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Transcript "The Neurobiology of Sexual Assault"

An NIJ Research for the Real World Seminar
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John Laub: Good morning. I'd like to welcome everyone to today's installment of Research for the Real World. This is NIJ's translational criminology seminar series. As some of you may know, this seminar was originally scheduled for October 29th, and we're just delighted that we were able to reschedule this. It is a non-trivial amount of work to put these things on, both on our side — and I want to thank Yolanda Curtis and also our speaker, Dr. Campbell, for her willingness to come and join us before the end of the year. My name is John Laub, and I'm the Director of the National Institute of Justice. I want to thank you all for being here. As you know, today's presentation is entitled "The Neurobiology of Sexual Assault." There is a long subtitle which I want to convey to you — "Implications for First Responders in Law Enforcement, Prosecution and Victim Advocacy." And this will feature Dr. Rebecca Campbell of Michigan State University.

In her presentation, Dr. Campbell will discuss the research on the neurobiology of trauma and the criminal justice system response to sexual assault. She will explain the underlying neurobiology of traumatic events, its emotional and physical manifestation, and how these processes can impact the investigation and prosecution of sexual assault. In keeping with the spirit of translational criminology, which in short seeks to bridge the gap between research, policy and practice, Dr. Campbell will examine the real-world practical implications for first responders in law enforcement, nurses, prosecutors and victim advocates.

It is now my distinct pleasure to introduce Dr. Rebecca Campbell. I feel that she is a part of NIJ because I feel I hear her name practically every day at NIJ in some context. So I'm just delighted that she's here. Dr. Campbell is Professor of Psychology and Program Evaluation at Michigan State University. For the past 20 years she's conducted research on victimology and evaluation with the emphasis on violence against women and children. Her work examines how rape crisis centers in the legal and medical and mental health systems respond to the needs of adult, adolescent and pediatric victims of sexual assault.

Her current work, which is funded by the National Institute of Justice, focuses on sexual assault nurse examiner programs in the criminal justice system. She's published over 75 scientific papers and two books on these topics and has conducted over 150 presentations at state, national and international conferences. Over her career she has received over 7.5 million dollars of research funding from the National Institute of Mental Health, Centers for Disease Control and Prevention and most recently the National Institute of Justice. She has received numerous research and teaching awards, including the 2008 early career award from the American Psychological Association for distinguished contributions to psychology in the public interest. Dr. Campbell holds a PhD in community psychology from Michigan State University, and I ask that you join me in welcoming Dr. Rebecca Campbell.

[Applause]

Rebecca Campbell: Thank you very much, Director Laub, for that introduction. I appreciate it. Good morning everyone. Thank you so much for coming to today's Research for the Real World seminar on the neurobiology of sexual assault. I'd like to begin by giving you an overview of what I'm going to be doing in my presentation today. I want to discuss how research can inform a very longstanding problem in the criminal justice system —sexual assault case attrition. We know, of course, that not all victims report the assault to the criminal justice system, but of those that do — of the reports that are made to the police — only a small number of them are actually going to be prosecuted.

So what I want to do today is bring together research from multiple disciplines to try to understand how and why this is happening. I'm going to begin by talking about what we know from criminal justice research on the problem of sexual assault case attrition. Then I want to bring in what we know from psychology and psychiatry about victim behavior and the neurobiology of trauma. If we bring these two worlds together, do we get empirically based recommendations for how we can change practice?

So to that end let's start off by talking about what we know from criminal justice research on the problem of sexual assault case attrition. I want to start with three simple quotes — three short quotes from qualitative research I've done. One quote is from law enforcement, one is from a rape victim advocate, and one is from a survivor.

So let's start off with a quote from law enforcement. This is a very seasoned detective, 15 years in a sex crimes unit. When I asked him sort of what happens when victims come in to report an assault to the criminal justice system, this is what he said. He said: "The stuff they say makes no sense" — referring to victims — "So no I don't always believe them and yeah I let them know that. And then they say 'Nevermind. I don't want to do this.' Okay, then. Complainant refused to prosecute; case closed."

So now let's loop in the rape victim advocate perspective: "It's hard trying to stop what police do to victims. They don't believe them and they treat them so bad that the victims give up. It happens over and over again."

So now let's loop in the victim's perspective. In reference to her interactions with her law enforcement officer, she said the following. She said: "He didn't believe me and he treated me badly. It didn't surprise me when he said there wasn't enough to go on to do anything. It didn't surprise me, but it still hurt."

So what do we get from these three simple quotes? What these three quotes show us right off the bat is that sexual assault case attrition happens very early on in the criminal justice system. It's happening in the first interactions between the victims and law enforcement. Indeed, if we take these qualitative data and look at them from a quantitative perspective, we see very similar findings.

So this is a quantitative study that my colleagues and I just finished. This was an NIJ-funded research project looking at the issue of sexual assault case attrition in six different communities: two rural communities, two mid-size communities, two large urban communities. All six of these communities had sexual assault nurse examiner programs, so there was a place in each of these six communities where victims could get a good quality medical forensic exam. So what we did with these six communities is start with the same program the patients that came in for a medical exam. We wanted to see what happens afterwards. So did they make a police report? And if they made the police report, now let's track and see how far it goes through the criminal justice system.

So then what you see going along the side there are the different outcomes that we coded. So when a case came in, had the exam, and made a police report, what was the final outcome? Was the final outcome that it was not referred by police onto the prosecutors or if it made it to the prosecutors it wasn't charged? Was the final outcome that it was charged by the prosecutors but was then dropped, for whatever reason? Was the final outcome that it was plea bargained? Was the final outcome that it went to trial but acquitted? Or was the final outcome that it went to trial and it was convicted?

So we looked at over 12 years of data across these six different jurisdictions, and here's what we found.

This is the row that you want to pay attention to. This is the very first step in the criminal justice system. On average, 86 percent of the reported sexual assaults never went any further than the police. The vast majority of these cases were never referred by the police on to the prosecutors.

So let's dig a little deeper now and try to understand what is happening in this interaction between the victim and law enforcement —that very first interaction. Well, unfortunately, the research tells us that what's happening in that first interaction between the victim and law enforcement is what we call "secondary victimization." Now secondary victimization refers to the attitudes, beliefs and behaviors of social system personnel that victims experience as victim blaming and insensitive. It exacerbates their trauma, and it makes them feel like what they're experiencing is a second rape — hence the term "secondary victimization."

Now, over the course of my career I've had the opportunity to interview victims about secondary victimization. What behaviors, what happened in your interactions with law enforcement or doctors or nurses that led you to feel upset and re-traumatized. I've also had the opportunity to interview law enforcement and doctors and nurses about secondary victimization behaviors. And I asked them, "Did you do these things?" And I was actually kind of expecting the sort of not quite crossing — oh no, everybody agrees. Everybody agrees that this is happening. You ask the victim, they say "Oh yeah, I encountered this." You ask law enforcement, he says, "Oh yeah, I did that."

So what are they doing? Well, what I represent in this graph are some of the most common secondary victimization behaviors. Again, these are composites. This is regional data from large metropolitan surveys. This is not national work, so keep it in that context. But when a victim goes forward to law enforcement to report the assault, on average, victims and law enforcement agree that 69 percent of the time, law enforcement tells them, "Don't do this." They discourage the victim from making the report in the first place. On average, 51 percent of the time, law enforcement tell victims what happened to them is not serious enough to pursue through the criminal justice system. Seventy percent of the time, law enforcement ask victims about their dress or their behavior or what they might have done to provoke the assault. On average, 90 percent of victims encounter at least one secondary victimization behavior in their interactions with law enforcement during that first reporting process.

Now the psychological impact of that on victims is quite devastating. As a result of their contact with the legal system, most victims say they leave that interaction feeling blamed, depressed, anxious, and 80 percent say that they feel reluctant to seek further help after that interaction.

So now let's take these quantitative data and bring it back to that very first quote that I showed you from the law enforcement. Remember, he said, "So no I don't always believe them and yeah I let them know that"— secondary victimization.

"Then they say, 'Nevermind. I don't want to do this.'"— the psychological impact, the reluctance to seek further help. "Okay, fine.

Complainant refused to prosecute. Case closed." — And there we have attrition.

So bringing together this quantitative and qualitative data, it gives us some insight into how case attrition might be happening. But why is it happening? Why does this process unfold? Let's go back to the very first part of this quote. I love this quote — very useful quote as a researcher. The very first thing that came out of this detective's mouth was "The stuff they say makes no sense. What victims say when they come to me, it doesn't make sense to me. It's puzzling. I don't understand it. It makes no sense." And when I went back into my interviews with law enforcement over the course of my career, I see this theme over and over again.

So here is a sampling of quotes from a variety of different projects that I've done with law enforcement: "The stuff they say makes no sense."

"I see them hedge, making it up as they go along."

"They lie all the time. I can tell."

"No way it's true. No one would act like that if it's true."

"They can't get their story straight." So this is law enforcement's perspective of how victims are behaving in that first interaction and the attributions that they're making about it.

So I'm sort of wondering here — Research for the Real World — how we might be able to bring multidisciplinary research together to answer this question.

Because what we know from criminal justice research is that we have a problem with case attrition. Most cases don't move very far through the system. It's happening very early on. And now we have some insight into how it's happening, and we have some important clues about why it's happening— that there's something about victims' behavior that the members of the legal community may not be understanding.

Now, in a completely different academic silo, we now have psychology and psychiatry.

What do they do? Well, they study the neurobiology of trauma and victim behavior, and how trauma affects memory, cognition, and emotion.

So my idea here is what happens if we bring these two literatures together?

What would it tell us about understanding victim behavior? How might we use this research to educate practitioners, and how might that be useful for changing practice in the field of sexual assault?

So to that end, let's jump in now to the neurobiology of sexual assault.

This is a non-technical introduction to the neurobiology of sexual assault. It's not my job here. I am not a neuroscientist. I'm a community psychologist and a program evaluator. I'm a translational psychologist. It means that my job is to understand other literatures and try to understand their implications for other fields. Okay, so I'm not a brain girl but I have learned a lot about the brain of late. Now, there are many different regions of the brain that are impacted by trauma. We're not going to cover all of them today. We're going to cover four of them. The first two are neural mechanisms that have to do with hormones and emotions that might be happening during the assault.

The second two are neural mechanisms that have to do with encoding, processing, and the memory of the assault. So let's start off with the components that have to do with the hormones and the emotions of sexual assault.

Two structures I want to talk about first are the hypothalamus and the pituitary gland. The hypothalamus is often described as sort of the Grand Central Station or the switching station of the brain. Its primary purpose of this structure is to communicate to other structures in the brain and the body about what needs to happen. One of the structures that the hypothalamus is in contact with during traumatic events is the pituitary gland. Now, many of you may remember the pituitary gland from high school biology as being responsible for secondary sex characteristics and the onset of puberty. That's not the purpose of the pituitary gland today.

Today we're tapping into the pituitary gland's function as the master gland — the gland that communicates to other glands throughout the body. And the gland that the pituitary is going to be in communication with during a traumatic event are the adrenals. Now, your adrenals are — in your body they sit down on top of your kidneys. And it forms what's called the HPA axis. The hypothalamus signals to the pituitary gland signals down to the adrenals. And the signal is: "There is a traumatic thing happening to the body. There needs to be a hormonal release to help the body respond to the traumatic events that are happening."

Specifically, there are four main chemicals that would be secreted by the adrenals during a traumatic event. The first one are the catecholamines. Adrenaline. These are the hormones that would be coursing through the body to help with the "fight" response, in the event that the body was going to be fighting back against the traumatic event that's happening to it. The catecholamines might also be useful if the response was to "flee" the situation — try to run away to try to get away from the threatening situation. So catecholamines are helpful for the fight-or-flight response.

In conjunction with that we have cortisol. Cortisol levels are going to affect the amount of energy that the body has to fight back or to try to flee the situation. Now because traumatic events often involve physical pain in addition to emotional pain, two other hormones might be released by the adrenals, one of which are the opiates — natural morphine in the body. So there is going to be a release of those to try to compensate for the physical and emotional pain that's going through the victim's body. And in conjunction with that would be oxytocin. So we have the blunting of the pain from the opiates. The oxytocin is trying to increase positive feelings. So we're going to try to even that out to make sure that the physical pain is being effectively managed by the body during a traumatic event. So there is a very brief overview of hormonally what is happening to victims at the time of a traumatic event.

Now let's do a brief introduction to the structures that are important for memory and trying to take in a traumatic event and lay it down in the brain structures. The two I want to talk about here are the amygdala and the hippocampus.

Now, the hippocampus is the structure in the brain that processes information into memories.

So it takes all of the different sensory information that's going on in your world right now and it has to organize it.

This is a process called encoding. You can think about it as little tiny pixels of information. So as you're sitting here today your hippocampus is working very hard, and it is tagging the auditory cues — my voice— it is tagging the visual cues — the PowerPoint, the lights— it's tagging the sensory cues of you sitting in the comfortable chairs that have been provided to you by our government. And it's taking all of this information in together, okay?

And then it has to consolidate that information. It has to organize it. It has to pull out the visual, the auditory, the sensory —everything that goes together in Becky's talk about the neurobiology of trauma. It has to link all of this. You see that sort of color coding represented here. Everything that belongs together gets grouped together, and then it will be stored somewhere throughout the brain.

If the information coming into the brain, into the body, is emotionally charged, fearful, the amygdala is actually the structure that's going to pick that up first. It's a very old structure, old in an evolutionary sense. Part of the limbic system [audio skips] sort of vibrating — and they're much more difficult for the brain to process because they're laden with fear, they're laden with terror. So the amygdala and the hippocampus have to kind of work together for the encoding of that information and then the consolidating of that information.

Now here's the problem. The hippocampus and the amygdala are very sensitive to hormonal fluctuations. So depending upon what hormones are in the body at the time of encoding and consolidation, it's going to be easier or harder for the brain to do the work that it needs to do of encoding and consolidating information.

So the six million dollar question then, of course, is well which hormones are the ones that are damaging to the amygdala and the hippocampus? Yes, to finish the layup, it is the catecholamines, the cortisol, the opiates, and the oxytocin. This is a classic example of where our body can sometimes be working at cross-purposes. On the one hand, we covered how all of these hormones are very, very helpful for the emotional aspects and the physical safety of the organism.

On the other hand, these same hormones are going to make it very difficult for the brain to lay down the encoding and consolidation that needs to happen to record the traumatic event in the brain.

So, how is this going to play out for sexual assault victims? Well, this is how.

The information that's coming into the victim's brain and body during a sexual assault is traumatic. It is threatening. It is horrifying. It is one of the most psychologically damaging forms of crime that anybody could experience. The amygdala is going to recognize this as a threat to the sustainability of the organism, okay, much like an attempted murder is. The amygdala processes it at that level of severity. It is going to signal to the hypothalamus, "We have a threat to the sustainability of the organism coming in." The hypothalamus is now going to signal to the pituitary and the HPA axis is going to kick in,and there is going to be a hormonal flood in the victim's body.

The catecholamines are often going to be at very, very high levels during the assault. We talked about how these hormones are very helpful for the fight-or-flight response. On the other hand, we've also hinted at a little bit that those hormones may not be the best things in terms of memory. The other thing that these hormones are not the greatest at is that they impair the circuits in our brain that control rational thought. So the parts of our prefrontal cortex that allow us to do "IF this THEN that" — that's rational thought in simple terms — those circuits literally do not work at their optimal levels when catecholamine levels are high. So a victim under sort of normal levels of catecholamine — meaning not being victimized— might be able to look at a situation and say, "Oh, well of course the rational, logical thing for me to do is this."

The victim literally can't think like that during the assault. The catecholamines have caused structural cellular damage to those circuits. It's not permanent; it's temporary. But at the same time, they can't do that "IF this THEN that" thought. So when they're in the middle of the assault, strategies like "Oh, you coulda, you shoulda, you would have done this" — they can't even think of the options, let alone execute them. So again, kind of a tragic situation where our body is working at cross-purposes. On the one hand, it can help here, and on the other hand it's not going to help the rational thought mechanisms.

Opiates released in very, very high levels during sexual assault, again blocking the physical pain, the emotional pain. But morphine— if any of you have had major surgery — morphine's not sensitive to subtleties. It's out. It blocks the pain. So the affect that a victim might be communicating during the assault and afterward may be very flat, incredibly monotone — like seeing no emotional reaction, which again sometimes can seem counterintuitive to both the victim and other people. It's like "This was a horrible traumatic event. Why aren't you showing these kinds of emotions?" Opiate morphine is not letting it come through. It has been blunted.

And then finally, for some victims, it's the corticosteroids that have dumped out at very high levels and actually reduces the energy available to the body. Now, I've been talking so far about fight-or-flight. It's actually fight, flight, or freeze — that for some victims, they don't fight back. They don't flee the situation. Their body freezes on them because of this hormonal activation by the HPA axis. And it can trigger essentially an entire shutdown in the body. And the technical name for this is tonic immobility.

Tonic immobility is often referred to as "rape-induced paralysis."

It is an autonomic response, meaning that it's uncontrollable. This is not something a victim decides to do. It is a mammalian response. It is evolutionarily wired into us to protect the survival of the organism. Because sometimes the safest thing to do to protect the safety is to fight back. Sometimes the safest thing to do is to flee. Sometimes the stupidest thing to do is to flee because it will incite chase. Therefore, our bodies have been wired for a freeze response too — to play dead, to look dead, because that may be the safest thing for the survival of the organism. So it is a mammalian response that is in all of us — we can't control it. And it happens in extremely fearful situations.

Behaviorally, it is marked by increased breathing, eye closure, but the most marked characteristic of tonic immobility is muscular paralysis. A victim in a state of tonic immobility cannot move. She cannot move her hands. She cannot move her arms. She cannot move her legs. She cannot move her torso. She cannot move her head. She is paralyzed in that state of incredible fear.

Research suggests that between 12 and 50 percent of rape victims experience tonic immobility during a sexual assault, and most data suggests that the rate is actually closer to the 50 percent than the 12 percent.

There's also some emerging data that suggests that tonic immobility is slightly more common if a victim has a prior history of sexual assault. So if he or she had been sexually assaulted as a child and then was subsequently assaulted in adolescence or adulthood, the likelihood of experiencing tonic immobility at those later assaults tends to increase.

So what I want to do now is share with you a case example from my research on tonic immobility — again, sort of what the victim's perspective on it is, what law enforcement's perspective is on this.

This is a case example that I did through research at my university. This was a college student house party — a very common situation for a lot of campus-based sexual assaults. So you see the plastic chairs there, the beer cups, the Miller Lite beer boxes hanging out there.

So this was a 20-year-old woman who went to this party with her friends.

She met a guy there, flirting, liked him. He says, "Do you want to go back to one of the bedrooms?" She agrees. They're messing around, sexual activity — not intercourse.

She doesn't want to have sexual intercourse. She gets afraid. She's like "No, no, no. I don't want to do this. I don't know you. I don't want to do this."

He doesn't listen. He physically pins her upper body down with his elbow to hands, not a particularly complicated hold. That hold terrifies her enough that when the HPA axis kicks in she freezes and she goes into a state of tonic immobility during the assault. And she is completely frozen throughout the assault.

He finishes sexually assaulting her. He gets up, sees her laying there, he goes out and tells his friends at the party, "Hey, I just had sex with so-and-so and she's still there."

So the men lined up on the porch to take turns going in and sexually assaulting her. And she was multiply raped throughout the course of that evening by men, still lying there in a state of tonic immobility.

Now one of the friends that she was with at the party heard this. She heard the men talking about this lining up to go in and sexually assault her. So she barges in, she gets her friend out, describe — I had the opportunity to talk to the friend — she's like, "I felt like I was lifting a dead body. I was like shaking her, trying to get her to kind of snap out of it. I had to sort of physically drag her out of there." And then the tonic immobility state was released.

Took her to the hospital. The nurses there did a medical exam and a forensic evidence collection kit, and she filed a police report.

The police refused to pick up the kit. Because she had been sexually assaulted by multiple men at that party, they referred to it as a sloppy mess — that it would be too difficult to take apart the exam, to take apart the kit to figure out whose DNA was there.

And then they closed the case. I had the opportunity to ask the police officer why he chose to close this case, and here's what he said. He said, "Well she just laid there, so she must have wanted it. No one wants to have a train pulled on them, so if she just laid there and took it she must have wanted it."

Now we could have an entire discussion about this one quote. There's things about it that are very disturbing, and there's things about it that are very curious. You can hear the questioning in his voice. "She just laid there, so she must have wanted it." He's trying to make sense of this. He doesn't understand why somebody would lay there. So the attribution is "Well, she must have wanted it" because he doesn't know of any other explanation.

There is another explanation. He didn't know about it. The explanation is tonic immobility. This is a documented neurobiological condition. This law enforcement had no idea what this was. I brought it up to him in the course of the interview. He literally cuts me off and he says "It's too late now; the case is closed." And I said, "It's too late for this case, but here — let me give you a mini presentation on the neurobiology of trauma" and so on and so forth. And he's like, "I didn't know. I did not know that this could happen." We're going to return to that point in a few minutes.

Alright, so again we talked about the hormonal releases. Let's now pick up on the memory pieces of the neurobiology of trauma and try to understand what's happening for the victim in terms of the memory and cognition pieces.

Again, we talked about how those stress hormones released at such high levels are going to impair the hippocampus. It's going to be difficult for the brain to encode and consolidate this information. So the memories are going to be fragmented when they're stored in the victim's brain. And that means that the recall of this is going to be very slow and difficult.

Now the way I try to explain this in presentations is I notice many of you are taking notes of this presentation, and many of you I see have full-size notes or sort of decent-sized legal pads. What if I told you that you had to take your notes on today's presentations on little teeny post-it notes like this size or maybe this size? You might get this size, or maybe you'll be fortunate and you'll actually get up to this size. And I want you to write down everything that you know and have learned in this presentation on post-it notes of different sizes. And they're all small. They're all little tiny pieces. I want you to write down what you know. And on something like this you might get a couple of words. On something like this you might get a small sketch, but it's going to be in lots of teeny tiny pieces. And let's just also pretend these are different colors — some are pink, some are yellow, and some are blue.

Now, I want you to take all of the post-it notes where you've so carefully tried to write down what you've learned in this talk. I want you to put them all in your hands, and I want you to imagine the messiest desk ever. Maybe it is your desk. Maybe it's your colleague's desk. I want you to take that pile of precious post-it notes, and I want you to scatter them all over that desk. I want you to put them up high. I want you to put them up low. I want you to put them in folders that have nothing to do with this talk. I want you to crinkle some of them up and shove them under things. I want you to take one and wad it up and put it in the pencil case. And then I want you to walk away for 24 hours, and then I want you to go back in and I want you to stand before that world's messiest desk and I want you to find all of those post-it notes. And I want you to put them in the correct order, and then I want you to tell me right back what you learned in my presentation.

That's why memory can be slow and difficult — because the encoding and the consolidation went down in a fragmented way. It went down on little tiny post-it notes and they were put in all different places in the mind. And you have to sort through all of it, and it's not well-organized, because remember I told you to put some of them in folders that had nothing to do with this. I told you to put one in the pencil jar. It's not where it's supposed to be. It takes a while to find all the pieces and put them together. So that's why victims, when they're trying to talk about this assault, it comes out slow and difficult.

But the question everybody wants to know about is the accuracy of that information, okay. And what we know from the research is that the laying down of that memory is accurate and the recall of it is accurate. So what gets written on the post-it notes — accurate. The storage of it is disorganized and fragmented.

However, there is an exception — alcohol. If the victim was under the influence of alcohol at the time of the assault, the encoding process might not have happened at all or in any degree of accuracy. I think in a group of this size all 21 and over, we can appreciate that alcohol impairs

encoding across the board — not just for traumatic events, for a lot of events. So if you have a traumatic event that occurred under the context of alcohol, the information might not have been encoded, and it may not be consolidated, and it may not be transferred into long-term memory. So for victims who are assaulted under the influence of alcohol, they may not have anything to retrieve. So to speak, their post-it notes are just blank. They may not have it, okay? But for those who are able to remember it, either in pieces and parts, it does go in accurately, it does come out accurately, but it comes out slow, steady, fragmented and disorganized.

So again, let's take another case example from research about this issue of memory fragmentation. This was an interview I did with a 25-year-old woman. She was raped by a friend's brother at a Fourth of July party. She filed a police report. The initial report with the patrol officer went fine, but it was the detective interview where things went very, very badly. I'm going to share with you her quote about what it was like for her working with that detective. This is a quote about the detective. "He wouldn't let up, pounding me with question after question after question. Trying to trick me. Trying to get me to mess up. I wanted to say, 'Hold on, give me a minute to think.' No, he kept coming at me."

When I sent this interview out for transcription, the transcriptionist flagged it. She said, "You need to double-check this, because I actually wasn't clear if she was talking about the police officer or the rapist." She was talking about the detective — that it was like this secondary victimization. Because when she started hesitating, he's like, "aha." [snaps fingers] — and he went after her and after her and after her and after her looking at that inconsistency.

She goes on to recount the story as follows. She said, "Then it was classic good cop, bad cop. He, this one detective, stormed off, and another detective sat down next to me. He offered me a cup of coffee. Coffee? Okay, fine. How do I take it? What? Why does he care how I take my coffee? Well, he did. So he made me coffee, and he gave me time just to sit and collect my thoughts.

"And we talked it through, and I didn't feel rattled or freaked out. I'm sure I was incoherent, and he just let it roll. He was patient. I felt like I was piecing it together. Like a puzzle. Like we were putting together a puzzle together and drinking coffee." What was the magic solution here? A cup of coffee, and a little time, and a little space.

So I had the opportunity to interview the detective about this, and I said, "So why'd you do that? Why'd you give her the coffee?" He said, "It helps. Not the coffee so much, just the moment to let it all come together in their heads." "What do you mean?" "I don't know why it's like that— I just noticed that over the years. If you give them a few minutes to breathe, it starts to make more sense. I don't know why. It just does."

So he did 15 years of experience. Fifteen years of research comes to the same conclusion: memory consolidation — it is a slow, fragmented process. It's a documented neurobiological phenomenon. When he slowed down, slowed the pacing of the questions, gave her a chance to sort of find the post-it notes, put them together, the story started being much more coherent.

So then I pushed a little farther in the interview and asked the question that I know many folks from law enforcement want to know about. "Well, were you worried that if you gave her some time, she'd just make something up?" Here's his response: "Nah, not really. I mean, some victims lie, but most don't. Besides, if they're lying, we'll catch them at it eventually. I think it's just hard for victims to talk about and we just need to have a little patience."

So, seasoned detective, has the experience and the confidence to know, "Yeah, some victims do lie. Most don't. I'm a good enough detective — I can catch her later. If this is truly a BS case, I will figure it out. But not right now." Memory fragmentation, documented neurobiological condition. A little space, a little room to breathe, and the story started to make sense. And he didn't approach it with the assumption that this is wrong, that this is incorrect, that she's lying and she's making it up.

So let's take this information and think about what it can do for practice. What are the implications of this information for practice? What does it mean for law enforcement, for nurses, for doctors, advocates, everybody who works with victims in the immediate aftermath of sexual assault?

What this information on the neurobiology of trauma does is it has the opportunity here to break the cycle of case attrition. Because case attrition, as we talked about before, sort of starts with this "Victims don't make sense. What they say to me doesn't make sense."

But from that it goes in a very, very dangerous place. Victims aren't believed.

They're then secondarily victimized.

Their engagement decreases.

Either they withdraw from the criminal justice system or the criminal justice system withdraws from them, and around and around it goes until on average we're going to see 86 percent of the sexual assaults coming out of the criminal justice system in that very first contact.

So what the information on the neurobiology of trauma does is it challenges that first part in the cycle. What victims say doesn't make sense. It provides first responders scientific information data that helps them understand and contextualize that behavior in a totally different way —that it's not lying, or chances are it's not lying. It's something else. It's something that they, in all fairness to them, were never trained on in their careers as law enforcement or their careers as prosecutors. And frankly, many nurses and doctors don't know about this. Advocates have been saying forever and ever, "Well, victims have different responses, different emotional responses." They do, and here's the science behind that.

So what would be the take-home lessons? What are the key things that first responders could use with this information — research for the real world?

Well, the first thing that it does is it helps practitioners understand that these neurobiological changes can lead to very flat affect, that sort of bluntness or what appears to them to be strange emotions, or huge emotional swings that over the course of the interview you can see them high, you can see them low, you can see them somewhere in between. And you can see that all unfold in a span of about 90 seconds or less. And then the cycle will repeat.

So the behavior that they see is due to a hormonal soup. Remember how we talked about how those hormones can sometimes even be working at cross-purposes. Which hormones are released at which levels? We don't know yet. We don't have data on that, but we know that there's a lot — that those are the four main ones that are being released and that they can kind of put the body at cross-purposes. So what is often interpreted as a victim being cavalier because she's just sitting there or interpreted as lying because she seems so cavalier and not upset about it, is very likely attributable to the opiate levels in her body, because those will be released at the time of the assault and they can stay very elevated for 96 hours post assault. So the key thing that practitioners need to know is that there is, in fact, a wide reaction of emotional reactions to sexual assault, and it can be helpful to normalize those reactions for victims, because they don't understand why they're behaving that way either.

Second key take home lesson: these neurobiological changes can make memory consolidation and recall difficult.

The story may come out as fragmented or sketchy. How are law enforcement and prosecutors trained to handle something that looks fragmented and sketchy? They're trained to believe that that is something that is not truthful, and their job is to hone in on it and look at it from multiple points of views and keep cycling back on it to try to ferret out what is true and what is false. And again, they interpret this victim's behavior as evasiveness or lying. And again, what it really is, most often, is that the victim is having difficulty accessing the memories. Again, the content of the memory the research tell us very clearly is accurate. It's just going to take some time and patience for it to come together. So when we think about first-response care from nurses, the frenetic pace of the emergency room — slowing that down — a safe space, a little time and a little patience. We think about the first interview with the patrol officer or with the sex crimes unit detective. Slow it down. A little time, a little patience, and it will go a long way in helping the victim recover, and it will go a long way in terms of the investigation itself.

Final third take home lesson I want to emphasize is about tonic immobility. We know fight-or-flight. It's really fight, flight, or freeze. Okay, tonic immobility when it happens to victims it scares the bejeebies out of them. It is very frightening. Most people don't know that this could happen, they don't know why it happens.

And victims who have experienced tonic immobility during a sexual assault have much higher levels of self-blame, like "Why did I just lie there. I coulda, woulda, shoulda..." But remember, "coulda, woulda, shoulda" doesn't work because the catecholamines, even at low levels, can interfere with rational thought. But if you have the corticosteroids and you're in a state of tonic immobility, it doesn't matter.

Because they had this reaction, they're afraid of how it's going to be perceived by others, so they're very reluctant to seek help. And when they do come help, it's always there in the back of their mind. They are dreading that question "What did you do?" Because their answer is one that they don't think anybody's going to understand and quite frankly they don't understand, because their answer is "I did nothing. I couldn't do anything. I just laid there."

When people disclose tonic immobility, when victims disclose it, family, friends and service providers often react very negatively to this. You got the, "Well you must have wanted it, because you just laid there. You coulda, woulda [audio skips] something." They can't. Remember, it's an autonomic mammalian response wired into our brains to protect the survival of the organism. So it can be helpful to try to explain tonic immobility and normalize this. Fight, flight, or freeze. It's not the easiest thing to say. F is a very hard sound to do alliteration with, but if we slow down, we can say it to victims — fight, flight, or freeze.

So then how do we use this information to change practice? Okay, so that's some of the key take-home lessons. How do we get this out to practitioners to change practice?

When we talk about changing practice, we also often talk about it in a very top-down way. Policy reform. Legal reform. Broad-based training. Systems initiatives. I like all of those words. I think they're very good. I think that's a very valid way to approach changing practice. What I want to do on my last part of my presentation today is share with you an example of a grassroots approach to changing practice, a bottom-up approach to changing practice, and what happens when you provide some useful information to people who really truly do want to know what's happening in their profession.

So I want to tell you a little bit about some work I'm doing in Detroit and how we're changing practice in Detroit in a very grassroots, bottom-up way. I have the very good fortune to work on the Detroit Sexual Assault Kit Action Research Project. This is a project funded by the National Institute of Justice to work with two jurisdictions, Houston and Detroit, that have a large number of untested sexual assault kits. Perhaps you've heard of this — the horror stories of the rape kits sitting in police property, nothing happening to them. Detroit has about 11,000 of those, so in the context of this research project we have a multidisciplinary team coming together to try to understand how and why do we have 11,000 kits in Detroit, and then what do we do with them? Do we test them? Can we prosecute them? How are we going to move these through the criminal justice system?

Now, over the course of this project, I had many practitioners, law enforcement advocates and nurses say, "You know, I really want to understand what's going to be going on for the victims during notification. So if we go back to a victim 5 years, 10 years, 20 years after the assault and reopen this, what can we expect in terms of the psychology of notification?" And then very parenthetically they said, "And you know what, we'd actually like to know for current cases too." And I said, "Really?" And they said, "Yeah. I don't feel like we really kind of know when victims come in what we should be doing."

Well, that's all the invitation I need to develop a presentation on the neurobiology of trauma. So that's what I did. I developed a longer presentation than what you had today on the neurobiology of trauma— lots more slides. I received feedback to cut the slides. I'm okay with that.

But we prepared a presentation on the neurobiology of trauma, and so then I did that training with the members of the Sexual Assault Kit Action Research Project. Multidisciplinary team, so we have some law enforcement, some prosecutors, advocates, nurses and crime lab — about 20 people there total.

I do this presentation, the light bulb goes on and they say, "That's why we've been seeing what we've been seeing. This is so helpful. We'd like you to do more training. We want all of the first responders in Detroit to have this information, so we want all of the sex crimes unit detectives, all of the SANE nurses, all of the advocates.... Let's bring the crime lab in. Even though they don't interact with the victim, let's bring them in too. So let's have all of the first responders hear this." So I did that training. So that time we had about 60 people. And they said, "This is fantastic. I'd like to hear more. Every single patrol officer in Detroit needs to have this information. All of the ER nurses — even if they're not forensically trained,

even if they're not SANE-A or SANE-P certified — they need to know this. All of the advocates — not just rape crisis center advocates but advocates who work in law enforcement who work in prosecutors — they need to have this information. So can you do that training?

So I'm doing that training. So next week I'm going to be at the Detroit Police Department. They have given me a little podium, and for two days we are going to bring in half of the patrol officers. It's mandatory training. Every single one of them has to come in for a brief presentation on the neurobiology of trauma, role play what to do in that first interaction, and how to get the victim to the SANE program, how to get the victim to sex crimes. And then after the first of the year, we're doing the other half of patrol. After the first of the year, we have a lot of hospitals in Detroit, a lot of ERs. One by one by one, we're going through and we're training all of the ED nurses, and we've invited the ED doctors. So my colleagues here in forensic nursing can appreciate that we might not have great attendance there, but we're hopeful. And then we're doing it with advocates. So hopefully by March of next year, we will have saturated the Detroit community — the patrol officers, the sex crimes unit investigators, the forensic nurses, the ED nurses and doctors and all different kinds of advocates with this information.

Grassroots efforts. Get a good idea, it starts to spread. Well, at that very first presentation, one of the people to the Sexual Assault Kit Action Research Projects — one of the people in that room was our state administrator of our [STOP dollars]. And she said, "This would be really good on a statewide level. Can you please come do this training for other practitioners in the state? So I went to Lansing, which is actually where I live so it was a short drive this time. And we had about 100, 120 practitioners from all around the state coming in to hear about neurobiology of trauma, what to do differently when interacting with victims.

Now, also at that very first presentation, we have a connection in that project to the National Center for Victims of Crime. Through a grant from the Office of Violence Against Women, they are trying to provide technical assistance on a national scale around issues of victim notification and response to victims. They said, "Hey, I heard you did that training. Would you like to do it as a webinar?" I said, "Well, I'm not… okay!" So I did the webinar. We had 400 people attend that webinar on the neurobiology of trauma. After that, I was invited by ten different states to come in and do the training there, to which I had to say, "We're working on it. I'm not quite sure how to get me to all these different places." And I think the idea is there's lots of people who can train on this. I'm certainly not unique in that. It's the information that people are hungry for.

Now, taking it even broader, again one of the people at the very first presentation who's involved in our Detroit project is the Joyful Heart Foundation. The Joyful Heart Foundation is a non-profit foundation in New York City. It was established by the television actress Mariska Hargitay, who, as many of you may know, is on the "Law & Order: Special Victims Unit" television show. So they hear this and they say, "Wow, it would be so great to bring this information to survivors, particularly about issues of tonic immobility, so they understand what's happening to them. Yes, we want to change practice, but we also want to get information out to survivors. So they arranged for me to do a presentation on the neurobiology of trauma to the writers of SVU. I have to say as an academic this was a very strange experience to be talking to a bunch of television writers, because I live in a world of 100 percent accuracy and they live in a world of… not. [laughs]

So we had very clear rules about, if they were going to take this information, what they could do with it, and that they had to check back with me to make sure they were putting it out accurately. We all agreed with that.

And they did. They wrote it into an episode. So on October 10th of this year, the SVU episode that night dealt with sexual assault and the issue of tonic immobility. So this is a screenshot of the Twitter feed that the Joyful Heart Foundation was putting out to all of its members about tonic immobility.

Now, in conjunction with that, they asked me to write a blog. They said, "Can you explain this in regular, everyday language? It's not what you're known for as an academician but give it a whirl."

So I gave it a whirl — "Fight, Flight, or Freeze" in regular, everyday language. They posted it up on their blog. It was available the night of the episode. It's still up there for victims to see.

The television show airs, the blog is there, the response was overwhelming. Within 48 hours I had emails from 300 survivors saying, "Oh my gosh, I had no idea." And many of the survivors also posted on the Joyful Heart Foundation's public website.

I'm going to share with you one of those quotes since it was publicly posted. She said about reading this blog, she said, "I cannot believe I am reading this article. After years of blaming myself, questioning myself, feeling tormented, I now understand why I froze every time I was assaulted. It now has a name. I don't have to wonder why or what's wrong with me or why didn't I do anything. I can't tell you how much relief this article brings me. You must know how much your website and your work helps those of us who have suffered in silent torment and agony. You give us a voice. You give us compassion. You give us strength and hope. There are no words to express the gratitude I feel." Now that is research for the real world. That is about taking information, getting it out into the world not just to change the public discourse about sexual assault, but the internal discourse for sexual assault survivors as well.

So in conclusion, what can we learn from all of this? Well, sexual assault case attrition is a very serious problem, and it happens for a variety of reasons. I don't pretend to stand here and say that the little cycle I outlined to you is the only way that it happens, but it is one way that we've established with both quantitative and qualitative data of how and why cases are filtering out of the criminal justice system. And again, it goes back to that fundamental first thing — the understanding of victims' behavior and misattributions and ignorance. And I mean ignorance not in a judgmental way— I mean in the literal way of "I don't know. I don't understand. I was never trained in my discipline to understand why this is happening." And when we can provide that information, then we have an opportunity for research to inform practice. And it's not just any research; it's multidisciplinary research for the real world. We have to bring together research from a lot of different disciplines, because human behavior isn't the domain of any one science. It's multiple sciences brought together, and we can bring that literature together to, as I said before, give us empirically-based suggestions for how we can change and improve practice. So thank you very much for your attention, and we'll open it up now for questions.

[Applause]

As Director Laub said at the beginning, we have microphones set up. If you would be so kind as to say your name and what organization you're from, I'll be happy to answer any questions you may have.

Kathi Grasso: Thank you so much for your informative presentation. I learned so much. I'm Kathi Grasso. I'm with the Office of Juvenile Justice and Delinquency Prevention, and I have a question. What relevance does your research have in relationship to children and adolescents who might be victims of sexual assault?

Campbell: That's a great question. So what does this mean in terms of children and adolescents? We know that adolescents are at very, very high risk for sexual assault, and we know that those who are sexually assaulted as children have an increased likelihood of being re-victimized both as adolescents and as adults. So how does this unfold for adolescents and children?

The neurobiology of sexual assault is a very, very small and young area of science, okay? The mechanics of doing this research is not easy. A lot of it involves FMRI scans. A lot of it involves cortisol levels and types of research protocols that are very, very difficult to do with adults. So in terms of a solid research base in terms of children and adolescents, what we mostly have is data on adults who have experienced this as children and adolescents because quite frankly the research implications of doing this kind of work with children and adolescents. It could be done — I think we can all appreciate here — it raises a lot of very troubling ethical issues, or at the very least, it wouldn't be easy to do.

So what we do know from the neurobiology of trauma is that people who have a history of childhood and adolescent sexual assault —there are long-term structural changes in the brain. Whenever I say that into a presentation of any size I want to be very conscious of the fact that I know just by statistical odds, there are people in this room who have experienced that form of violence. And when I say there are long-term structural changes in the brain, that can be very, very upsetting. I want to highlight the difference between a structural change and a functional change. A structural change means that on an FMRI scan, you light up differently than someone who doesn't have that. Does that functionally translate into different life day-to-day experiences? No, not necessarily. So structurally we know that the developing brain is adversely impacted by these traumas and it does appear to at the cellular level, structural level, appear to be permanent.

The other issue is that the brain, though, is a remarkably plastic thing. So exactly what happens to a child or adolescent who experiences these crimes and then gets a good response — the brain's a very healing, elastic little thing, particularly as we're going up. So the capacity to heal from that, structurally, functionally, I think is very good, but the research is not yet there.

Jo Johnson: Good morning. Jo Johnson, Arlington County. In some jurisdictions, detectives wait for two sleep cycles before conducting an in-depth interview with a sexual assault victim. Can you comment on that practice?

Campbell: So, I asked law enforcement once — I said, "What do you do in the instance of an officer involved in a shooting? What's your protocol?" My colleagues here from law enforcement are nodding. What's the answer? How long do they have to go before they're allowed to be interviewed? Two days?

MALE VOICE 1: Yeah, well that's what they're doing —two days —now, and that's as a result of what they've found. When an officer's in high stress events in the '40s and '50s they would get fired for lying. [inaudible] a number of them. There are some just like victims of sexual assault that their memory doesn't come back at all. There's a small percentage where they found the percentage of memory that came back just is much greater on the two complete sleep cycles—

Campbell: Two complete cycles.

MALE VOICE 1: --so the IACP, in their policy, recommends that the agencies, when they book an officer-involved shooting—

Campbell: Yup.

MALE VOICE 1: --they give them the time.

Campbell: Yup. So the law enforcement's community's own sort of read of the literature and their own wisdom and experience of when their own officers are involved in a shooting led them to create policies and practices that say "Don't try to interview your colleague about that shooting right afterwards because it doesn't make sense." They don't make sense. The memory hasn't consolidated. That's a traumatic event. This is a traumatic event. It's not a huge leap of logic to sort of say that after any type of traumatic event, whether it's an officer involved in a shooting or a victim of sexual assault, it's going to take the brain a little while to consolidate it, to put it in there, and to then sort of bring it back.

So policies and practices about delaying an interview with a victim until a couple days after the assault, the research suggests seem like a good idea. Have they been empirically validated and do we see different levels of secondary victimization, non-secondary victimization? No. We don't have those type of data yet. But the science, I would say, would lead me to put a substantial bet on a policy of waiting two days, two sleep cycles, after a traumatic event before doing an interview. I would, like I said, put a good wager on it that it would result in a more coherent story, more details that can be elicited from the victim, and more information that law enforcement can act on.

Now, the flipside of that is that law enforcement say, "I have a scene. I have an opportunity. You know, two days is a long time to go." Yes. I appreciate that dilemma, and I think that's why it may need to be a little bit more on a case-by-case basis than a blanket policy. Depending upon the nature of the assault, depending upon the circumstances of the crime— whether there is a scene to investigate — it may be the case that law enforcement do need to try to get what they can get to try to move forward quickly on that investigation, but any in-depth work with a survivor I think can wait. Remember what that law enforcement officer said: "I have the time, I have the patience, I have the experience, the wisdom." He didn't put it quite like that, but, "If they're lying, I'm going to catch them, but I don't think they are." It's going to be recalled accurately. Let's have a little faith.

MALE VOICE 1: Well, and even with a shooting they do the preliminary investigation, but they don't make that the whole report—it's known that there's going to be a continuation to it. So maybe do the same thing—

Campbell: Exactly.

MALE VOICE 1: —the parallels are there. They can do the exact same thing. There's no [inaudible].

Campbell: That's right. Parallel of you can do something initially, and then you can do the in-depth with the understanding that it is a two-part process. This isn't something that can be taken care of right off the bat. It is a complex traumatic crime in that we need to approach it as such and that what might work in a lot of other areas of police practice may not work effectively here. Other questions? Oh yes.

Angela Rose: Hi. Quick question. My name's Angela Rose. I'm the founder and Executive Director of PAVE, which stands for Promoting Awareness Victim Empowerment. And from a professional level I'm just wondering– we do a lot of work on college campuses. We had 100 colleges participate in our Safe Campus Strong Voices campaign. I'm just wondering –could we work on some type of a webinar for the college campus police and investigators? Because I think this would be tremendously helpful, because the amount of victim blame and these cases that aren't believed is — it's staggering.

Campbell: Yeah, I think the college student population— and in campus law enforcement I think this really is sort of an issue that would be very helpful for them to have. And what I've experienced working with non-college-based law enforcement officers — again, very hungry for this information, because they went into law enforcement for the purpose of catching the bad guys/bad girls (but they always say "bad guys" — bad guys, bad girls). They want to do that, and they see these types of cases over and over again. It conflicts with what they've learned in the academy. It conflicts with what they've learned, and it conflicts, honestly, with sometimes what they hear from more seasoned officers. And they get socialized very, very quickly to think that victims are lying and they're always lying.

So, again, I think if you can present information in a way that helps them give an alternate explanation, I think it would be very helpful. And I think particularly in the context of college assaults, the alcohol is very, very salient. Again, the encoding may not be there, and they need to understand that. But even under situations of alcohol assault they still may be able to get a few details down on their proverbial post-it notes. They may not have gotten the whole thing encoded and consolidated, but they might have gotten some of it — and that the behavior that they see out of the victim — again, what appears to be sketchy to them and what they assume may be a drunken haze. And it could be. But it may not be. But they're very quick to attribute it to the alcohol piece and shove it away when what they may be seeing is actually just the plain old trauma.

Rose: One other quick questions. In terms of male survivors with the tonic immobility, do you see any difference or have you in your research between male survivors and female survivors of sexual assaults?

Campbell: Because the vast majority of sexual assault victims are females, most of the research on neurobiology of trauma is with female populations. I personally do not know of any research on adults that has looked at those issues. I believe that some of the studies on childhood sexual abuse where the rates are more comparable among boys and girls have had them in their samples. I don't think they see any major differences in terms of male and female survivors, but I wouldn't bet the house on that, again, because we're talking about a really small academic literature.

Juan Sutton: Hello. I'm Juan Sutton. I work with office of administration. Normally I don't have questions for these meetings, but I will ask this here. Recently I was watching an animal show, and it was about, believe it or not, great white sharks. Something you were saying about the young ladies not remembering things made me think back about the sharks. They were able to touch the shark at a certain place on the body so there's a physical relationship, and it was like stunned. What got me is when it came out it didn't go back after the food or whatever it was going after. It was in a daze. Is there any similarity with this study?

Campbell: Yeah. Actually, that's a great question. The great white shark literature was sort of — when some of this interest in the neurobiology of trauma, some of the shark literature and the ecology/ethology, like, animal behaviors, animals on the Serengeti, sharks swimming in the ocean— you know, there's that sort of level of like, "Are we serious. Are we really thinking that there's an analogue here?" Yes, there is an analog here. And some of the early work in the neurobiology of trauma did tap onto sort of shark behavior in terms of sharks going into that sort of state of tonic immobility and how strange it is to see this incredible shark just frozen. And then as it comes out — again, in that kind of state of daze. Again, it's an evolutionary mechanism wired into bodies to protect them and to protect the sustainability of the organism. So yes, there is an ecological evolutionary link across many different animal species. The idea that it's happening in victims and sharks takes a minute to get our heads around, but there is a clear connection.

Sutton: Since a great white shark is an extreme animal in some ways — and I don't know if you have videos of women or men being raped or whatever, but it might be very helpful that these police who were, like myself, not able to reason with the fact that I'm thinking, "This young lady knows what's going on." This shark lost total… whatever… and wasn't able to identify what was going on at that state. A good video may help those police I think.

Campbell: I think in general things that are visual that help communicate this — and if you're curious, do Google it. You can see shark tonic immobility videos. And it is a very stark thing to see, this enormous, vicious animal in a state of immobility. Yes?

FEMALE VOICE 1: Good morning. I'm an intern at the US Attorney's Office for the Victim Witness Assistance Unit, and I'm also an undergraduate student at the University of Massachusetts Dartmouth. And I'm doing my own research. I'm doing a needs assessment and a victim response and recovery on my campus, and I'm wondering what's the best way bring information like this onto my campus in a grassroots-effort sort of way.

Campbell: I'm not 100 percent sure that I know the best way to do this. What I do know from over the course of my career is that law enforcement hate being talked at, and I've done a lot of it over the course of my career. I was telling my colleague, Bethany Backes this morning at the National Institute of Justice that when I started out my career in Chicago and working with CPD of having an interaction with them where an office was telling me that most victims lie. And he was 100 percent sure he was right, and I was 100 percent sure he was wrong, because I knew the literature and I knew I was right. And he was a seasoned detective, and he knew what he saw and he knew he was right. So we agreed to disagree, and I knew that in time he would come to see my wisdom and in time he knew I would come to see his wisdom. And we never got there. And then it occurred to me — how can we both be so right? How can we be both so sure that what we're right is? So I thought, "Oh, well, all I just need to do is go out and train law enforcement about false reports." So I had charts and graphs — and colleagues in law enforcement, you can have a good chuckle at me — and I presented. They go, "Mhmm. Thank you. That's lovely, thanks. Thanks for showing me a bunch of data that has no relevance to what I see in my practice as law enforcement."

And once I got that, that's I think the difference, is trying to work with and understand where they're at. To say "We have some new information about victims that can help your practice, that can help what you're seeing in practice, help you do your job more effectively." So I think it is a simple training issue, but I think it's very much about how you approach the training issues — to say "Here is something from another discipline that can help you do your job more effectively." And I think that a lot of times it's really about packaging the information to them so that they're not talked at but they're our colleagues in a conversation about taking information from one discipline and sharing it with them and helping them understand how it might be helpful and sharing back with me some other tips and suggestions and strategies.

Dave Thomas: Good morning. My name is Dave Thomas. I'm a retired police officer from up — right in Montgomery County. I'm now the program administrator for domestic violence education at Johns Hopkins in the Division of Public Safety Leadership. The FBI Bulletin came out with some perceptual data on officers involved in shootings, and basically, they talked about this tunnel effect that happens to people — you know, hearing going out, just being fixated on one thing. But one thing, they said that 40 percent of these individuals had a significant amount of memory loss that they never regained. There were — and out of all these officers seven percent went into tonic immobility. And that's somebody who's been trained to be able to go through a high trauma incident in all the training that we do with respect to firearms, the simulators and everything. So even somebody who is trained to matriculate through something like this is susceptible to it.

And one of the reasons this data is so important when training law enforcement is to show them — it's a way to get them to walk in the victim's shoes without them really realizing it and seeing how real it really is. But my question goes more to, have you had the opportunity to discuss with officers, as we're trying to do with the IACP and so forth, of why, using like the Reid technique to interview victims is the wrong way to go because Reid is about interrogation and victims should never be interrogated. And the way a victim presents — if they don't understand this stuff, everything's counterintuitive. And so, have they asked you about the Reid technique and so forth? Because there's a lot of pushback if we don't explain this to them.

Campbell: Yes. It was what I can only describe as a trial-by-fire experience of "Well, Dr. Campbell, thank you so much for that lovely presentation. Now let me tell you about Reid." I'm like, "What's Reid?" Because I'm not law enforcement. I always try to be very clear about that. So the first time I got shellacked. It wasn't a particularly fun experience. Went back and I read about the way that they're trained. And again, that was sort of my fault too in terms of if I'm committed to interdisciplinary research, then I need to do my homework to understand their discipline better. And so, took it on the chin, learned from it, and when you read more about Reid, it is about.... If I had to design something 180 degrees from the neurobiology of trauma, that's what I would design. And it works, and it works well in many types of crimes. It is scientifically unsuited for this.

Has there been the definitive study of that? No, there hasn't. NIJ, might I suggest an RFP in the following areas? So there's my little plug. I'm not sure I'm the right one to do it, but there really does need to be, sort of, what is the best way to train law enforcement on this? Let's put it to the test. The science tells us that that's probably not the right way to go. Is there a way to adapt Reid? Do we throw Reid out the window? What is the best way to proceed with this? Again, I'm so humbled by the response from law enforcement around this — the thirst for knowledge and wanting to do this and wanting to know the best way to do this. There's a real need from practitioners, and I think there's a real opportunity here for science to answer that. I don't know of any study that's put it to the test. I would love to see research in that area on it.

Carey Goryl: Hi Becky. Carey Goryl, CEO of the International Association of Forensic Nurses. So coming at this from a health care perspective, I'm wondering if you can comment on any literature that you're aware of on the introduction of prescribed medication or drugs afterwards that might happen in a health care setting, whether it's something that they routinely take because of a mental illness or if it's something that then is trying to cope with the reactions that they're seeing. Any comment on the introduction of additional drugs?

Campbell: The only comment that I can give on that would be personal opinion, so I just want to be very, very clear with the audience here where my science stops and where my opinion begins. So we're all clear on where the line in the sand is. There is certainly a lot of interest among — in the field of medicine, psychiatry in particular, in trying to prevent PTSD. And I don't think there's anybody in the room that's going to argue that that's a bad idea in terms of long-term health sequelae of sexual assault. So the idea is are there ways, through medicine, biochemical, pharmacological, that we can interrupt the cycle of what's going on here, bring the HPA axis activation down and try to prevent PTSD through different pharmacological medicines that could be administered at the time of the assault.

My opinion — to be clear — opinion: I'm not sure that the solution here needs to be pharmacological. I'm not sure that if we just didn't think about a different behavioral response to victims — one that was empathic, one that was victim-centered, that didn't have to try to intervene at a pharmacological level — if that wouldn't be enough to do what we need to do to prevent PTSD. I think that, again, the medical field — give someone a hammer, everything looks like a nail. If you have PTSD, we could give medicine to get rid of PTSD. I am a psychologist. I come from a completely different discipline. I come from a bias, and I'm clear that that's what it is is a bias of interpersonal responses first and see if we can't get the change that we need on that. So I am skeptical of those types of approaches, and I think it invites a much broader perspective about what is the health care we're offering victims and have we truly done all that we can interpersonally, behaviorally in offering good patient care before we intervene at a pharmacological level?

Goryl: Thank you.

Mary Lou Leary: Hi. I'm Mary Lou Leary. I'm here at OJP. I'm sure everyone in this room — the mind is racing with huge lists of groups and individuals and types who need this training. This reminds me of my early days as a prosecutor in the '80s and the '90s when we were just recognizing that domestic violence is actually a crime, and that, no, it's not a good idea to let the witness sign off on the prosecution, which was very common practice at that time. And things evolved over the years. People developed different understanding, and I hope that that's what's beginning here. But one of the things that advanced the understanding of that was when we finally were able to get expert witnesses into the courtroom so that jurors — folks who were members of the public were in the courtrooms, the judges and so on —began to think about this in a very different way. Is there any movement at all towards developing a cadre of expert witnesses on this?

Campbell: I think that's a logical inference of where this information can ultimately go. I don't know of too many instances where it's actually happened in practice. I know that, interestingly, a lot of rape victim advocates have been called as expert witnesses, and psychologists have been called as expert witnesses to talk about sort of this "victims have a wide range of reactions to sexual assault." But I don't know of anyone who is sort of trying to take it down to the neurobiological reasons. I think that this would be very useful information for judges and juries. I don't know

of any jurisdictions that have done this. Right now I only know of a handful of us in the country that even talk about the neurobiology of sexual assault in any kind of training or practitioner way, so to the best of my knowledge, my colleagues have not done expert witness testimony. But I think it is a logical next step of where this would go.

Debra Whitcomb: Hi. I'm Debra Whitcomb with the Office for Victims of Crime, and I want to thank you first of all for an extremely lucid presentation on a very complicated subject. I've heard several people present on the neurobiology stuff around trauma, but this one actually brought it to a place where I could understand it and connect it. And you mentioned all the training that you've been asked to do and you said sort of as an aside there are plenty of other people who can do this. I'm not sure that they can do it the way that you do it—

Campbell: Oh, thank you. That's very sweet of you to say.

Whitcomb: —as well. So what I'm asking though is, around the concept of train the trainers, to teach other people to do what you do so that you can spread it out. There are models for that. I'm sure you're probably familiar with Victor Vieth and his work on forensic interviewing of children, and he's got a whole model of train the trainers and pushing it out to the states. Have you given any thought to that yet in your process?

Campbell: No. I'm actually still in the stage of sometimes just excitement and like "Oh my gosh, people actually want to hear about this" and "Sure, I'll go to Ohio" and "Montana doesn't seem that far away" and "Um, I can go to Florida" and "Sure! Put me on a plane. Put me anywhere. Get David Lisak. Put him on a plane. Put the other folks interested. Put us all on planes. Send us all over the world." I do think that the response that I've gotten to this information that my colleague David Lisak's gotten when he's talked with law enforcement around this is that it's like that click. It's like "Now I understand how this is all coming together." So I think there is a real interest for this. So I think that it really kind of behooves sometimes our federal partners, OVC, OVW, NIJ, other technical assistance organizations to think about what's the best way to get this out here. And I do think train the trainers is very important.

Now I have a practice when I do training with law enforcement. I need to have a law enforcement person with me for a whole host of reasons. Protection is sometimes one of them, but more important it communicates "This is multidisciplinary. I am here to learn from you. I am here to share with you." So I think a train the trainer program can be very, very effective. I've used similar models with Carey's organization, the International Association of Forensic Nurses, on train the trainers around nurses around sustaining SANE practices. It was a phenomenally successful approach. Train the trainer works. It works in a variety of different disciplines, so I think the challenge is to think about how do we get this information out. Because there's only a couple of us right now doing it but there could be so many more that could be doing this. So I appreciate that comment. Thank you.

Vicky Bonasera: Hi. I'm Vicky Bonasera. I'm a victim assistance specialist with the U.S. Department of State, and I work with our embassies overseas when Americans are victims of a crime. And one of the things we talk to them about is don't ask a victim why and don't ask them about time because, as you say, the trauma to the brain — it shuts that portion down. So with your research, you know, waiting maybe a couple of days, do you know if their recollection of time gets better and then do you also know other questions that are not helpful to ask so we can share that?

Campbell: This is such a fabulous question, and I got some similar ones from colleagues in Detroit of like "Gimme my checklist — what I say, what I don't say" and I'm like "Uh… it doesn't work like that?" Not just because I'm a pointy-head academic and I often get nervous about trying to translate into practice because it could be wrong, it could be off.... I'm not sure it's ever going to be quite that clear-cut. So the questions about asking victims about time. So if that's a practice not to do that, I would say okay, I think that generally seems consistent with this. But some victims actually can recall time information, and by not asking about it, we did lose an opportunity for collecting that information.

So I think it's about if you're going to collect information from a victim about time and some of those details that do get really, really messed up in the traumatic processing of memories, collect it, but like, put some brackets around it, man, of just like "This may change." And that's not something prosecutors ever want to hear, because it's like, "Gosh, once it's written down, I mean, I have to explain it later in court." So I understand the temptation not to put it down. I think it may be better to ask but put it in the brackets and note "This might change over time." That as, with a little bit more time, a little bit more sleep, a little bit more everything, they may come up with some more details, or they may come up with something that's different. So again, I am not a prosecutor. I am not law enforcement. I can't dictate that terms of practice. Wouldn't want to. But I can say that we want to be a little cautious about throwing a whole bunch of questions out the window and say we can't ask them, because I think there are some who could give you that information. So I think that's the thing.

I think the more important thing isn't about which questions to ask or not ask but again the time, the patience — let it unfold. Let it come out. Cycle back in ways that are calming, soothing to the survivor. There's a lot of good techniques sometimes around interviewing child victims of sexual assault. It's like "Why can't we use them with adults?" We haven't tried it. Let's try it. In terms of empathic engagement, it doesn't interfere with the accuracy, so why not be empathic?

Bonasera: Thank you.

Cheryl Tyiska: Hi. Thank you for your presentation today. My name is Cheryl Tyiska, and I'm the Director of the Office for Victims of Crime Training and Technical Assistance Center. I was actually going to talk with you afterwards, but I wanted to follow up with Debra's comments. With regard to the places where people are contacting you and asking you to come and do presentations or if you're thinking about putting together some sort of a training for trainers session — if you would be interested in contacting me or talking to us at OVCT Tech, we would really be very interested in helping to support the logistics of your doing that. And for the rest of the people in the room, one of the things that I would say with regard to OVC's training and technical assistance center is that we are there. We do have free training and technical assistance center. You can ask experts such as Dr. Campbell to come out and speak to you, but if you don't ask us, we won't know to get someone of this caliber out to you. So please contact OCVT Tech, and I do have a card for you.

Campbell: Thank you. And just to follow up on that, I think this is also — what I like about this Research in the Real World seminar idea is that the research that NIJ is doing is getting out into the real world. That as an academic, I am being challenged by my funder, NIJ, to say, "Take it to the next level. What are the implications of this? How can you use this research to change practice?" So it's a very different way of thinking about research, because a lot of times we just do our research, we publish it and we're done. We're happy. No, that's not the standard anymore. The standard is "Take it to the next level. What are the implications?"

Elizabeth Krauss: Hi. My name is Elizabeth Krauss from the DC Office of Victim Services. My question for you is about the — kind of on top of the secondary victimization. Have you seen similar levels of hormone releases when victims experience re-traumatic events and like a flashback type of situation? Has there been any research done there?

Campbell: Again, it's one of those things where the literature — it stands to reason. It follows logically that — that at the time of reactivation of a memory.... So, for example, in the case of what we're dealing with in Detroit and other jurisdictions we'll be doing around victim notification. The reactivation of the memory — it stands to reason we will have HPA axis reactivation and that the hormonal flood will be there. And at the time of that reactivation what they might be able to extract from the victim — it's a horrible way of putting it, but that's often the way it's thought about — may be very limited.

So in terms of empirically research, no. Does it stand to follow? Yes, that we would see this kind of HPA flood happening when reactivation happens either in a flashback or when, again, through something like victim notification, which is essentially a flashback, someone knocking at the door, through a letter, a phone, saying "We have new information about your case."

Mark Kline: Hi. My name is Mark Kline. I'm from the Bureau of Justice Assistance. It seemed like some of the comments from the detectives that were interviewing these victims was very sexist. Did you have situations where female detectives were interviewing female victims, or was there a difference in the believability of the victim?

Campbell: Yeah. Several of the quotes that I showed you could be viewed and discussed in a lot of different ways or languages. I'm trying really hard in my work to work from the perspective of the benefit of the doubt and to try to remember why it is people go into any helping profession, be it nursing, be it medicine, be it law enforcement, be it prosecution, be it teaching. That there is an intrinsic motivation to that, and that over the course of time and a career, that there's a lot of things that start to wear that down and stereotypes start to come out. So yeah, I think, I can show you lots of data from law enforcement. I can show you lots of data from doctors and nurses that looks almost identical in terms of some very sexist attitudes, some very victim-blaming attitudes and the like. So when I say that this is one way that sexual assault case attrition happens, I think the other way is just plain old attitudes about this not being a real crime and not being one deserving of attention.

Now, to get to your question of is it different if we have female officers versus male officers. At least in my data, I see that there is either — in some studies I find no difference and in some studies I find worse when it's a female provider. Victims often want a female provider under the hope that there is going to be that sort of shared experience and empathy, except I'm not sure that's what gets tugged at in females in terms of empathy as in "There by the grace of God go I" and "I could be you" and "I don't want to think about being you" and "I can't be you, so I need to distance myself from you in any way I can. So you did something. I didn't do something. You did something that made this happen to you and I won't." So I've seen that a lot in female law enforcement officers and prosecutors, and I think again it's not necessarily about a desire not to help victims. It's a traumatic response to a traumatic situation. And so I think, again, it's sort of a training situation. But, again, I also do want to be clear, I've seen studies where it makes no difference at all, the gender of the provider.

Scott Russell: Good morning, and thank you for your presentation. My name is Scott Russell. I'm the Director of the Violent Crime Division with the Office of Investigative Policy and Oversight with the Department of Defense Inspector General. I just wanted to find out, is there anyone else in the room from DOD? Okay. We have a gentleman down at the U.S. Army Military Police School named Russell Strand.

Campbell: Yes. He's the third one. It's me, David and Russell.

Russell: Okay. I was going to say, I do believe that David Liseck is a close colleague of his. Then you're well aware, then, that Mr. Strand has been pushing this cognitive interview technique based on the neurobiology of trauma during the sexual assault experience. But there's a big push within DOD to get all of the DOD criminal investigators within the military criminal investigative organizations trained in this technique. And we are here basically today to hear what you had to say so that we can look at what Russ is teaching objectively and what the other two MCIOs are teaching to see what DOD policy should be as far as interviewing victims of sexual assault. So we thank you for your research and the things that you're doing to move us where we need to be in the investigative arena. So thank you very much.

Campbell: You're welcome. Listen to Russ. He's right.

Russell: Okay. And would you mind if we contacted you as we begin our evaluation to pick your brain?

Campbell: "Pick my brain," ha ha ha, get it? Sorry. A little neurobiology of trauma humor. Sorry, it's been a long day for me already. No. Yeah, like I said there.... Again, share my world. I'm an academic. I'm a researcher. We live in the academy. It's a lovely place to live. Getting us out into the world is sometimes very difficult for us to do, and a lot of us aren't trained in our disciplines to think translationally. You know, when Chris Rose is like asking me what's the next step and I have to go "I'm not sure, Chris." She's like "Think about it." Okay, so I think the number of academics who are really trying to think about taking research into practice is a relatively small number. Those of us who care about sexual assault, smaller. Those of us who think about neurobiology, I think it's Russ, David and myself. And a couple of others that I don't know as well. I don't mean any disrespect to them. I just haven't had an opportunity to intersect with them. But I'm excited to hear about DOD taking an evidence-based practice approach to its policy because I think that's what we want to be doing in a lot of different organizations is what does the science do. Get the academics out of our pointy-head little ivory-tower world and see how it can be helpful to practitioners. And I think you're getting good training from Russ.

Russell: Well, thank you very much. I appreciate it.

Michelle Bundy: Dr. Campbell, good morning to you and to all the audience here. My name is Michelle Bundy [phonetic], and I want to put a face on everything that you have taught today. I didn't know what toxic immobility was until you described it today. I was a victim of rape on September 20, 2008. I know I can remember the date because it never goes away. I know of what the police do because I went to a police department in Virginia to sit down and to talk to the detective about what had happened to me. And his question to me was "Why did you wait so long to come?" And my response to him was because, when I went on a date, I didn't know it was going to result in rape. I didn't know until I got to Alexandria, Virginia, and when I was locked behind closed doors and I was there and I was in a state of fear and wanted to leave, that I could not leave. I was off of Columbia Pike and I live in DC, so I didn't know how to even leave or where to go.

The person who raped me kept me there and told me they had a gun, and when they told me that they had a gun, they told me, "No, I don't have a condom. But you will cooperate." The next day they told me that they had videotaped the entire thing. I was a missionary for my church. I have three sisters and a niece. I had a job in private industry. I went back and I told my employer that I had been a victim of domestic violence. They put me in counseling. The counseling didn't help. I had meltdowns in the stairway in my job, and they eventually discharged me and let me go because I could no longer function and do my job. When I looked at the person I saw — I want people in the room to understand, you may have a son or a daughter or you may have a relative. Sometimes a representative shows up on the date. That's somebody else. You meet somebody else entirely different days later. When I was told "You will cooperate. You will do what I tell you to do, because if you don't I will post this on the Internet. I will damage you." So what I did was I had to give him 500 dollars a month out of my check, and I had to work every day and live with that. I need to know how can I get back to who I was, because the person that I was, September of 2008, that person's no more. I don't know how to find her.

Campbell: I admire your courage for what you just did. I admire you for surviving what you went through, and I can tell you that she is there and she is in you because that's the person that got you here to say in front of all of these people what you just went through. The strength that you had to survive that is the same strength that you had to stand up at this microphone and share with me and with everybody what you just did. It may not feel like it right now, and it may be a long distance to close all of that trauma, and there were so many things that were done to you that were wrong. They were illegal and they were immoral and they were against God. I am sorry that that happened to you, and I am sorry that the police did not treat you in the way that you deserved as a human, as a child of God. But I believe, because I see it every day, that the healing in you has begun and it will continue over the course of your life. And the strength that you had to share what you just did with all of us is the strength that you will be able to use to carry forth in your mission to educate people and to put a face with it, as you said. So I thank you for the gift that you gave all of us.

Bundy: Thank you.

Campbell: You're welcome.

Nancy Ritter: I'm Nancy Ritter from the National Institute of Justice, and I also thank you for sharing your story. A couple of things. For those who are interested in Becky's work in Detroit, I think it's this Thursday night on Rock Center. The elected prosecutor of Detroit is speaking about this project. So I'm not sure what time it's on. I think it's 10:00. I've never seen it, but that might be interesting for you. I also wanted to pick up on Assistant Attorney General Mary Lou Leary's comment about the courts and how this science is getting into the courts. I would also request that everybody think in terms of the criminal defense bar also because when this science starts to get into the court, public defenders and private criminal defense lawyers are going to care about the science. So I think that it's important that when we do this training and when you hook up and we get this going viral that we also keep the criminal defense bar in mind. And I thank you so much for your work, Becky.

Campbell: Thank you. I appreciate that because that's an important nuance to be considering. The criminal justice system is made up of a lot of different parts and pieces and sides.

[Applause]

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