

## **Just Forensic Technician Vicarious Trauma\_Identification\_95**

**Intro** [00:00:05] Now this is recording. RTI International Center for Forensic Science Presents Just Science.

**Intro** [00:00:19] Welcome to Just Science, a podcast for forensic science professionals and anyone who is interested in learning more about how real crime laboratories work. In episode eight of the Identification season Just Science interviews Selena McKay-Davis, lead senior forensic specialist at Riverside Police Department, about job related stress for forensic technicians and sworn police officers. As a forensic technician, Selena McKay-Davis is confronted daily with scenes where crimes were committed. And sometimes these crimes are violent or even gruesome. The stress of the position and the daily exposure to violence can make a long term career in this occupation very difficult. While there is research surrounding the trauma that sworn police officers experience, little is known about the trauma experienced by civilian forensic technicians. During her graduate studies, Selena McKay-Davis identified this gap in knowledge. Listen along as she discusses her graduate thesis topic, covering the similarities and differences between the trauma experienced by officers and civilian forensic technicians. This season is funded by the National Institute of Justice's Forensic Technology Center of Excellence. Here's your host, Dr. John Morgan.

**Dr. John Morgan** [00:01:22] And welcome to Justice Science, the podcast for Forensic Science Professionals. I'm John Morgan, your host with RTI's Forensic Technology Center of Excellence, a program of the National Institute of Justice. And today, we are at the International Association for Identification in San Antonio, Texas, in July 2018. Our guest is Selena McKay-Davis. She has 15 years experience as a forensic specialist and currently serves as the lead senior forensic specialist at Riverside. And her duties require her to assist in the investigation of all manner of crime scenes, including crime scene processing, lab evidence analysis, court testimony and basic latent print ID. She has a Bachelor of Arts in Biology from Cal State San Bernardino and a master's in Forensic Sciences from National University. Welcome to the podcast, Selena.

**Selena McKay-Davis** [00:02:11] Thank you very much.

**Dr. John Morgan** [00:02:12] As I was telling you before the podcast, the work here in the FTCOE have become much more interested for a variety of reasons in this issue of workplace stress and vicarious trauma. That is the trauma that we have when either crime scene person or another kind of forensic scientist has to deal with a victim who obviously is a human being. And we are all affected by that in different ways. And it can be very difficult as well as all the stress associated with just the normal work. I mean, forensic science, it's a lot more being expected in forensic science organizations and practitioners, and there's just plain old workplace stress as well. So you actually have done some study work in this area and people are going to be very interested to hear what you have to say.

**Selena McKay-Davis** [00:02:51] I hope so. I was really interested to look into it.

**Dr. John Morgan** [00:02:53] So you've been in in forensic science for some time, so you have some experience here in the work. Have you been in Riverside the entire time in your career?

**Selena McKay-Davis** [00:03:02] As a forensic specialist, I've spent my entire career at the Riverside Police Department. Before that, I did do two years as a coroner technician at the Riverside County Sheriff's Department, where we did autopsies all day, every day.

**Dr. John Morgan** [00:03:13] Now, that would be, to me, very, very difficult to do. I've known an awful lot of people who've done forensic pathology work, and they're all very unusual people. Let me just put it that way. I'm just very judgment free.

**Selena McKay-Davis** [00:03:26] I'm no different.

**Dr. John Morgan** [00:03:27] I think that's a very important kind of stress as well, right?

**Selena McKay-Davis** [00:03:31] It is. It is all day, every day you're confronted with death, first of all. And then most of the time you're also confronted with violence or suffering. Like you see a lot of accidental deaths, traffic incidents, things of that nature. It's all very traumatic. And we tend to normalize what we see and think of it as normal. But nothing that we see in forensic science is generally considered normal.

**Dr. John Morgan** [00:03:54] Right? Yeah. And then you've had over a decade of experience and doing other forensic work as well. Is that why you decided to get into some of this research work, or is it something that dates back further even from your practical work? How did you decide to start researching the stress that forensic scientists undergo in their work?

**Selena McKay-Davis** [00:04:11] I had to come up with a thesis topic for my master's degree, and I was trying to think of something that would be useful to the field. I didn't want to spend months and months writing a useless paper that no one was going to read, and at the time we had recently lost nearly a third of our staffing and I was experiencing significant stress, mainly from the organizational or administrative perspective of my job because there weren't enough people to go around. And I realized, you know what? If I'm this stressed out, I wonder about everybody else. And then at the same time, when I was started talking to others about how I was feeling stressed out, you know, I couldn't really put into words exactly what it was, but just that I was stressed and I start talking about getting called out a lot. And, you know, the late hours and what I'm seeing versus what I can actually talk to others about outside of my field. I kept getting a comment, which was, Yeah, but you're not an officer, so it's not that bad. Or, you know, well, officers have it harder. And I thought to myself, officers do have it pretty hard. They have a really challenging job. But the same time, there's a lot of aspects of the stress between officers and forensic technicians that's similar. And when I started to look into that in researching a topic, I did not find a lot of research done on civilians in law enforcement that were doing crime scene work. Most of what I saw were maybe comparisons or studies into civilians that we're doing more administrative stuff, you know, property dispatch. But dispatch is not administrative. Please, please, please don't get upset at me and tell me. But just things that were not crime scene related. And as a person that's been working in this field for a very long time, I recognize that my stress was distinguished from even those other civilians and could be distinguished from officers also. But there were correlations between both areas and there was no research in this field at all. So that's what drove me to kind of see what I could find and develop in this niche with the hope of passing it on to, you know, those that are more experienced in the world of academia to look at and probe even further.

**Dr. John Morgan** [00:06:19] Well, I think it's interesting to say, I mean, what is the difference between with what a police officer has in stress and what a crime scene technician or even a forensic pathologist might have. You know, and I think it's different. It's just different. Let's put it that way. You know, I mean, a police officer might have more interaction with potential suspect, whereas they're not getting in deep with a victim in the same way that a forensic scientist would.

**Selena McKay-Davis** [00:06:44] Right. Very true. There are definite differences. You know, officers are out there protecting, arresting, high speed chases. You know, the risk of having to actually discharge the firearm and possibly kill someone and the higher risk of being potentially killed by another suspect. That is a whole separate bundle of stress that civilians like myself in forensic science don't have to deal with as much. But at the same time, they do have to look at, you know, people in traffic accidents, victims of abuse, victims of assault, child abuse, things of that nature, just like I have to. So there is that that overlap. But crime scene forensics, civilians and forensic scientists, we do generally go into that scene, whereas the officer goes in experiences and comes back out, may write a report, hang out at the perimeter scene where usually within that scene for an extended amount of time. And the only way we can help reconstruct that crime and represent it in the courtroom is by going into the smallest minor details of that crime scene, of that victim's trauma and map it out. And then there's that extra process of the documentation afterwards and creating that report, the sketches, going over the photographs multiple times, debriefs for administration, which the patrol officer usually doesn't get into as much. Their exposure time is often less when it comes to that violent crime and dealing with the details of it and figuring out how exactly did this injury happen and trying to figure out how it happened and just the mental play. And one thing that we do know just as people is that what we see and what we experience, we don't necessarily forget and it comes back later. So the more you see it, the more experienced it can come back at you later.

**Dr. John Morgan** [00:08:29] I mean, it takes a little bit of you each time that happens, right?

**Selena McKay-Davis** [00:08:32] It does. It does. And you hardened as much as you can so that it doesn't affect you all the time, but it does come back. I'll never forget I have a hard, fast rule now. When my daughter was two, we had her birthday party when I was still on call, and while I was on call at her birthday party, I got the call out for another two year old that had drowned. And so I had to go and process that thing and be immersed in a family that had just lost a two year old where the rest of my family was still celebrating and forever her two year old birthday is overlapped with that memory. So I've always tried to separate that way. I don't have those little flashbacks. And so.

**Dr. John Morgan** [00:09:12] I hope you didn't hurt her when you hugged her when you got back.

**Selena McKay-Davis** [00:09:14] I squeezed her pretty doggone tight, that is for sure.

**Dr. John Morgan** [00:09:19] Yeah. And I think part of the issue here is not and again, it is a different thing, but it's often been taken for granted that police officers have a certain level of stress. I know in my home state where I'm in North Carolina now, but I used to be in Maryland, and I don't know exactly each state's view of this, but in my home state of Maryland, it was a presumption that if a police officer had a heart attack, that it was work related. Right. So and that's true a lot of places.

**Selena McKay-Davis** [00:09:46] Yes. California has a law like that.

**Dr. John Morgan** [00:09:48] Do they? Yeah. But I don't think that there's a law like that for forensic scientists.

**Selena McKay-Davis** [00:09:52] There isn't. There isn't. And you know, the statute in California, I'd have to look it up, but it covers things like, you know, hernias and back pain and exposure to certain infectious diseases. And there's a lot of coverage because they assume that officers are going to get exposed to these different elements in their job. And so they're covering them, which is amazing because how often does the government just automatically cover people? Right. But it shows that a change needs to come in, how governments look at the people that help protect and serve and look at those that are not at war. And also because we're going out there and we're in those same bloody environments or chemical environments, you know, you find out afterwards when the sun comes up and there's this chemical haze throughout. A homicide scene where the suspect tried to clean up and used any number of different chemicals in the process, you didn't detect it with your nose, but your eyeballs see it, which means it's in your lungs and you've been breathing that for hours. You know, we don't find that out till later. So a realization needs to occur that we're as civilians getting put in these similar situations that some of the officers are and that some of the coverage also needs to come through. And I would like to put a little caveat on there, because I know there are people that are going to be listening saying, hey, what about me? They're detectives and the detectives are usually working with us at these crime scenes and they're immersed in it the same way we are. So even when you look at officer stress, you know, there is a distinction that needs to be made in studying them between the patrolmen and the types of traumatic events that they go through and have to deal with in dealing with on citing a lot of these violent incidents. And then the detective that spends a lot of time, like the forensic scientist and the crime scene technician or forensic technician or whatever you want to call us, depend on your agency. They get immersed just like we do. And they're the ones that help with helping the victim afterwards in the interviews and getting them through court trials. And so there's impact all the way around.

**Dr. John Morgan** [00:11:43] Well, just to be absolutely clear, with folks at home, we in the FTCOE, you can if you want, but we in the FTCOE, we don't make a recommendation with respect to what, you know, the presumptions are in these kinds of cases with respect to whether heart attacks are related to this. We just want to make sure that we're reflecting that there is an attitude there. And that and the attitude is that there's a certain issue with police officers are not forensic scientists. It's sometimes not recognized. And I think the example you give is a really good one because in most laboratories and many laboratories where the analysis is done, for example, where forensic scientists are doing controlled substance work on a regular basis, you know, you'll get trace amounts of the controlled substances in their bloodstream if you do the toxicology.

**Selena McKay-Davis** [00:12:27] Yes. Yes. It can be underestimated how important it is to use personal protective equipment. But even then, you know, you have traces of different biological and chemical residues on your skin afterwards or your clothing or, you know, what we do goes with us, even outside the lab as much as we try to avoid it. And if that's the case, then we need to start changing how we do things and protecting those that are trying to help those that protect and serve.

**Dr. John Morgan** [00:12:54] Sure. Now, let's talk about your study. So your study really attempts to kind of compare how forensic scientists and police officers are affected by the vicarious trauma that they witness at crime scenes.

**Selena McKay-Davis** [00:13:07] Yes, I did try and identify like certain characteristics of law enforcement, stress and work. And then I compared those stressors in civilian forensic technicians and sworn police officers because I was trying to see if there were any significant differences or similarities in the stress experience. And in this particular research, it's a little bit different than some others that I found because I didn't use forensic scientists. In California, those are usually like criminalists and they generally work in a lab. Some do actually provide a crime scene response, but most of them work in the lab doing DNA profiling that the detailed work on trace evidence, ballistics work, things of that nature. In California, a lot of the forensic technicians were the ones that actually report out to crime scenes with your local agencies, your police departments, your sheriff's departments. And we're the ones that are actually processing the crime scene. And so when we're out there processing that crime scene, part of why I believe we experience the same stress or a similar stress to sworn police officers is that we're out there in the midst of that scene. You know, we're surrounded by violence. A violent event just occurred. There are violent people around us. You know, sometimes there's riots going on. You never exactly know what's going to happen. I've been at scenes where there was a threat of a sniper in the area that was threatening to, you know, shoot at us at the same time when we're trying to process the scene. So we're out there exposed to the general public, trying to do our job to the best of our ability. The worst one I remember was processing a scene in the officer involved shooting, and the riot was tapping to tape lines out. So I felt pretty secure until I saw everybody rushing the first tape line, right. And they hit the second tape line. And all of our officers and detectives were just running out trying to keep everybody back. And I'm thinking to myself, okay, what's the most important evidence I need to collect before I run myself? Because the other interesting aspect of it is, unlike an officer that's trained in physical defense has a weapon, you know, knows what to do. I don't have any of those. And most forensic technicians do not carry. Out of the 37 forensic technicians that actually sent in surveys on my research, only one actually carried a weapon. So, you know, the worst I could do is fling my cell phone at them, you know, try.

**Dr. John Morgan** [00:15:19] Ironically, you are probably doing exactly what they wanted to have happen. Right? You were the one who was actually collecting evidence to determine what was the truth of the matter in this instance.

**Selena McKay-Davis** [00:15:28] Right. Exactly. Seriously. And that's the hard thing for, you know, civilians that do crime scene work is we have to become hyper vigilant, just like the officers do about our surroundings and dangers. We're always looking for that suspect that's going to come out of nowhere and try and hurt us also, which I've had before, where they just walk up on you and you're like, Hi. No, I don't want you to surrender to me. Please surrender to the officer down that way. You know.

**Dr. John Morgan** [00:15:53] You actually had that happened to you?

**Selena McKay-Davis** [00:15:55] Yes. Yes. I did. He, a very violent homicide suspect who was coming down from drugs was just like I saw him out of the corner of my eye and the officers hadn't seen him yet, but he's coming towards us. And all he kept saying is, that's it. That's it. And he's taken off his jacket and everything and I'm like being myself. No, there's so much more to live for. Please. That's. This is not it. But that happens. And so our job as civilians in that crime scene environment is to be vigilant, to let officers know

when there's a problem. And if something does start to happen, to make sure that we get out of the way so that we're not hindering that officer from being able to handle that critical incident that's about to happen. So, you know, it increases the stress level when you have all those factors and you don't have a way to defend yourself if something does happen.

**Dr. John Morgan** [00:16:41] So how did you define it? You said there were multiple stressors that you were that you looked at, but they were specific stressor types.

**Selena McKay-Davis** [00:16:47] Yes. Yes.

**Dr. John Morgan** [00:16:48] So tell me about that. How what kind of stressor types how do you classify the stress that someone might see at a scene? Was your study oriented around crime scene kinds of experience?

**Selena McKay-Davis** [00:16:58] It was it was oriented around mainly crime scene type experiences, but it also looked at not just crime scene stressors, but stressors that we find in our organization also. So it was really it tried to be a balanced review of different stressors that come about. So, for example, I asked forensic technicians and sworn police officers to rate their stress or the stress that they feel in different situations on a scale from one which was minimal and up to five, which was maximal stress, right? Areas like personal security in the field, court testimony, on call requirements, shift work, killing someone in the line of duty. You know, the physicality of doing scene work, the pushing, the pulling your family security and how you feel about your family being secure. Disagreeable duties in law enforcement, biohazard exposure, service request deadlines, physical injury on the job, comforting the grieving expectation of zero work errors, all those different areas. I asked them to rate their stress and I also asked them just to rate their stress in general on duty and off duty. And that way I could get an idea the civilians versus the sworn police officers about what stress level they feel that they have their personal perception of it. Because that's the odd thing about stress. I can't tell anybody what they should be stressed about. Right. I can't tell you what should be more stressful than one thing over another and you can't tell me. And it's not like stress is just about that one incident.

**Dr. John Morgan** [00:18:26] Sure. So I know the answer for forensic scientists here, and that is that there's been very little research that's been done in stress in forensic science. Has there been work done in stress for police officers? And were you able to kind of borrow from that in terms of how you described the different stressors in this regard? And is there a way to kind of compare what you're looking at versus other studies in this area?

**Selena McKay-Davis** [00:18:50] There has been increasing research over, you know, the last decades in law enforcement stress and identifying that law enforcement stress is unique to other types of stress. Different research projects have found that law enforcement has more stress than other occupations, less stress than occupations, equivalent stress. I'm not here to argue that, but they have identified that law enforcement stress is unique and it's unique for a few different reasons, because the job that we do in law enforcement is not like other jobs. And it's a job where consistently confronted with violence and suffering and pain and it's unavoidable. We can't say, Nope, I'm not going to help this suffering child. I'm not going to help this woman who's been abused. I'm not going to help this person that's been violently robbed. We can't say that like you could in maybe a convenience store because they found that convenience store workers have high amounts of stress. And so.

**Dr. John Morgan** [00:19:49] Well, I think it's even true. I mean, one of the other things that people obviously, there's a lot that goes on with respect to people's view of policing right now. And my response to. Two, it is two things, really. I mean, one is that I don't think we train police officers very well. I think we undertrained police officers, especially young police officers, and then we put them into situations that are as stressful and violent and we expect a great outcome. It's like, well, what did you do to prepare this person? Right. The other thing about police officers is, is that they're the one kind of person in government who really isn't allowed to say no, right? I mean, no matter what the problem that comes to them, what it is, it doesn't matter whether it's traffic citation or, you know, the cats up the tree or I'm a drug addict and I need treatment. I mean, it doesn't matter. I mean, they're supposed to answer the question and figure it out.

**Selena McKay-Davis** [00:20:44] Exactly.

**Dr. John Morgan** [00:20:44] And that's also a kind of stress also that I. Yeah.

**Selena McKay-Davis** [00:20:49] Very, very true. And so when you have that kind of job where you can't say no, you know, I'm not going to be able to say no to most crime scenes unless it's a cat up a tree. And I'm like, well, I don't know if there's a crime there.

**Dr. John Morgan** [00:21:02] Right?

**Selena McKay-Davis** [00:21:02] Yeah, but we can't say no. So we have to jump into it and we're supposed to jump into it. The goal is 100%. All mental guns firing, you know, doing everything perfectly, if at all possible. That's what's expected. And so when you send someone in with that expectation, that's just stress in and of itself. You know, on top of the situation, you have that. Add in the physical stress with all the uniforms and the heat cause I'm from Southern California, it's not unusual for us to hit 100 during the summer, 110. And I'll tell you 110, my brain is frying, but I'm still expected to not mess up, you know. And officers, it's the same. So it's a different job. And so when I looked at the research that was there and it's been increasing over the years and looking at the different aspects of what's stressful, I used some of those prior research questionnaires to kind of develop the different stressors that I talked about earlier, where I asked people to rate them and tell me how much those situations stress them out so that way I could get an idea of really what stressors are important to law enforcement over the past few decades and not just me and my own opinion.

**Dr. John Morgan** [00:22:13] Sure. So and the basis of your study was a survey based instrument with these five levels on all of these types of stressors. And you had a population of both peace officers or police officers and forensic science technicians. Now, how did you identify those folks who qualified and how did you find the people?

**Selena McKay-Davis** [00:22:33] In California, forensic technicians are usually attached to. You can have a forensic technician attached to a DA's office like a district attorney's office or a police department or a sheriff's department. And they're the people that go out and process crime scenes. They go under a lot of different titles. You have crime scene, tech crime scene investigator, forensic technician, forensic specialists like myself, evidence technician, ID technician. They have all kinds of different titles. And so I wound up looking for them by actually either coordinating with friends that I have in the field or I after a while because I couldn't get a lot of volunteers who wanted to talk about how stressed they were or were not.

**Dr. John Morgan** [00:23:11] Right there is Selena, again, here to talk to me about my stress.

**Selena McKay-Davis** [00:23:15] I started, I started calling, I started calling different agencies. I started dropping off surveys at different agencies. And one thing that I really had to reassure everybody is that this survey was anonymous. I didn't take down the names. I didn't take down personal identifiers, none of that. And that was, I think, the only thing that allowed people to talk and give their true opinion to me, because otherwise in law enforcement, nobody wants to be considered stressed or stressed out because that could be interpreted badly by your administration or by supervision by others around you. So everybody wants to act like, no, I've got this and this doesn't bother me at all. This is nothing I can handle this.

**Dr. John Morgan** [00:23:53] That reminds me of the old time. They always talk about the old football team and the training camp, and I was like, You're the best football player if you don't need water.

**Selena McKay-Davis** [00:24:00] There you go.

**Dr. John Morgan** [00:24:01] It's like, which is so stupid.

**Selena McKay-Davis** [00:24:02] Until you fall over on your face.

**Dr. John Morgan** [00:24:04] Right, Exactly.

**Selena McKay-Davis** [00:24:05] And it was, you know, just as an aside, this research was so important to me. Not just that I wanted to offer something to, you know, the rest of the community. And it really sparked some research into this area. But this research actually became very important to me because, like I said, when I first started the research, we had lost, I think like a third of our forensics unit. By the time I was in the thick of this research, we had gone down to staffing that was less than half of what we were supposed to have. We usually should be staffed with like five technicians and a supervisor. We had gotten down to three technicians and no supervisor at all. And it was because of the research and what I found here and the signs and symptoms that I was able to recognize I was experiencing in my own life that taught me, you know what, I need to back up and figure things out and cope differently. And so that's what I'm hoping to be able to let other people know, recognize these signs and symptoms, which we'll talk about in a minute and recognize them and others. That way you can help people understand where they're at, because when you're in the middle of a whole bunch of stress in this field, you just don't know which way is up and you feel like you're losing your mind at times because it just doesn't make sense. But if someone just tells, you know, that's just stress, baby, it's okay. You're like, okay, got it. Okay. Now you can keep moving. Right, Exactly. Or, you know, there are physical signs like, you know, a lot of burpiness, a lot of gassiness, a lot of grinding, then the neck pain, the heart palpitations, a lot of sweat or malodorous body odor, sweat, you know, all those are signs of stress. And so when people start complaining about all these little signs and symptoms, they don't always take them as a whole. You can look at them and go, Hey, I think it's getting to be a little thick in here. I think you're getting a little overwhelmed. Why don't we take a break? Or, you know, I think you need a vacation or maybe you should go hang out with the kids more or whatever it is that helps you cope or a peer support program or, you know, a social support network with your family, whatever it might be. You can be that person that helps another person in forensics, not burn out, because that's what happens if we don't manage and recognize



the stress that we have from our job, separate from the stress in our family lives. Not just us, but they found in law enforcement, like the police officers, you have increased attrition rates, increase premature retirement, increase absenteeism. More people just stopped coming to work or they use excessive vacation time, things like that. Those are all outward signs of inward problems because in forensic science, we're not trained to recognize those signs and symptoms. I've watched other forensic technicians burn out and quit the field. People that knew what they were doing that were positive resources that just said, I can't take it and got out and we can take it. We can manage it, we can cope with it, and we can continue to serve if we know how to deal with all that's coming at us.

**Dr. John Morgan** [00:26:59] So tell me about your study in terms of the results. So you did the surveys and you compared some of the things that were going on with police versus forensic scientists. So what were the differences between the two populations in terms of what they self-reported and how different things stressed them out?

**Selena McKay-Davis** [00:27:16] One of the most interesting things that I saw in the self-reporting is that the forensic technicians actually self-reported a higher overall on duty distress rate and a higher overall off duty stress rate than sworn police officers. The average response for forensic technicians was about 3.5 as opposed to sworn police officers that was about 3.0. And that was big to me. That was that was huge. And there's been other research into, like, forensic scientists and dispatchers that found that in general, especially during high priority casework, the stress level of forensic personnel can exceed at least equal or exceed others for sworn police officers. And so my research, you know, came to that same conclusion also.

**Dr. John Morgan** [00:28:00] Were there particular elements then that were related to forensic science stress in particular, that were different also? I mean, there was a higher level overall, but were there particular elements that really contributed more than others? So was it more about just the sheer volume of casework or was it more about the vicarious trauma or what was it?

**Selena McKay-Davis** [00:28:21] I did not actually break it down that far. That's an excellent question and something that, you know, those in the field could definitely look into more. I was more looking at the big picture issues and seeing whether or not there were significant similarities or differences in the stress experience of police officers and forensic technicians. I did find, though, that when it came to the stress, what caused a significant difference between the two categories was more the female forensic technician stress level. That was what was highest and most significantly different from even male technicians or male and female officers. So for some reason, the female forensic technicians had a higher stress rate than everybody else.

**Dr. John Morgan** [00:29:05] Okay.

**Selena McKay-Davis** [00:29:05] That was kind of kind of interesting.

**Dr. John Morgan** [00:29:07] Okay. Were you able to do other demographic breakdowns as well?

**Selena McKay-Davis** [00:29:10] We broke it down by like age and experience and did see a little bit of a trend, but not much when it came to age and experience. Initially, when you're young, you know that stress level and starts out a little bit higher and it kind of went down until about age 50 for forensic technicians, and that's when it spiked and around 55

for officers. And that's a lot of time around that retirement age. And then you starting to get a little nervous probably about retiring and whether or not you're going to retire healthy or get injured or do you have enough in your account for retirement, that kind of stuff. So I could see that spike rising because of that, you know, adding in family, you know, health issues, any of that stuff with experience level. It was interesting because when you first started those 1 to 5 year participants had higher stress generally. That's where it started high. And then it went down when he hit about 11 to 15 years. And then when you hit my category of like 15 to 20, the stress level generally tended to rise, especially in forensic technicians. That spike was huge. You know, we went from just below three to just under four. So that's a big jump in average. Exactly. Okay. So I could see that, you know, you have your whole career, you know what you're doing around that time period, but you have the casework that's building up. You're getting a little bit older. You know, you might even be edging more into the administrative side of things once you have that kind of timeline. So that might be why we saw that increase. And then forensic technicians around 21 years plus actually came down in stress, whereas officers still continue to climb a little bit. And they actually kind of came close together in stress level. So that was kind of interesting. What was interesting when I looked at the different categories, though, I wish I'd had your farsightedness and looked at the way you looked at it. What I thought was interesting is I took the ratings that people had for the different types of stressors. You know, your active scenes, you promote ability, you know, defensive weapon, those 54 areas that we looked at. And I ranked them. So I rank them for forensic technicians. I rank them for police officers. And I wanted to see how they correlated. Were they similar or are they very, very different? And I looked at just the top 20 and it was amazing how similar everything folded out in that top 20. Out of that top 20 stressors, the top 20 for forensic technicians, the top 20 for police officers, ten of the top 20 stressors were shared by both forensic technicians and police officers. So out of 54 categories in that top 20 alone, half of them, ten were shared.

**Dr. John Morgan** [00:31:42] Do you have those ten? I mean, which were the kinds of things that were in that? Because this sound like this sounds like, okay, here's the big red flag, guys.

**Selena McKay-Davis** [00:31:49] Yes. Yeah. So things like staffing. Okay. Not unusual, right? Anybody that's in law enforcement knows staffing is generally a problem. Line of duty deaths that's stressful for both categories. Subpoenas always fun, court testimony a pleasure every time. Negative public perception, insufficient support, personnel field security, the expectation of zero errors, off duty security. So, you know, edging out of just being at work, but even going home, your security, even when you're at home with your family, that's off duty security. And then, of course, department conflicts, because, you know, we are not a force of one and we have to function as a team. So those are areas where, you know, it was important equally for both sides.

**Dr. John Morgan** [00:32:34] That's a really interesting list.

**Selena McKay-Davis** [00:32:36] Isn't it?

**Dr. John Morgan** [00:32:37] So it just makes me think about some of the things that we've been we've been discussing with respect, it's kind of more about leadership in the Forensic science laboratory forensic organization in the sense that it's a position of public trust in a very real way. And if the leadership and it doesn't it isn't just management, but anybody who's kind of a leader in the organization, they need to be recognizing kind of like the forensic scientist, I think takes that very seriously, that position of trust. And do they

perceive that the people who are leading them are behind them, are supporting them, or don't they? Almost all of the ones that you mentioned really boil down to this organizational dynamic and this interpersonal dynamic about do they feel trusted, that they feel supported in their work?

**Selena McKay-Davis** [00:33:25] And they found that in other research they read that more of the organizational issues tend to be more stressful than the actual occupational issues of functioning out in the field. You know, a lot of times how well your department supports you decides how you deal with stress out in the field. And even when you talk to different practitioners about dealing and coping with stress, one of the biggest indicators or mediators of the development of syndromes like PTSD, post traumatic stress disorder is the work environment and how well your work environment supports use that you can overcome the traumas that you've experienced. So employers cannot take it and agencies cannot take it seriously enough that they have to support and allow that employee to feel supported while they're going out and doing these amazing duties that they do every day.

**Dr. John Morgan** [00:34:15] And it's hard. It's difficult to manage people through these kinds of stressors and through these organizational dynamics. These are these are problems that are not unique to forensic science in any way.

**Selena McKay-Davis** [00:34:26] Not any way.

**Dr. John Morgan** [00:34:26] Those kinds of issues. But then they're exacerbated by the fact that, you know, forensic science is a different kind of occupation in terms of kind of, you know, expectations and other kinds of things that come into it.

**Selena McKay-Davis** [00:34:37] Well, there's that. And then also, you know, we have to develop a sympathy for each other because in law enforcement culture in general, there's a lot of making sure that you present the good face, the face that can be relied on, that can be trusted on when somebody is in need of help and they're in an emergency, they can look to you and go, I can trust that person to take care of everything. So we spend a lot of time saying, I'm okay. I can handle this, but we have to be able to recognize that different people handle things different ways, and we have to be ready to support them. Because when it comes to what is stressful, it's not a cut and dry issue. There are about six different dynamics that really come into play, and it's all based upon the individual person. Their personality is really important because everybody's got a little bit different personality. I'm kind of like a chipmunk on crack, kind of a personality, and you're more of a laid back personality. So we're going to handle stress differently and our perception of the situation that's stressful is going to be different. You know, I think of some situations is more stressful than you. You know, if I drop my cup of coffee on the floor, that's a very stressful day. Whereas you would be like, Yeah, I'll just go get a cup of soda. No big deal, right? But whether or not we use any coping mechanisms, any, any ways of balancing and processing that information, and then if we have a social support network, you know, not everybody goes home and has friends or family to talk to. And just lacking that makes a big impact on how well they manage stress, the person's temperament, and then also whether or not there's any intervention tools. And this is where it comes back to the agency for counseling, for training, for work environment. All those things impact how well somebody deals with the stressful environment. And that's something else that came out with my research is that out of the forensic technicians that replied, I had a question on there about resources at work for mental health support.

**Dr. John Morgan** [00:36:27] Sure any kind of employee assistance.

**Selena McKay-Davis** [00:36:28] There you go and full on a third of the forensic technicians didn't even have an idea if there were any mental health resources at their job. And the I think like somewhere around 25% of them had actually had those resources offered to them at some point. So, I mean, you're talking about people that are in high stress situations and don't have any training before the high stress situation, let alone after the high stress situation to manage. And that's one thing that in law enforcement research has been so important and instrumental and has had a direct effect on aspects like officer suicide. Is the implementation of mental health support, peer support training, so that the officer can learn to recognize the situation they're going through, how they're dealing with it and change how they cope with that information. Some statistics are finding that we're experiencing a decrease in an officer suicides, and that's what we want more than anything. We don't want anybody to either give up their job or give up their life. But if we don't equip them with the information before they get into those stressful situations, that's a very real reality.

**Dr. John Morgan** [00:37:40] Well, yeah. I mean, going back to my analogy, it's just like we want people to be able to feel okay saying they're thirsty, you know, and we want there to be water on the field. We want there to be something that help them and we want to be able to recognize when they're sweating. Right? We want to say, hey, you know, I think you're I think you're stressed. I love it. You give a very nice rundown of kind of some of the more obvious kind of like these are physical symptoms that they are they're manifesting showing that they're thirsty for help, you know, to deal with these stressful situations.

**Selena McKay-Davis** [00:38:10] And I don't think a lot of people recognize how important it is because when it comes to stress, it'll express itself differently. But it's also quiet in how it expresses itself and in different people, people that that are experiencing physical and psychological stress, negative stress, like those impacts of negative stress will have symptoms like fatigue, cognitive dysfunction. Right. Your brain just doesn't work right. Sleeplessness, impaired immune system so you get sick frequently. Heart disease, cancers, anxiety, that burnout, marital discord. Right. Because what we experience here at work comes with us when we go home. Depression, substance abuse, premature death, suicide. These are all things where if you see it and.

**Dr. John Morgan** [00:38:56] Seen all of those in the forensic science community, I've been around long. I have been around a huge amount of years, but I've seen all of those kinds of things happen.

**Selena McKay-Davis** [00:39:03] Exactly. And so I figured if I could show that there was similarity in the experience between officers and forensic technicians, maybe agencies would take this problem serious enough to where they would incorporate more forensic technicians into their peer support program, their stress management program. Heck, even give them a flier, because I can tell you, in the first ten years of my employment, I never went to a debrief. I never even got invited. Right. Yeah, you know what I mean? And so it happens more now than it did in the past. But, you know, it still does happen a lot. My department, we have a new chief that's really focusing on this and recognizing not just that we need to train the employee, but also that we need to incorporate the family into the training so the family can look at it and go, you know what, Dad? I don't think you're yelling at me because you're really mad that I dropped my ice cream on the floor. I think something else might have happened. Or that your experiencing some other stuff. And so the children can be more patient rather than getting upset. And then everybody starts getting more and more upset and ramping up. It makes a small problem super huge. You

know, we can support each other. And so that was important. And I actually did find that out of those stressors that I looked at, those 54 stressors, 61% of those 54 stressors were not significantly different statistically, which means that there was a similarity between them. So over half I found that there was a similarity in the stress experienced between forensic technicians and sworn police officers. And I thought that was just everything I had hoped for. But when I looked at statistically, the self ratings of the different stressors and I looked at the ones that were most similar. Right. And so have the least dissimilarity, right? The top five were very interesting injury on the job, collision in your unit, department politics, line of duty, death, and excessive calls for service. Those were the top ones. But then you look at past you have lenient court systems that, you know, all of us are out there busting our buns and to do the best job we can. And if you have a court system that you don't feel is necessarily supporting you the same way as you'd hope. That's a big stressor. But family security and insufficient department support were next online, followed by pressure to solve cases and crimes being reported to you. Now, you would not think that that would be an issue for civilian forensic technicians, but it is. I've had people report crimes to me because I'm dressed in a uniform that's very, very similar to police officers. Right. And so when I'm out there in the field, I'm actually a little bit stressed when I'm walking around because I could be mistaken at any time for a police officer and somebody wants to shoot me.

**Dr. John Morgan** [00:41:42] What do you do?

**Selena McKay-Davis** [00:41:42] Exactly. I can't do anything. And I feel horrible when I have crimes reported. I'm like, hold on, I'm going to call 911. You know, or call it on the radio. But nonetheless, it's not the same as having an officer there that can respond right away, but it's part of our job.

**Dr. John Morgan** [00:41:59] Selena I've had an enormously good time talking with you today, and you are so full of information. You know, good for you. But we are at the end of our time for the podcast and you're going to be talking here at IAI, I hope that we'll be able to have a chance to see some other things from you about this study and some of the other things that you're going to be doing. I think you're going to be doing some amazing stuff in this area, I bet. And thank you very much for being on the podcast.

**Selena McKay-Davis** [00:42:23] But thank you for having me. I appreciate it.

**Dr. John Morgan** [00:42:26] Selena McKay-Davis from Riverside Police Department and with a master's now from National University on the podcast today. Thank you so much for listening in to us. And please, whether you're on SoundCloud or Stitcher or on Apple. Please give us lots of stars. Please give us lots of recommendations and tell your friends and colleagues to download an episode or two and learn more about what their colleagues are doing with respect to research and best practices in forensic science. Thank you again for listening today.

**Intro** [00:42:57] In our next episode, Just Science interviews Eric Ray and Glenn Langenburg to discuss the nature of their podcast, Double Loop. Opinions or points of views expressed in this podcast represent the consensus of the authors and do not necessarily represent the official position or policies of its funding.