviors, life expectancy, health care cost, and social functioning. But the most important thing is, it hijacks a child's potential in life; and it's not just a phenomena of the west, it is global.

Carolyn Ross: And treatment and a later prevention are much more costly than prevent treatment. And later

Carolyn Ross: Treatment and later prevention are more costly than primary prevention.

Carolyn Ross: So I'm sure you all are familiar with the ACE pyramid. The only definition for trauma that has been widely accepted is the one from SAMHSA. And SAMHSA says: "Trauma refers to experiences that cause intense physical and psychological stress reactions," Whoops [error found on slide]

Carolyn Ross: "Trauma results from an event or a series of events, or set of circumstances that experienced by an individual as physically or emotionally harmful, threatening, and that have lasting effects on the individuals functioning and physical, social, emotional, and spiritual well-being."

Carolyn Ross: So just to emphasize the CDC is, is now studying trauma from conception to death. So they're looking at the effects of trauma in utero.

Carolyn Ross: They're also studying historical and intergenerational trauma and looking at things like poverty, lack of opportunity, community violence, and all of that social conditions and local context that also are considered traumatic to children growing up.

Carolyn Ross: And the adverse childhood experiences that they they've been studying for some time. I think most of, you know, but having a parent with the mental illness, parent with substance use disorder, physical, emotional, or sexual abuse, physical, or emotional neglect, divorce or separation, witnessing domestic violence, having a family member incarcerated, and a family member with a mental illness.

Carolyn Ross: So if you, if you think of that, then these adverse child experiences, as I said, disrupt brain development, and that this leads them to social, emotional, and cognitive impairment.

Carolyn Ross: Then the adoption of health risk behaviors, and then chronic disease, disability, social problems, and if there are enough ACES it can take 20 years off of the lifespan.

Carolyn Ross: So if you have not explored the, your own individual trauma. You can use this QR code just taking a picture with your iPhone, or you know your smartphone, and it will take you directly to the ACE quiz.

Carolyn Ross: And you, if that doesn't work, you can also use this URL here: bit.ly/ACE4me to access the ACE quiz.

Carolyn Ross: And I'll give you a few minutes to just to do that, and to see if you can look at your ACE score; and just want to mention that now they're adding another question to the ACE quiz, which is to the best of your knowledge, have you or your child ever been treated or judged unfairly because of his or her race or ethnic group.

Carolyn Ross: So again, the CDC is broadening this study to also include racialized trauma, because we know that that is a daily experience for many children from BIPOC communities.

Carolyn Ross: So just give you a couple more minutes to do the questions there, and add up your ACE score.

Carolyn Ross: and the ACE score is cumulative. So if you have one ACE compared to someone who has 4 ACEs, the person with 4 or more ACEs have a much higher risk for all the things that are associated with adverse childhood experiences.

Carolyn Ross: Okay, I'm going to move on.

Carolyn Ross: and just want to talk a little bit about childhood neglect which is actually the most frequent form of child maltreatment

Carolyn Ross: and neglect incorporates that notion of that, you know, brain development requires a certain timing, a certain exposure, frequency of exposures and experiences that will help develop the brain cells and bring connections, and that without that it can minimize a person's potential in life and their ability to self-regulate speech, language, capacity for healthy relationships and so on.

Carolyn Ross: So the most, if you look worldwide, these are the most commonly reported traumas across the world.

Carolyn Ross: Death of a loved one, witnessing violence, or experiencing interpersonal violence.

Carolyn Ross: We know that assaultive violence is much more common in the United States than in other countries, as is gun violence.

Carolyn Ross: But, you know any kind of trauma related to automobile accidents, natural disasters are pretty similar throughout developed countries.

Carolyn Ross: And then the little graph here shows you about 36% of the US population have no adverse childhood experiences, 25% have one, and so on.

Carolyn Ross: But overall one in five have 4 or more ACEs, and 63% of Americans have at least one ACE.

Carolyn Ross: So when we look at adverse childhood experiences, as I mentioned, you can break them down into 3 these three categories. I gave you the list just a moment ago, and I also said, people with higher levels of ACEs lose 20 years off of their lifespan.

Carolyn Ross: If you have 4 or more ACEs, you're three times the, the risk of developing lung disease and smoking, 14 times the number of suicide attempts, four and a half times more likely to develop depression.

Carolyn Ross: Two times more likely develop liver disease, four times more likely to have early intercourse, 11 times more likely to abuse intravenous drugs.

Carolyn Ross: And the President of the American Academy Pediatrics has said that adverse childhood experiences are the single greatest unaddressed public health threat facing our nation today.

Carolyn Ross: So this slide it just kind of re-emphasizes the importance of exposure to experiences for children's brains to develop.

Carolyn Ross: And when you have a case of that, you can see on the left, the brain of a normal child, and then on the right is the brain of a child who is in an orphanage where they were not given regular stimulation.

Carolyn Ross: They were left you know, pretty much in their cribs all day while they were fed and and their diapers were changed.

Carolyn Ross: There wasn't a lot of other interaction or bonding, and you can see the devastating effect it has just on the size of the brain.

Carolyn Ross: And in this study, which is a a spec scan, a PET scan.

Carolyn Ross: On the left you see the circled areas of the brain, which red is the most active. Yellow is next, and purple and black are and least active. So in this normal scan of a normal child you see these high red and, and then low, blue and black areas of activity.

Carolyn Ross: And, as I mentioned at birth, only the primitive structure, such as the brain stem, which are in the center.

Carolyn Ross: are fully functional in regions like the temporal lobes. Early childhood experience helps to, to develop the brain, to wire the circuits of the brain.

Carolyn Ross: So this is what a child's brain should look like. On the right hand side, it’s the PET scan of a Romanian orphan who was institutionalized at right after birth, and shows the effect of extreme deprivation in infancy.

Carolyn Ross: So here the temporal lobes which regulate emotions, get input from our senses, are almost blank.

Carolyn Ross: You know they're quiet. They aren't showing any activity, and these children suffer from severe emotional and cognitive problems, and I know I maybe some of you know. But the adoption of Romanian orphans was pretty popular back in the, I don’t know, the early 2000’s to late nineties

Carolyn Ross: I don't know the, and many of my patients who adopted these children were happening. brought home children that on the surface look very healthy, but their emotional regulation skills were you know, were just non-existent.

Carolyn Ross: They were, it would act out. They often were very rageful. They didn't know how to discipline them, etc., so it became a real problem.

Carolyn Ross: So Bessel Van der Kolk says that “the impact of trauma is upon the survival or animal part of the brain. The reptilian brain as we mentioned, and that means that our automatic danger signals are disturbed.

Carolyn Ross: and we become hyperactive or hypoactive or aroused or numbed out. We become like frightened animals. We cannot reason ourselves out of being frightened or upset.”

Carolyn Ross: “Of course, talking therapy can be helpful in acknowledging the reality of what's happened, and how it's affected you, but it doesn't help you really put it behind you because it doesn't go deep enough into the survival brain.”

Carolyn Ross: Now I had a complaint or a comment when I mentioned something similar to this in the previous talk, and I just want to say he's not saying that talk therapy is useless. He's saying that that it needs to be combined with specific trauma therapies that really access this deeper reptilian brain, the emotional parts of the brain.

Carolyn Ross: Okay, there are some triggering images here. So if you are concerned about that, you might want to skip the video.

**Begin Video: The Roots of Addiction**

One of the outcomes of childhood distress is addiction. So that if you look at the research that your addiction. The more adversity you've experienced in your childhood, the greater the risk of addiction exponentially.

and the in the downtown side, Vancouver, which is a probably some very much affected by addiction. In 14 years I never met a single woman who would not be sexually abused as the child.

and many of the men have been abused, traumatized, abandoned, neglected. Terrible things happen to them over time.

Now, addictions are not the problem, at least. Of course, they are a problem, but they're also the attempt to solve a problem.

and the problem is on variable psychiatric distress or pain. So there's no understanding of addiction without understanding you're in pain. And there's no understanding you're in pain, without understanding human childhood experience.

So it all goes back to. and that's what 2 reasons. One is that it instills the pain that that you try and soothe it to drugs. Not just to drugs, also with addictive behaviors of all kinds…from shopping to eating, to work, to Internet, to pornography, to gambling, video games. Whatever you're addicted to these are all your attempts to escape pain, the stress, and discomfort with the self.

And no infant is uncomfortable with themselves, so that discomfort is a response to the prance disconnected.

And in the case of the traumatized population, the parents high level of dysfunction which goes back to their own childhood. But there's no one to blame, it's multi-generational.

But it's that's how it's transmitted. It's not genetic, alcoholism is not a genetic disease, drug addiction is not a genetic disease. That's one of those myths our society likes to hold on to.

It runs in families, but not because of genes, but because of emotional patterns and behaviors that give rise to that same pain, and that same desire to escape from a pain. So that's the first reason.

The second reason why, why negative childhood experience is particularly trauma, which is supposed to addiction is because it actually shapes the brain in certain ways, so that the brains' reward chemicals, the circuitry that modulates those kind of calls doesn't develop as well in a traumatized child.

No, to the surface that regulates stress. So their way regulating stress is to do something that soothes their pain temporarily.

So. So when you're stressed, you know, drink a lot a lot, eat, or go spend money you haven't got, do drugs;

Those circuits again develop or don’t in response to childhood experience. And then more supportive and secure environment, the more optimally those circuits develop.

Now you’ve got the reward and the pleasure and the happiness chemicals inside you. And they are available to you.

But what happens if the environment doesn't promote, or, or, or encourage that kind of development, then you'll be seeking it from the outside.

So addictions, whether physical or behavioral, all but trying to seek something from the outside that you're not able to generate from within. And it all goes back to pain and loss. And in serious cases from trauma.

**[END VIDEO]**

Carolyn Ross: Okay, just a little bit about culture and trauma.

Carolyn Ross: Cultural background can to determine how a family or a an individual response to trauma, and this could include family values and the culture that can combine, determine what's considered appropriate responses to trauma and illnesses.

Carolyn Ross: Some cultures feel it's a sign of weakness to admit personal distress.

Carolyn Ross: And there may also be specific cultural customs in response to trauma. For example, not telling all the family members or not, letting the children be involved in discussions, for example.

Carolyn Ross: Culture shapes the way individuals parent their children, and how children experience their childhood.

Carolyn Ross: So, for example, behaviors that are thought to be abusive in one culture, such as corporal punishment or harsh verbal discipline, may be considered acceptable in another culture.

Carolyn Ross: Now the convention on the rights of the child in 1989 happened, and 44 countries subsequently outlawed corporal punishment. But it is still legal in the United States.

Carolyn Ross: and there may be differential exposure to adverse outcomes, such as racial ethnic discrimination or differential access to protective measures like income, health care, education, police protection; and that may be determined by culture.

Carolyn Ross: Some cultures, such as African American, and Native American cultures have historical trauma that has impacted their culture.

Carolyn Ross: For example, indigenous cultures. The original inhabitants of a geographic area who've been displaced or marginalized by colonization are found to have generally increased risk of discrimination, poverty, addiction, family violence, and poor health.

Carolyn Ross: But it's really important that we don't see mistakenly conclude that these people who have been traumatized are less resilient than others.

Carolyn Ross: Commonly the very opposite is true. People and groups who are subjected to chronic stressors or deprivations tend to be more resilient than others but they also are more exposed to and less protected from traumatic stressors.

Carolyn Ross: So sometimes culture can be a buffer against trauma, things like spirituality, traditional healing practices finding a sense of meaning and cultural rituals can also be very helpful.

Carolyn Ross: We know that ACEs are more common in BIPOC families and children. Across all racial groups, Black and Hispanic children are exposed to more adversities than White children.

Carolyn Ross: The, the level of substance use outside.

Carolyn Ross: Yeah.

Carolyn Ross: So this is a study at the bottom, so 61% of Black children and 51% of Latinx children have experienced at least one adversity compared with 40% of White children and only 23% of Asian children.

Carolyn Ross: So let's look now at how substance use disorders and trauma go hand in hand. And I think it's really important to note, and this is a study that happened in an urban, primary care patient environment.

Carolyn Ross: And then this highly traumatized population. There were high, high levels of substance use disorder, which you see in the second line, or 39% with alcohol use, 34 with cocaine, 6% heroin and opiates, and 44.8% with marijuana.

Carolyn Ross: But the level of substance use particularly cocaine, strongly correlated with the levels of childhood physical, sexual, emotional abuse, and PTSD.

Carolyn Ross: So substance use disorders are highly comorbid with post-traumatic stress disorders and other mood disorders.

Carolyn Ross: And this study shows that this you know relationship between childhood trauma substance, use disorders and PTSD.

Carolyn Ross: Okay. So I just want to talk to you about one case. We'll just go right into it then. This is Billy, who is the second of 5 children in a middle class Black family and he was very close to his father.

Carolyn Ross: He was bright, funny, loved to play pranks on, on his siblings.

Carolyn Ross: However, there, there was some adversity in his childhood. First of all, his mother experienced postpartum depression, and then later experienced what, what would now be diagnosed, probably as a bipolar disorder.

Carolyn Ross: And then, when Billy went to college, his dad, who had been his rock in life, died suddenly and unexpectedly of a massive heart attack.

Carolyn Ross: This really hit Billy hard. And he started, you know, experimenting with drugs, and quickly found his drug of choice, heroin.

Carolyn Ross: So he continued to use heroin throughout most of his life, and and served over 10 years in the federal penitentiary with drug-related charges.

Carolyn Ross: and he, he was married. He had 3 biological children and 2 step children.

Carolyn Ross: He did not spend much time with them because of his addiction.

Carolyn Ross: However, when he was in his late-forties, early fifties, he had a almost died from kidney failure due to untreated high blood pressure and the effects of his opiate use disorder. He ended up getting a kidney transplant.

Carolyn Ross: And subsequently had 2 other transplants, and during that time he, he became very, very close to his grandchildren and that was his way of making amends to his children.

Carolyn Ross: He was their grandchildren's caretaker, very beloved. They all called him Pawpaw.

Carolyn Ross: Billy continued to do, and stay off of heroin. However, within maybe 8 to 10 years before he passed, he started drinking very heavily.

Carolyn Ross: And over time this had its own set of consequences. So this case just shows you that relationship between childhood adversity and you know the development of substance use disorders.

Carolyn Ross: and we could, even, you know, go into a little bit about how his kids fared. They all are very productive citizens, good people, etc. He stayed married until his death, and but his children also have some consequences. All of them have, you know, severe obesity.

Carolyn Ross: I think most of the grandchildren have had to undergo gastric bypass surgery, weight loss surgery, because of you know, morbid obesity.

Carolyn Ross: So just to mention a little bit about Billy, is that Billy was my brother. He and I were 13 months apart and he was a very wonderful, big-hearted person, but the substance use disorder really hijacked his potential in life.

Carolyn Ross: So talking about substance use disorders in trauma and adolescents, if an adolescent has experienced sexual assault, they are 4.5 times more likely to abuse alcohol, 4 times more likely to abuse cannabis, 9 times more likely to have “hard drug” abuse or dependence.

Carolyn Ross: And if you add to that that they have post-traumatic stress disorder, they're 4 times more likely than those without PTSD to abuse alcohol, or have the alcohol use disorder, 6 times more likely to have marijuana dependency, 9 times more likely to have other drug dependence.

Carolyn Ross: In a community sample of women, these were, were the instances of abuse. 60% had sexual abuse 55% with physical, 46% emotional, 83% emotional neglect and 59% physical neglect.

Carolyn Ross: So this is this slides, just synthesizing that relationship between post-traumatic stress disorder and substance use disorder and for those trump those treatment centers that are not screening for trauma, not screening for ACEs, not screening for post-traumatic stress disorder.

Carolyn Ross: It's very hard to get traction in a substance use discovery, disorder recovery without treating trauma and PTSD.

Carolyn Ross: You'd have poor outcomes, increased physical health problems, poorer social functioning, higher suicide attempts, more legal problems, increased risk of violence, worse treatment adherence, and less improvement during treatment.

Carolyn Ross: So up to half of individuals with alcohol use disorders and PTSD also have co-occurring mental health issues.

Carolyn Ross: I think most of us know this, or they have poly substance use disorders, and they also have chronic physical illnesses and chronic pain.

Carolyn Ross: Okay, let me just talk now and switch to talking about Mary, who as one of my patients who has binge-eating disorder; and she started being bullied in kindergarten for being bigger than everyone else.

Carolyn Ross: Her mother also is a binge eater, and when Mary was 8 her mom would send her to the store to get binge food for her mom.

Carolyn Ross: And she started then eating snacks in secret, and hiding the wrappers. She had a very abusive stepfather, who constantly called her fat and, and constantly focused on her, her body and her size.

Carolyn Ross: She continued to overeat and sneak food until high school, when she started working, and then she would binge on fast food.

Carolyn Ross: She had a best friend, who was also a binge eater, and they became binge buddies, and this continued until college, when she started going to an ED group and was able to stop binging.

Carolyn Ross: She was married, and in an abusive relationship with her husband and just, eventually they separated, and so on.

Carolyn Ross: She grew up in a rough neighborhood.

Carolyn Ross: and I think part of her trauma was that she was biracial, White and African-American; and the neighborhood was mostly Hispanic or White. So she experienced a lot of anti-black bullying.

Carolyn Ross: Her stepdad as I mentioned, was abusive. He was an alcoholic also had a substance use problem, and he was emotionally and physically abusive and cheated on the mom and so on.

Carolyn Ross: Her biological father was not in her life, and when he was in her life, he was also emotionally abusive, he was a Vietnam vet, and very disappointed about her weight call her the Pillsbury Doughboy

Carolyn Ross: mother had a breakdown during middle school and so on.

Carolyn Ross: So she eventually came into my online program, the Anchor Program, and we were able to work with her on first, you know, body acceptance, and then second work with her on healing from the trauma that she had experienced growing up.

Carolyn Ross: She's, she's doing really well. She's worked with me, for I think, 3 and a half years now. But she still struggles with accepting.

Carolyn Ross: If, if she does lose weight, for example, her doctor put her on a, a diet because she developed diabetes, and she lost weight.

Carolyn Ross: And then the fears come up, because, you know, she had been harmed when she was at a smaller size, so her weight actually served as a protection for her, and that that's the last piece that needs to change.

Carolyn Ross: So we know from the studies, even though the eating disorders were not part of the ACE study. We know from multiple studies that the vast majority of women and men with anorexia, bulimia, and binge-eating disorder, have a history of interpersonal trauma and;

Carolyn Ross: The, the you know the amounts may vary, but the degree of those who reported sexual trauma were more likely to exhibit psychopathology than controls, including higher weights both post-traumatic stress disorder and eating disorders.

Carolyn Ross: So they can be associated with all forms of trauma. It occurs in men, women with eating disorder, children, adults, everyone.

Carolyn Ross: Now some people use their weight as a protection, as I mentioned with Mary.

Carolyn Ross: And then others try to disappear as a way of being unattractive. So women and men with trauma and PTSD have much higher rates of eating disorders than the general population, and this relationship may be mediated by emotional dysregulation. Remember the limbic brain.

Carolyn Ross: So

Carolyn Ross: There's also a cross-addiction. As eating disorders become more severe. The number of substances used may increase. Or you can treat one, and then the other pops up.

Carolyn Ross: You know.

Carolyn Ross: In the old days we used to say that it was abuse of stimulants and amphetamines to lose weight. But now it's all of the drugs, and also alcohol.

Carolyn Ross: and that women with, with either a substance use disorder, or an eating disorder were 4 times more likely to develop the other disorder than the other women.

Carolyn Ross: Just to mention that attachment styles and sensitivity may, may affect sensitivity to media images.

Carolyn Ross: and insecure attachment is associated with the binging and restricting and negative body image and may predispose to increased risk of relapse.

Carolyn Ross: The same pretty much goes for substance use disorders.

Carolyn Ross: So I want to just wind up here with what is the purpose of therapy, and I think from my perspective, therapy must address the changes that have occurred in the brain.

Carolyn Ross: They must heal the brain  because we know that these changes in the brain affect a person's ability to function and to stay in recovery.

Carolyn Ross: So current, you know, therapies target the limbic or cortical systems.

Carolyn Ross: but changing the brain requires repetitions to modify these nerve cell connections in the brain.

Carolyn Ross: I think I've told you about Mary, so I'll go on. So just a, a note on cultural resilience. I think it's really important to recognize that, as I mentioned earlier, people who are survivors of trauma often have very high levels of resilience.

Carolyn Ross: And I love this schematic that was put together by Martin Broken Leg and his colleagues and he, he developed this circle of courage, resilience, model that he uses to train professionals worldwide, and it starts with significance, realizing that one matters to others, creates enormous strength inside of that person.

Carolyn Ross: and this describes the Native American spirit of Belonging

Carolyn Ross: Competence. A capable human being can learn, solve problems, and develop talents and and abilities. And this is the joy that comes from Mastery

Carolyn Ross: Power: This is not power wielded over others, but the ability to control one's emotions and set the course of one's destiny. And this is true independence.

Carolyn Ross: And finally, Virtue: Ultimately one cannot know that he or she is valued unless he or she is of value to others. And this is the spirit of Generosity.

Carolyn Ross: So, I think, when we look at treating people with eating disorders and addictions, or co-occurring EDs and SUD, we want to really understand their childhood maltreatment, or whether they have attachment issues, assess the developmental status of the brain, decide which therapies are important, and how to combine them.

Carolyn Ross: How can you address food in a way that impacts the lower brain and the higher brain? Because you have people with eating disorders. They know they're not supposed to eat these foods, or they know they don't want to binge and they can't convince themselves not to.

Carolyn Ross: So that's the higher brain fighting with the primitive brain and the emotional brain.

Carolyn Ross: and then teaching stress, management skills and building a foundation for recovery.

Carolyn Ross: So I'm happy to take questions now, if we have time.

Carolyn Ross: These are my books. If you're interested. I have a chapter in treating Black women with eating disorders, and then I'm the author of the other 2, as well as one of the first books on binge-eating disorder.

la-shell_johnson@med.unc.edu: Thank you so much, Dr. Ross. I'm going to begin to take some questions, but I wanted to mention a few things. For any persons that called in today via audio only, we ask that you send an email with your name and and time/date of attendance, so that we can ensure that you have credit.

la-shell_johnson@med.unc.edu: If you are asking for any type of continuing educational credit for the webinar. As a reminder, the slides will be sent out along with the evaluation at the end of the webinar. This recording will be available on the NCEED Training Center two weeks from today.

la-shell_johnson@med.unc.edu: I'll now start with our questions. Any unanswered questions will be sent to you via email one week from today with those responses.

la-shell_johnson@med.unc.edu: The first question reads: do the following conditions affect brain: premature birth, or any trauma at birth as a baby, such as heart surgery, baby stops breathing, difficult through a difficult delivery.

Carolyn Ross: Yeah, I I mean, I think all of those have the potential to affect brain development.

Carolyn Ross: But they are a single incident. And so, even if there is an effect. Remember, the baby's brain is very plastic, has plasticity, so it they go from that traumatic incident to a loving, nurturing, safe and secure home.

Carolyn Ross: Those changes can likely be reversed unless there's severe like, you know, oxygen deprivation, or something like that.

la-shell_johnson@med.unc.edu: Thank you so much, Dr. Ross.

la-shell_johnson@med.unc.edu: The next question reads: I work in addiction medicine at a large University Medical Center. Trauma/PTSD is barely assessed in our patients and never discussed in case discussion and rarely diagnosed. I find these patients cycle through rehab and substance use disorder programs over and over again for years, sometimes decades without the PTSD ever being treated. How can I get my colleagues to access for PTSD more thoroughly, and give it more clinical attention and treatment?

Carolyn Ross: Well, I have done a lot of Grand Rounds at University Centers for that very reason, and I think education is the most important thing.

Carolyn Ross: So you know, and, and you can also start to screen yourself or include that in histories yourself, and bring it up in your discussions of patients to help people start to become more aware.

Carolyn Ross: But I think, having you know, having an expert, come and speak to your group, or having, if you have an expert within your university. That's a start.

Carolyn Ross: It's at this point. You know the ACE study has been around for over 20 years and it's really, you know, almost malpractice not to take into account the effects of trauma, and you heard Dr. Gabor Mate say that all addiction has its roots in trauma.

Carolyn Ross: So not to address that is, it's really, you know it's a shame at this point that if that doesn't happen.

Carolyn Ross: I'm happy to come to your University, or virtually, and speak to your group if you're interested, let me know.

la-shell_johnson@med.unc.edu: Thank you so much, Dr. Ross. The next question reads: Has there been any evidence of trauma in children born from reproductive treatment through IVF?

Carolyn Ross: I don't know of any evidence I haven't studied that. So I'm sorry I can't answer that question really, intelligently.

la-shell_johnson@med.unc.edu: Thank you so much, Dr. Ross.

la-shell_johnson@med.unc.edu: The next question reads: is it possible to view the video separately and provide the name of the video presenter the video that you showed during the presentation.

Carolyn Ross: Yeah. Then I I just mentioned his name Dr. Gabor Mate. You can view it on YouTube. So all you have to do is just Google Gabor Mate and addiction on YouTube, and I think the title of the video was The Roots of Addiction.

Carolyn Ross: So if you put in his name, and then the roots of addiction, it should take you directly to that.

la-shell_johnson@med.unc.edu: Thank you.

la-shell_johnson@med.unc.edu: The next question reads: Using Billy's case as an example does the external factors influence more in a person's functioning levels than the internal factors or attributes or abilities that a person has in life?

Carolyn Ross: Hmm. That's a great question that's in, you know, nature versus nurture question. In my brother's case, I mean, I think he definitely had a lot of internal factors. And remember, you know, as being an African American family, there's the historical trauma.

Carolyn Ross: And I know that my grandfather, who was extremely high functioning, was also a high functioning alcoholic. And then, in in my mother's generation she had 2 brothers with alcohol use disorder.

Carolyn Ross: So you know you have to look at the multi-generational aspect of trauma, as well as the individual person's personality. And you know, etc. As I said to you, my brother had a very big heart, but that also meant he was super sensitive.

Carolyn Ross: You know he, he didn't, he wasn't always able to screen out the things that affected him.

Carolyn Ross: And so often that led to him you know, numbing himself with, with drugs and alcohol.

la-shell_johnson@med.unc.edu: Thank you. Thank you once again, Dr. Ross. The next question reads: Regarding the MRI of the brain, does the brain behave compulsively, expecting being rewarded since conception?

Carolyn Ross: I'm sorry I didn't get that one.

la-shell_johnson@med.unc.edu: So it says regarding the MRI of the brain. Does the brain behave compulsively, expecting being rewarded since conception?

Carolyn Ross: Oh, I wouldn't call it compulsive, I think it's more of a natural a system that we have that.

Carolyn Ross: For example, if you eat an ice cream cone and you, your brain gets a hit of dopamine, then you walk down the street 5 weeks later, and you see a picture of an ice cream cone. Your brain will also get a hit of dopamine, even if you haven't tasted it. I don't think that's compulsive.

Carolyn Ross: I think it's a natural instinct, kind of more of a survival instinct that we get drawn more to things that create pleasure and reward for us like sex, for example, and food. That's a survival part of our, of our system, our brain.

Carolyn Ross: So I don't think its compulsive, and you know I I think it's that can become compulsive if it's overused.

Carolyn Ross: and so we know that people who have binge-eating disorder or bulimia, that they may have, you know, higher spikes in dopamine, or maybe more sensitive to those spikes, and that can then cause problems for them with cravings and inability to stop their binging behaviors.

Carolyn Ross: and the same thing goes for drugs and alcohol, we know that.

la-shell_johnson@med.unc.edu: Wonderful, thank you so much for that response as well. The next question reads: is there any research in the effectiveness of EMDR in treating eating disorders specifically related to past trauma? And what treatment approaches do you recommend.

Carolyn Ross: Yeah, the I mean EMDR is now, and has been for some time with very well accepted trauma treatment.

Carolyn Ross: When I worked in an inpatient facility at Sierra Tucson and, and at The Ranch in Tennessee, EMDR was a hallmark of treatment for our eating disorder patients with past trauma.

Carolyn Ross: Most of them with, you know, women with sexual abuse trauma, or physical, emotional abuse, etc., all the things we've talked about.

Carolyn Ross: So EMDR is very, very effective, and there are many studies to show that and the same in using it for treating trauma and substance use disorder patients. The other trauma therapy that I've personally experienced, somatic experiencing, also very effective; brain spotting.

Carolyn Ross: I'm going to forget some I'm sure.  Bessel van der Kolk has developed a trauma-informed yoga system that a number of yoga teachers have trained on,

Carolyn Ross: and he is high on that one, because we know from stroke patients that repetitive movement helps to heal the brain, whether it be yoga or any kind of repetitive movement, exercise, running, biking, etc.

Carolyn Ross: But in the case of yoga, yoga he makes a good case; that it, because it is a mind, body, spirit practice you know it helps even more.

Carolyn Ross: And so, yoga, and for I mean trauma informed yoga is another trial therapy. Actually, so. There's quite a few somatic experiencing, and EMDR are probably the oldest, though.

la-shell_johnson@med.unc.edu: Thank you once again, Dr. Ross; and I'll read this last question in the essence of time: I missed your discussion, does the research indicate that people with more trauma abuse Hx (history) have more resilience, meaning strength for future trauma/abuse or less?

Carolyn Ross: Hmm, I'm not sure I get that one. So is, is the question asking if you have more trauma, do you tend to have more resilience?

la-shell_johnson@med.unc.edu: Yeah, does the research indicate that people with more trauma/abuse have more resilience, meaning strength for future trauma or abuse or less.

Carolyn Ross: No, I I mean there is a there is a personal component, you know. For example, there are some people in families who just are born with more resilience. On a side note, resilience can be taught, and resilience can be learned.

Carolyn Ross: But, yes, for many people, trauma translates into higher levels of resilience, you know, if you're a survivor, you have to have resilience because you've survived.

Carolyn Ross: I, I think you know I can just look in my own family, and I can certainly say that as the oldest of 5, I probably am the most resilient in my resilient in my family.

Carolyn Ross: but all of us who've experienced, you know the death of my dad and my mom's mental illness, have more resilience than a lot of people we know. So yeah, I think trauma is, it's kind of you know, diamonds made by pressure kind of thing.

Carolyn Ross: So yeah, we we've seen that over and over. That resilience can result from abuse and trauma.

la-shell_johnson@med.unc.edu: Thank you so much, Dr. Ross. I want to thank you all once again for coming today and for enjoying our talk, and presented these wonderful questions. Dr. Ross, did you have any last final thoughts that you wanted to share or comments.

Carolyn Ross: No, I just encourage, I think, on the first slide you have my contact information, and if you have any of the questions that come up, feel free to email me or send those to La-Shell, and she can email them to me.

Carolyn Ross: I really appreciate you showing up for this, and you know, listening and hopefully, it's been helpful to, to illuminate some of your work and help you clinically with your clients.

la-shell_johnson@med.unc.edu: Thank you all once again, and as a reminder, slides will be sent along with the evaluation following the Webinar. Once we conclude, and any unanswered questions will be sent out via email to all attendees with responses one week from today. Thank you once again for your time.