WEBVTT

00:00:00.000 --> 00:00:02.758 We just go to the next slide.

00:00:02.760 --> 00:00:06.980 Yeah. Wow. It is. I mean, it's.

00:00:06.980 --> 00:00:08.880 I'm speechless. It's really so,

00:00:08.880 --> 00:00:10.400 so wonderful to be here.

00:00:10.400 --> 00:00:12.423 I was a little worried that I

00:00:12.423 --> 00:00:14.017 might actually tear up a little

00:00:14.017 --> 00:00:17.212 bit coming home to Yale where,

00:00:17.212 --> 00:00:19.496 you know, I just, you know,

00:00:19.496 --> 00:00:21.512 it was like cutting off a limb

00:00:21.520 --> 00:00:23.340 to leave this institution.

00:00:23.340 --> 00:00:26.070 I spent 18 years here through

00:00:26.156 --> 00:00:28.004 residency training getting

00:00:28.004 --> 00:00:29.540 through to associate professor.

1

00:00:29.540 --> 00:00:32.708 I was about to go up for full professor

00:00:32.708 --> 00:00:35.034 and and I had many long conversations

00:00:35.034 --> 00:00:37.197 with John about whether I was doing

00:00:37.197 --> 00:00:39.132 the right thing to leave Yale.

00:00:39.132 --> 00:00:41.820 And and I think that there's something

00:00:41.895 --> 00:00:43.795 about the importance of being

00:00:43.795 --> 00:00:47.165 able to move because so much of my

00:00:47.165 --> 00:00:50.300 success as a researcher and academic,

00:00:50.300 --> 00:00:52.316 you know, you have to wonder how

00:00:52.316 --> 00:00:54.519 much of it is the institution,

00:00:54.520 --> 00:00:56.968 you know, how much of it is the

00:00:56.968 --> 00:00:58.360 holding environment that you're,

00:00:58.360 --> 00:00:59.536 quote UN quote,

00:00:59.536 --> 00:01:01.385 raised in as an academic.

00:01:01.385 --> 00:01:03.515 And how much is really you?

00:01:03.520 --> 00:01:05.440 And I have to say,

NOTE Confidence: 0.8418704

00:01:05.440 --> 00:01:07.456 having left and then being able

NOTE Confidence: 0.8418704

00:01:07.456 --> 00:01:09.996 to see that I could succeed at

NOTE Confidence: 0.8418704

00:01:09.996 --> 00:01:11.861 other institutions was also a

NOTE Confidence: 0.8418704

00:01:11.861 --> 00:01:14.478 a a really wonderful lesson.

NOTE Confidence: 0.8418704

00:01:14.480 --> 00:01:15.716 And so I have to say,

NOTE Confidence: 0.8418704

00:01:15.720 --> 00:01:16.056 John,

NOTE Confidence: 0.8418704

00:01:16.056 --> 00:01:18.744 you did a great job supporting me through

NOTE Confidence: 0.8418704

00:01:18.744 --> 00:01:21.478 that transition and I am really grateful.

NOTE Confidence: 0.8418704

00:01:21.480 --> 00:01:23.640 And it's been 15 years,

NOTE Confidence: 0.8418704

00:01:23.640 --> 00:01:25.940 and I have to say I still to this day

NOTE Confidence: 0.8418704

00:01:26.002 --> 00:01:28.795 have such fond feelings for this institution.

NOTE Confidence: 0.8418704

00:01:28.800 --> 00:01:30.192 I cherish so many of the

NOTE Confidence: 0.8418704

00:01:30.192 --> 00:01:31.120 friends that I've made.

NOTE Confidence: 0.8418704

00:01:31.120 --> 00:01:34.932 Many have come and seen me and to cheer

NOTE Confidence: 0.8418704

00:01:34.932 --> 00:01:36.636 me on today because there's nothing

NOTE Confidence: 0.8418704

00:01:36.636 --> 00:01:39.076 like coming home and actually giving a talk.

NOTE Confidence: 0.8418704

00:01:39.080 --> 00:01:41.519 You can start to go, Oh my God,

NOTE Confidence: 0.8418704

00:01:41.519 --> 00:01:43.277 is this going to go OK?

NOTE Confidence: 0.8418704

00:01:43.280 --> 00:01:44.610 And I can be so loquacious that

NOTE Confidence: 0.8418704

00:01:44.610 --> 00:01:45.560 it was a little.

NOTE Confidence: 0.8418704

00:01:45.560 --> 00:01:47.996 I had to cut out some slides,

NOTE Confidence: 0.8418704

00:01:48.000 --> 00:01:48.897 but also too,

NOTE Confidence: 0.8418704

00:01:48.897 --> 00:01:51.679 I have to say the colleagues I had here,

NOTE Confidence: 0.8418704

00:01:51.680 --> 00:01:53.288 so many of you really pushed

NOTE Confidence: 0.8418704

00:01:53.288 --> 00:01:55.599 me to be a better scientist.

NOTE Confidence: 0.8418704

00:01:55.600 --> 00:01:59.178 And for that I'm grateful for all

NOTE Confidence: 0.8418704

00:01:59.178 --> 00:02:00.984 the mentors and some of them I'm

NOTE Confidence: 0.8418704

00:02:00.984 --> 00:02:02.934 going to highlight today and people

NOTE Confidence: 0.8418704

00:02:02.934 --> 00:02:04.998 that supervise me over the years.

NOTE Confidence: 0.8418704

00:02:05.000 --> 00:02:05.744 I mean,

NOTE Confidence: 0.8418704

00:02:05.744 --> 00:02:07.976 people believed in me here when

00:02:07.976 --> 00:02:10.013 they had absolutely no evidence

00:02:10.013 --> 00:02:12.834 at all because I don't have a

00:02:12.840 --> 00:02:14.240 PHDI didn't do research, really,

00:02:14.240 --> 00:02:16.160 in medical school or you know,

00:02:16.160 --> 00:02:18.990 I came to research kind of late in my career.

00:02:18.990 --> 00:02:21.790 And I had many mentors who believed

00:02:21.790 --> 00:02:24.438 in me without any evidence that I was

00:02:24.438 --> 00:02:27.509 going to have a successful research career.

00:02:27.510 --> 00:02:30.030 And I have to say it's truly an

00:02:30.030 --> 00:02:33.346 honor and privilege to be able to be

00:02:33.346 --> 00:02:36.002 the Henninger lecturer today and to

00:02:36.002 --> 00:02:38.582 recognize one of those mentors who,

00:02:38.590 --> 00:02:39.910 I don't know what you saw in me,

00:02:39.910 --> 00:02:41.930 George, I really don't.

00:02:41.930 --> 00:02:46.269 But you were an amazing mentor in many ways,

00:02:46.270 --> 00:02:48.846 not just in what you would say,

NOTE Confidence: 0.8418704

00:02:48.850 --> 00:02:51.650 but and how you led your life as a physician,

NOTE Confidence: 0.8418704

00:02:51.650 --> 00:02:53.810 scientist, as many of you know.

NOTE Confidence: 0.8418704

00:02:53.810 --> 00:02:55.454 And John highlighted, Dr.

NOTE Confidence: 0.8418704

00:02:55.454 --> 00:02:57.509 Henniguro has been in this

NOTE Confidence: 0.8418704

00:02:57.509 --> 00:02:58.968 department for 50-6 years.

NOTE Confidence: 0.4350049

00:02:58.970 --> 00:03:01.380 And I have to say, you know,

NOTE Confidence: 0.4350049

00:03:01.380 --> 00:03:03.210 John highlighted some of the ways

NOTE Confidence: 0.4350049

00:03:03.210 --> 00:03:05.205 in which you're truly foundational

NOTE Confidence: 0.4350049

00:03:05.205 --> 00:03:07.350 to this department. You know,

NOTE Confidence: 0.4350049

00:03:07.350 --> 00:03:09.810 biological psychiatry was not a thing.

NOTE Confidence: 0.4350049

00:03:09.810 --> 00:03:12.946 I mean, I mean the idea that psychiatrists

NOTE Confidence: 0.4350049

00:03:12.946 --> 00:03:16.009 should be concerned about how the brain

NOTE Confidence: 0.4350049

00:03:16.009 --> 00:03:18.230 works outside of the manifestation

NOTE Confidence: 0.4350049

00:03:18.230 --> 00:03:20.900 of the workings of the brain.

NOTE Confidence: 0.4350049

00:03:20.900 --> 00:03:22.570 Obviously, we were concerned about

NOTE Confidence: 0.4350049

00:03:22.570 --> 00:03:25.100 behavior and and sort of how the brain,

NOTE Confidence: 0.4350049

00:03:25.100 --> 00:03:27.220 you know, manifests those behaviors.

NOTE Confidence: 0.4350049

00:03:27.220 --> 00:03:30.304 But the understanding of the molecular

NOTE Confidence: 0.4350049

00:03:30.304 --> 00:03:33.406 basis brain regions that are important

NOTE Confidence: 0.4350049

00:03:33.406 --> 00:03:36.292 and and producing the behaviors that

NOTE Confidence: 0.4350049

00:03:36.292 --> 00:03:38.835 we treat that was relatively new and

NOTE Confidence: 0.4350049

00:03:38.835 --> 00:03:41.420 it was just kind of transitioning.

NOTE Confidence: 0.4350049

00:03:41.420 --> 00:03:42.580 Even when I got here.

NOTE Confidence: 0.4350049

00:03:42.580 --> 00:03:46.486 And I always saw George as foundational

NOTE Confidence: 0.4350049

00:03:46.490 --> 00:03:48.968 to that concept of biological psychiatry

NOTE Confidence: 0.4350049

00:03:48.968 --> 00:03:51.847 and that we as physicians or if

NOTE Confidence: 0.4350049

00:03:51.847 --> 00:03:54.528 you're a PhD or you're a clinician

NOTE Confidence: 0.4350049

00:03:54.530 --> 00:03:57.610 that we are meant to think of the

NOTE Confidence: 0.4350049

00:03:57.610 --> 00:04:00.489 brain as our organ of interest.

NOTE Confidence: 0.4350049

00:04:00.490 --> 00:04:02.362 You know that we are meant

NOTE Confidence: 0.4350049

00:04:02.362 --> 00:04:04.210 to understand and be curious.

NOTE Confidence: 0.4350049

00:04:04.210 --> 00:04:06.914 Even if you don't study the mechanisms for

NOTE Confidence: 0.4350049

00:04:06.914 --> 00:04:09.050 the psychiatric disorders that we treat,

NOTE Confidence: 0.4350049

00:04:09.050 --> 00:04:11.220 you should have an understanding

NOTE Confidence: 0.4350049

00:04:11.220 --> 00:04:13.368 and appreciation for the central

NOTE Confidence: 0.4350049

00:04:13.368 --> 00:04:16.000 nervous system and how it leads to

NOTE Confidence: 0.4350049

00:04:16.000 --> 00:04:17.780 the manifestation of these illnesses.

NOTE Confidence: 0.4350049

00:04:17.780 --> 00:04:19.964 And you were an amazing example

NOTE Confidence: 0.4350049

00:04:19.964 --> 00:04:21.370 of a physician, scientist.

NOTE Confidence: 0.4350049

00:04:21.370 --> 00:04:23.540 And I have to say that that,

NOTE Confidence: 0.4350049

00:04:23.540 --> 00:04:25.820 to me meant the world.

NOTE Confidence: 0.4350049

00:04:25.820 --> 00:04:29.930 And so I'm going to talk about my

NOTE Confidence: 0.4350049

00:04:29.930 --> 00:04:32.240 career based upon some of the lessons

NOTE Confidence: 0.4350049

00:04:32.306 --> 00:04:34.246 that I learned from you, George.

NOTE Confidence: 0.4350049

00:04:34.246 --> 00:04:36.176 I hope you don't mind.

NOTE Confidence: 0.4350049

00:04:36.180 --> 00:04:38.573 And I think we need to give Doctor

NOTE Confidence: 0.4350049

00:04:38.573 --> 00:04:39.938 Henniger another round of applause.

NOTE Confidence: 0.80387837

00:04:46.910 --> 00:04:49.520 So again, today is my my goal is to use

NOTE Confidence: 0.80387837

00:04:49.589 --> 00:04:52.137 some examples from my own research over

NOTE Confidence: 0.80387837

00:04:52.137 --> 00:04:55.810 the years to highlight lessons that

NOTE Confidence: 0.80387837

00:04:55.810 --> 00:04:58.150 I've learned from George in particular.

NOTE Confidence: 0.80387837

00:04:58.150 --> 00:05:00.139 And I'm going to also mention some of my

NOTE Confidence: 0.80387837

00:05:00.139 --> 00:05:02.186 other mentors and colleagues along the way.

NOTE Confidence: 0.80387837

00:05:02.190 --> 00:05:04.881 And I apologize ahead of time if I miss

NOTE Confidence: 0.80387837

00:05:04.881 --> 00:05:07.119 anybody because there were so many

NOTE Confidence: 0.80387837

00:05:07.119 --> 00:05:09.569 people who greatly influenced on my work.

NOTE Confidence: 0.80387837

00:05:09.570 --> 00:05:11.138 But I do have to also show you

NOTE Confidence: 0.80387837

00:05:11.138 --> 00:05:11.850 my disclosure slide.

NOTE Confidence: 0.80387837

00:05:11.850 --> 00:05:14.690 So I figured this was a nice segue.

NOTE Confidence: 0.80387837

00:05:14.690 --> 00:05:20.970 So life lessons from Doctor H, basically.

NOTE Confidence: 0.80387837

00:05:20.970 --> 00:05:25.930 How do I. Yeah. Or do I do this down here?

NOTE Confidence: 0.80387837

00:05:25.930 --> 00:05:28.970 Ah, yes. There we go.

NOTE Confidence: 0.80387837

00:05:28.970 --> 00:05:31.400 Like I said, psychiatrists should

NOTE Confidence: 0.80387837

00:05:31.400 --> 00:05:34.690 seek to understand the brain,

NOTE Confidence: 0.80387837

00:05:34.690 --> 00:05:38.440 the mechanisms by which the brain

NOTE Confidence: 0.80387837

00:05:38.440 --> 00:05:40.990 produces the illnesses that we see,

NOTE Confidence: 0.80387837

00:05:40.990 --> 00:05:44.308 and then be curious about our interventions,

NOTE Confidence: 0.80387837

00:05:44.310 --> 00:05:45.478 not just, you know,

NOTE Confidence: 0.80387837

00:05:45.478 --> 00:05:47.230 do they make our patients better,

NOTE Confidence: 0.80387837

00:05:47.230 --> 00:05:49.590 but how do they make our patients better?

NOTE Confidence: 0.80387837

00:05:49.590 --> 00:05:51.510 And this practice in clinical

NOTE Confidence: 0.80387837

00:05:51.510 --> 00:05:53.046 research has been fundamentally

NOTE Confidence: 0.80387837

00:05:53.046 --> 00:05:54.948 informing my research over the years,

NOTE Confidence: 0.80387837

00:05:54.950 --> 00:05:57.666 as well as my decision to become

NOTE Confidence: 0.80387837

00:05:57.670 --> 00:05:59.506 chair of a department of Psychiatry.

NOTE Confidence: 0.80387837

00:05:59.510 --> 00:06:02.310 Hopefully you'll see how those are connected.

NOTE Confidence: 0.80387837

00:06:02.310 --> 00:06:04.486 I also say that George took me out

NOTE Confidence: 0.80387837

00:06:04.486 --> 00:06:06.922 to lunch one day when I was making

NOTE Confidence: 0.80387837

00:06:06.922 --> 00:06:09.610 this decision to leave and it was

NOTE Confidence: 0.80387837

00:06:09.610 --> 00:06:12.060 about don't get too comfortable.

NOTE Confidence: 0.80387837

00:06:12.060 --> 00:06:14.895 Sometimes you need to try new scientific,

NOTE Confidence: 0.80387837

00:06:14.900 --> 00:06:15.872 scientific techniques,

NOTE Confidence: 0.80387837

00:06:15.872 --> 00:06:17.816 go to new places,

NOTE Confidence: 0.80387837

00:06:17.820 --> 00:06:21.276 try new things in order to have a

NOTE Confidence: 0.80387837

00:06:21.276 --> 00:06:22.140 greater impact.

NOTE Confidence: 0.80387837

00:06:22.140 --> 00:06:25.059 And I took that advice very seriously.

NOTE Confidence: 0.80387837

00:06:25.060 --> 00:06:26.649 And then one other thing that George

NOTE Confidence: 0.80387837

00:06:26.649 --> 00:06:27.900 H and I would say,

NOTE Confidence: 0.80387837

00:06:27.900 --> 00:06:32.404 George A also really spoke to me about.

NOTE Confidence: 0.80387837

00:06:32.410 --> 00:06:34.209 I remember when I would see them

NOTE Confidence: 0.80387837

00:06:34.209 --> 00:06:36.101 at the elevator and I was very

NOTE Confidence: 0.80387837

00:06:36.101 --> 00:06:37.436 pregnant with my children because

NOTE Confidence: 0.80387837

00:06:37.436 --> 00:06:39.367 I had two kids while I was here.

NOTE Confidence: 0.80387837

00:06:39.370 --> 00:06:42.114 And you all would say very you've

NOTE Confidence: 0.80387837

00:06:42.114 --> 00:06:44.169 always expressed concern and support.

NOTE Confidence: 0.80387837

00:06:44.170 --> 00:06:46.447 But also do you have supports in your life?

NOTE Confidence: 0.80387837

00:06:46.450 --> 00:06:48.808 Because to be a successful academic,

NOTE Confidence: 0.80387837

00:06:48.810 --> 00:06:51.098 you really do need not to have only

NOTE Confidence: 0.80387837

00:06:51.098 --> 00:06:53.168 mentors in your professional life,

NOTE Confidence: 0.80387837

00:06:53.170 --> 00:06:54.990 but you need to have people in

NOTE Confidence: 0.80387837

00:06:54.990 --> 00:06:56.645 your personal life that can really

NOTE Confidence: 0.80387837

00:06:56.645 --> 00:06:58.005 support you and help you.

NOTE Confidence: 0.80387837

00:06:58.010 --> 00:06:59.501 Because it is,

NOTE Confidence: 0.80387837

00:06:59.501 --> 00:07:03.214 it is no small thing to give birth to

NOTE Confidence: 0.80387837

00:07:03.214 --> 00:07:05.491 another human being and then have to

NOTE Confidence: 0.80387837

00:07:05.491 --> 00:07:07.747 raise those human beings into adulthood.

NOTE Confidence: 0.80387837

00:07:07.750 --> 00:07:10.125 So I always appreciated your

NOTE Confidence: 0.80387837

00:07:10.125 --> 00:07:12.025 thoughts about those things.

NOTE Confidence: 0.80387837

00:07:12.030 --> 00:07:15.024 So I came to Yale in 1992 after

NOTE Confidence: 0.80387837

00:07:15.024 --> 00:07:17.409 having done of a pediatric

NOTE Confidence: 0.80387837

00:07:17.409 --> 00:07:19.610 internship at Bridgeport Hospital.

NOTE Confidence: 0.80387837

00:07:19.610 --> 00:07:22.389 And this was before I actually fell

NOTE Confidence: 0.80387837

00:07:22.389 --> 00:07:24.873 under the influence of Doctor H But

NOTE Confidence: 0.80387837

00:07:24.873 --> 00:07:27.834 basically I came to yell into psychiatry

NOTE Confidence: 0.80387837

00:07:27.834 --> 00:07:31.379 thinking I was going to be a child

NOTE Confidence: 0.80387837

00:07:31.379 --> 00:07:34.049 and adolescent psychiatrist and I was

NOTE Confidence: 0.80387837

00:07:34.049 --> 00:07:36.767 going to go into private practice.

NOTE Confidence: 0.80387837

00:07:36.770 --> 00:07:36.999 Well,

NOTE Confidence: 0.80387837

00:07:36.999 --> 00:07:38.602 those of you who know me and

NOTE Confidence: 0.80387837

00:07:38.602 --> 00:07:40.134 you've heard from John that I

NOTE Confidence: 0.80387837

00:07:40.134 --> 00:07:41.409 didn't either of those things.

NOTE Confidence: 0.80387837

00:07:41.410 --> 00:07:44.410 So what the heck happened?

NOTE Confidence: 0.80387837

00:07:44.410 --> 00:07:47.050 And this is where I don't know how

NOTE Confidence: 0.80387837

00:07:47.050 --> 00:07:49.142 many trainees are on the on the zoom

NOTE Confidence: 0.80387837

00:07:49.142 --> 00:07:50.710 or or your trainees in this room.

NOTE Confidence: 0.80387837

00:07:50.710 --> 00:07:54.070 But I think most people ever who are

NOTE Confidence: 0.5709162

00:07:54.070 --> 00:07:55.494 clinician researchers,

NOTE Confidence: 0.5709162

00:07:55.494 --> 00:07:59.148 they wind up really experiencing their

NOTE Confidence: 0.5709162

00:07:59.148 --> 00:08:01.678 patients and their interactions with

NOTE Confidence: 0.5709162

00:08:01.678 --> 00:08:04.834 their patients with a level of curiosity

NOTE Confidence: 0.5709162

00:08:04.834 --> 00:08:06.904 that often stimulates their research.

NOTE Confidence: 0.5709162

00:08:06.910 --> 00:08:09.502 So it was my third year of my

NOTE Confidence: 0.5709162

00:08:09.502 --> 00:08:11.439 psychiatry training and I was at

NOTE Confidence: 0.5709162

00:08:11.439 --> 00:08:13.263 Duh with Alice Papsen and Anjali.

NOTE Confidence: 0.5709162

00:08:13.270 --> 00:08:15.615 You weren't at Duh where the No.

NOTE Confidence: 0.5709162

00:08:15.620 --> 00:08:17.020 CNRU. Yes, that's right.

NOTE Confidence: 0.5709162

00:08:17.020 --> 00:08:19.280 That's where we were, Pgy twos.

NOTE Confidence: 0.5709162

00:08:19.280 --> 00:08:21.860 But in that third year residency,

NOTE Confidence: 0.5709162

00:08:21.860 --> 00:08:24.779 I was one of the only women

NOTE Confidence: 0.5709162

00:08:24.780 --> 00:08:26.474 residents who was at Duh at the

NOTE Confidence: 0.5709162

00:08:26.474 --> 00:08:28.499 time or the Mental hygiene clinic.

NOTE Confidence: 0.5709162

00:08:28.500 --> 00:08:29.856 What do we call it now?

NOTE Confidence: 0.5709162

00:08:29.860 --> 00:08:33.152 What do we call Duh now at Yale Health?

NOTE Confidence: 0.5709162

00:08:33.152 --> 00:08:34.296 OK, there you go.

NOTE Confidence: 0.5709162

00:08:34.300 --> 00:08:36.740 Well, I'm using old terminology,

NOTE Confidence: 0.5709162

00:08:36.740 --> 00:08:39.820 but the bottom line is that I,

NOTE Confidence: 0.5709162

00:08:39.820 --> 00:08:40.820 my head referred to me,

NOTE Confidence: 0.5709162

00:08:40.820 --> 00:08:42.878 a Yale faculty member who was only

NOTE Confidence: 0.5709162

00:08:42.878 --> 00:08:44.980 a couple of months postpartum,

NOTE Confidence: 0.5709162

00:08:44.980 --> 00:08:48.260 And I was told she had postpartum depression.

NOTE Confidence: 0.5709162

00:08:48.260 --> 00:08:49.744 And I was like, OK, well,

NOTE Confidence: 0.5709162

00:08:49.744 --> 00:08:51.208 I've never seen a case of

NOTE Confidence: 0.5709162

00:08:51.208 --> 00:08:51.696 postpartum depression.

NOTE Confidence: 0.5709162

00:08:51.700 --> 00:08:54.620 So, all right, I'll, I'll see this lady.

NOTE Confidence: 0.5709162

00:08:54.620 --> 00:08:55.364 And they thought, well,

NOTE Confidence: 0.5709162

00:08:55.364 --> 00:08:56.520 you know, you're a woman,

NOTE Confidence: 0.5709162

00:08:56.520 --> 00:08:57.300 she's a woman.

NOTE Confidence: 0.5709162

00:08:57.300 --> 00:08:58.896 Maybe you guys are bond or something.

NOTE Confidence: 0.5709162

00:08:58.900 --> 00:09:01.500 It'll be a good clinical little.

NOTE Confidence: 0.5709162

00:09:01.500 --> 00:09:04.700 Did I know that this woman was going

NOTE Confidence: 0.5709162

00:09:04.700 --> 00:09:07.650 to set me on a career of investigation

NOTE Confidence: 0.5709162

00:09:07.650 --> 00:09:10.410 about how hormones affect the brain?

NOTE Confidence: 0.5709162

00:09:10.410 --> 00:09:12.090 So she came, sat down in my office,

NOTE Confidence: 0.5709162

00:09:12.090 --> 00:09:14.970 and she was indeed very distressed.

NOTE Confidence: 0.5709162

00:09:14.970 --> 00:09:16.825 But I realized pretty quickly

NOTE Confidence: 0.5709162

00:09:16.825 --> 00:09:19.104 into the interview that what the

NOTE Confidence: 0.5709162

00:09:19.104 --> 00:09:21.610 true problem was is that she was

NOTE Confidence: 0.5709162

00:09:21.610 --> 00:09:22.970 having infanticidal ideation.

NOTE Confidence: 0.5709162

00:09:22.970 --> 00:09:25.388 She was avoiding her children because

NOTE Confidence: 0.5709162

00:09:25.388 --> 00:09:28.130 she had thoughts of killing them or

00:09:28.130 --> 00:09:30.162 maiming them in some way, shape or form,

00:09:30.162 --> 00:09:32.570 and she was horrified by these thoughts.

00:09:32.570 --> 00:09:35.258 And they were like these intrusive images.

00:09:35.260 --> 00:09:36.820 And John mentioned that I had

00:09:36.820 --> 00:09:37.860 an interest in OCD.

00:09:37.860 --> 00:09:40.620 And I was just struck.

00:09:40.620 --> 00:09:42.180 I was like, wow,

00:09:42.180 --> 00:09:43.740 this is really different.

00:09:43.740 --> 00:09:46.070 This woman's not psychotic because

00:09:46.070 --> 00:09:47.934 these are egotystonic thoughts

00:09:47.940 --> 00:09:49.860 and what is going on here.

00:09:49.860 --> 00:09:51.636 And so I started reading and

00:09:51.636 --> 00:09:52.820 little did everybody know,

00:09:52.820 --> 00:09:55.420 I was actually pregnant at the time myself.

00:09:55.420 --> 00:09:57.940 And so I started reading about

00:09:57.940 --> 00:09:59.572 what causes infanticidal ideation,

NOTE Confidence: 0.5709162

00:09:59.572 --> 00:10:02.180 like how common is this, you know,

NOTE Confidence: 0.5709162

00:10:02.180 --> 00:10:03.860 and back in the 1990s there

NOTE Confidence: 0.5709162

00:10:03.860 --> 00:10:05.638 was some literature on this,

NOTE Confidence: 0.5709162

00:10:05.640 --> 00:10:08.237 but I fell across this one hormone,

NOTE Confidence: 0.5709162

00:10:08.240 --> 00:10:09.064 oxytocin.

NOTE Confidence: 0.5709162

00:10:09.064 --> 00:10:13.960 And I was like oxytocin is important for

NOTE Confidence: 0.5709162

00:10:13.960 --> 00:10:16.360 milk let down and uterine contractions.

NOTE Confidence: 0.5709162

00:10:16.360 --> 00:10:16.666 Well,

NOTE Confidence: 0.5709162

00:10:16.666 --> 00:10:18.808 little did I know that it was

NOTE Confidence: 0.5709162

00:10:18.808 --> 00:10:20.980 actually being studied in the

NOTE Confidence: 0.5709162

00:10:20.980 --> 00:10:23.100 initiation of maternal behavior.

NOTE Confidence: 0.5709162

00:10:23.100 --> 00:10:24.480 And I thought, wow,

NOTE Confidence: 0.5709162

00:10:24.480 --> 00:10:25.860 this is really fascinating.

NOTE Confidence: 0.5709162

00:10:25.860 --> 00:10:28.905 And so basically I took the first

NOTE Confidence: 0.5709162

00:10:28.905 --> 00:10:31.804 truism from George that as a

NOTE Confidence: 0.5709162

00:10:31.804 --> 00:10:34.314 psychiatrist I started reading about

NOTE Confidence: 0.5709162

00:10:34.314 --> 00:10:37.496 the mechanism behind what I was seeing.

NOTE Confidence: 0.5709162

00:10:37.500 --> 00:10:38.044 Now again,

NOTE Confidence: 0.5709162

00:10:38.044 --> 00:10:39.948 I don't think we know the true

NOTE Confidence: 0.5709162

00:10:39.948 --> 00:10:41.620 mechanism of infanticidal ideation.

NOTE Confidence: 0.5709162

00:10:41.620 --> 00:10:44.735 We think that maybe oxytocin is important,

NOTE Confidence: 0.5709162

00:10:44.740 --> 00:10:46.064 but in any case,

NOTE Confidence: 0.5709162

00:10:46.064 --> 00:10:48.050 it was something that was very

NOTE Confidence: 0.5709162

00:10:48.125 --> 00:10:50.240 got me interested in hormones.

NOTE Confidence: 0.5709162

00:10:50.240 --> 00:10:51.806 It also got me interested in

NOTE Confidence: 0.5709162

00:10:51.806 --> 00:10:52.850 hormones because people don't

NOTE Confidence: 0.5709162

00:10:52.898 --> 00:10:54.158 mind talking about hormones.

NOTE Confidence: 0.5709162

00:10:54.160 --> 00:10:55.960 They don't like to talk about mental illness.

NOTE Confidence: 0.5709162

00:10:55.960 --> 00:10:57.760 But you can talk about hormones.

NOTE Confidence: 0.9354834

00:10:57.760 --> 00:10:59.517 And when you tell a patient that,

NOTE Confidence: 0.9354834

00:10:59.520 --> 00:11:01.487 hey, it's not that you're a bad

NOTE Confidence: 0.9354834

00:11:01.487 --> 00:11:03.679 mother or that you're going to have,

NOTE Confidence: 0.9354834

00:11:03.680 --> 00:11:05.360 you know, be, you know,

NOTE Confidence: 0.9354834

00:11:05.360 --> 00:11:06.944 horrible to your children,

NOTE Confidence: 0.9354834

00:11:06.944 --> 00:11:09.320 you've undergone a huge hormonal shift.

NOTE Confidence: 0.9354834

00:11:09.320 --> 00:11:11.518 We can't tell you the exact mechanism,

NOTE Confidence: 0.9354834

00:11:11.520 --> 00:11:13.520 but we can say that it is related.

NOTE Confidence: 0.9354834

00:11:13.520 --> 00:11:15.602 You can just see the relief

NOTE Confidence: 0.9354834

00:11:15.602 --> 00:11:16.990 that falls over them,

NOTE Confidence: 0.9354834

00:11:16.990 --> 00:11:19.710 that they don't feel like all of a sudden it

NOTE Confidence: 0.9354834

00:11:19.772 --> 00:11:22.428 is my fault that I'm having these feelings.

NOTE Confidence: 0.9354834

00:11:22.430 --> 00:11:23.432 Luckily, Jim Lachman,

NOTE Confidence: 0.9354834

00:11:23.432 --> 00:11:26.717 who as many of you know at Yale Child

NOTE Confidence: 0.9354834

00:11:26.717 --> 00:11:29.030 Studies Center was also interested

NOTE Confidence: 0.9354834

00:11:29.030 --> 00:11:30.950 in oxytocin and obsessionality,

NOTE Confidence: 0.9354834

00:11:30.950 --> 00:11:33.134 and he's an ex world expert

NOTE Confidence: 0.9354834

00:11:33.134 --> 00:11:34.226 in tick disorders,

NOTE Confidence: 0.9354834

00:11:34.230 --> 00:11:37.184 which are often comorbid with OCD symptoms.

NOTE Confidence: 0.9354834

00:11:37.190 --> 00:11:40.286 And he gave me a book that was

NOTE Confidence: 0.9354834

00:11:40.286 --> 00:11:43.232 full of papers about oxytocin and

NOTE Confidence: 0.9354834

00:11:43.232 --> 00:11:45.652 maternal behavior and how estradiol

NOTE Confidence: 0.9354834

00:11:45.652 --> 00:11:48.151 during pregnancy is important for

NOTE Confidence: 0.9354834

00:11:48.151 --> 00:11:50.099 expression of oxytocin receptors.

NOTE Confidence: 0.9354834

00:11:50.100 --> 00:11:51.540 And I just got fascinated,

NOTE Confidence: 0.9354834

00:11:51.540 --> 00:11:54.180 but it was way over my head because I had

NOTE Confidence: 0.9354834

00:11:54.249 --> 00:11:56.699 never read any kind of rodent studies,

NOTE Confidence: 0.9354834

00:11:56.700 --> 00:11:57.964 molecular studies,

NOTE Confidence: 0.9354834

00:11:57.964 --> 00:12:00.484 Prairie bowl studies, sheep studies.

NOTE Confidence: 0.9354834

00:12:00.484 --> 00:12:03.840 I mean it was all in these non human mammals.

NOTE Confidence: 0.9354834

00:12:03.840 --> 00:12:06.480 And I remember saying to Jim,

NOTE Confidence: 0.9354834

00:12:06.480 --> 00:12:07.724 this is really hard.

NOTE Confidence: 0.9354834

00:12:07.724 --> 00:12:09.279 I don't understand these techniques.

NOTE Confidence: 0.9354834

00:12:09.280 --> 00:12:11.184 I don't know anything about these brain

NOTE Confidence: 0.9354834

00:12:11.184 --> 00:12:12.679 regions that they're talking about.

NOTE Confidence: 0.9354834

00:12:12.680 --> 00:12:14.199 And he just said keep with it,

NOTE Confidence: 0.9354834

00:12:14.200 --> 00:12:14.563 Neil.

NOTE Confidence: 0.9354834

00:12:14.563 --> 00:12:16.741 He said reading this work will

NOTE Confidence: 0.9354834

00:12:16.741 --> 00:12:19.194 get easier and that was the first

NOTE Confidence: 0.9354834

00:12:19.194 --> 00:12:21.904 advice I had to stick with as a

NOTE Confidence: 0.9354834

00:12:21.904 --> 00:12:24.040 clinician without a Bhd to stick

NOTE Confidence: 0.9354834

00:12:24.040 --> 00:12:26.491 with reading basic science research.

NOTE Confidence: 0.9354834

00:12:26.491 --> 00:12:29.953 And so that was incredibly helpful.

NOTE Confidence: 0.9354834

00:12:29.960 --> 00:12:32.599 So basically, I did have two children.

NOTE Confidence: 0.9354834

00:12:32.600 --> 00:12:33.992 And George was right.

NOTE Confidence: 0.9354834

00:12:33.992 --> 00:12:36.803 I needed lots of support and I was

NOTE Confidence: 0.9354834

00:12:36.803 --> 00:12:39.092 lucky to have that support with my

NOTE Confidence: 0.9354834

00:12:39.092 --> 00:12:41.160 spouse as well as our families.

NOTE Confidence: 0.9354834

00:12:41.160 --> 00:12:42.300 And then in 2009,

NOTE Confidence: 0.9354834

00:12:42.300 --> 00:12:45.480 I did go to where I would have better,

NOTE Confidence: 0.9354834

00:12:45.480 --> 00:12:47.676 more impact. And that was something.

NOTE Confidence: 0.9354834

00:12:47.680 --> 00:12:49.714 George took me out to lunch and he said,

NOTE Confidence: 0.9354834

00:12:49.720 --> 00:12:51.799 you know, I know this is a hard decision,

NOTE Confidence: 0.9354834

00:12:51.800 --> 00:12:52.258 he said,

NOTE Confidence: 0.9354834

00:12:52.258 --> 00:12:54.090 but I think that you will do well

NOTE Confidence: 0.9354834

00:12:54.145 --> 00:12:56.000 at the University of Pennsylvania.

NOTE Confidence: 0.9354834

00:12:56.000 --> 00:12:57.208 And so I went.

NOTE Confidence: 0.9354834

00:12:57.208 --> 00:12:58.114 And then again,

NOTE Confidence: 0.9354834

00:12:58.120 --> 00:13:00.752 I took his advice and chose to become

NOTE Confidence: 0.9354834

00:13:00.752 --> 00:13:04.600 a chair of a department in 2018.

NOTE Confidence: 0.9354834

00:13:04.600 --> 00:13:06.944 And a lot of this has been because

NOTE Confidence: 0.9354834

00:13:06.944 --> 00:13:08.999 of my mission and vision.

NOTE Confidence: 0.9354834

00:13:09.000 --> 00:13:10.152 I don't know how many people

NOTE Confidence: 0.9354834

00:13:10.152 --> 00:13:11.599 think they have a career mission.

NOTE Confidence: 0.9149146

00:13:13.640 --> 00:13:14.920 I actually think it's good

NOTE Confidence: 0.9149146

00:13:14.920 --> 00:13:16.200 to actually lay it out.

NOTE Confidence: 0.9149146

00:13:16.200 --> 00:13:18.160 Yeah, lay it out, write it out.

NOTE Confidence: 0.9149146

00:13:18.160 --> 00:13:21.030 So my career mission has been to

NOTE Confidence: 0.9149146

00:13:21.030 --> 00:13:23.431 promote the centrality of the brain

NOTE Confidence: 0.9149146

00:13:23.431 --> 00:13:25.986 with respect to all areas of health.

NOTE Confidence: 0.9149146

00:13:25.990 --> 00:13:27.887 And I did that through the field

NOTE Confidence: 0.9149146

00:13:27.887 --> 00:13:29.430 of psycho neuron terminology,

NOTE Confidence: 0.9149146

00:13:29.430 --> 00:13:31.206 which is the study of hormone

NOTE Confidence: 0.9149146

00:13:31.206 --> 00:13:32.390 effects on the brain.

NOTE Confidence: 0.9149146

00:13:32.390 --> 00:13:34.430 Because, again, when you are

NOTE Confidence: 0.9149146

00:13:34.430 --> 00:13:36.470 talking with people about something,

NOTE Confidence: 0.9149146

00:13:36.470 --> 00:13:38.828 hormones have such profound effects in

NOTE Confidence: 0.9149146

00:13:38.828 --> 00:13:41.150 so many different fields of medicine

NOTE Confidence: 0.9149146

00:13:41.150 --> 00:13:42.692 that it's easy for our colleagues

00:13:42.692 --> 00:13:44.297 in other fields of medicine to

00:13:44.297 --> 00:13:46.110 relate to what we're trying to say,

00:13:46.110 --> 00:13:48.747 It's easier for our patients to relate to us.

00:13:48.750 --> 00:13:51.396 And again, I never understood why

00:13:51.396 --> 00:13:54.870 the brain was a stigmatized organ.

00:13:54.870 --> 00:13:56.342 I mean, it just the brain is the

00:13:56.342 --> 00:13:57.428 most fascinating organ in the body.

00:13:57.430 --> 00:13:59.306 I mean, why do we stigmatize it?

00:13:59.310 --> 00:14:02.870 So my vision has been that we would,

00:14:02.870 --> 00:14:04.310 through all of this work,

00:14:04.310 --> 00:14:05.871 that we would be able to get

00:14:05.871 --> 00:14:06.790 brain health for all,

00:14:06.790 --> 00:14:09.388 for life because people would be,

00:14:09.390 --> 00:14:11.262 we wouldn't be stigmatizing

00:14:11.262 --> 00:14:12.666 this organ system.

00:14:12.670 --> 00:14:15.748 And the top is the weighting of the scales.

NOTE Confidence: 0.9149146

00:14:15.750 --> 00:14:18.174 Are we ever going to have true parity?

NOTE Confidence: 0.9149146

00:14:18.180 --> 00:14:20.925 And I always feel like if we can really

NOTE Confidence: 0.9149146

00:14:20.925 --> 00:14:23.098 emphasize the importance of psychiatry,

NOTE Confidence: 0.9149146

00:14:23.100 --> 00:14:23.626 psychology,

NOTE Confidence: 0.9149146

00:14:23.626 --> 00:14:26.256 mental health to all health,

NOTE Confidence: 0.9149146

00:14:26.260 --> 00:14:27.355 that we ideally,

NOTE Confidence: 0.9149146

00:14:27.355 --> 00:14:28.815 and this is aspirational,

NOTE Confidence: 0.9149146

00:14:28.820 --> 00:14:31.388 that we will have parity before

NOTE Confidence: 0.9149146

00:14:31.388 --> 00:14:33.544 hopefully or for I'm George's age,

NOTE Confidence: 0.9149146

00:14:33.544 --> 00:14:35.098 I hope that we will have parity.

NOTE Confidence: 0.9149146

00:14:35.100 --> 00:14:37.964 I don't know and I hope that

NOTE Confidence: 0.9149146

00:14:37.964 --> 00:14:39.094 we will have reduced stigma.

NOTE Confidence: 0.9149146

00:14:39.100 --> 00:14:41.764 But I've done this through really

NOTE Confidence: 0.9149146

00:14:41.764 --> 00:14:44.161 focusing on the endocrine system

NOTE Confidence: 0.9149146

00:14:44.161 --> 00:14:46.329 and psycho neuron chronology.

NOTE Confidence: 0.9149146

00:14:46.330 --> 00:14:48.370 So John mentioned reproductive psychiatry,

NOTE Confidence: 0.9149146

00:14:48.370 --> 00:14:51.250 and this is what we refer to when we

NOTE Confidence: 0.9149146

00:14:51.250 --> 00:14:54.354 sort of a area of psychiatry where you

NOTE Confidence: 0.9149146

00:14:54.354 --> 00:14:57.470 are thinking about and you're applying

NOTE Confidence: 0.9149146

00:14:57.470 --> 00:15:00.152 the psychoneurin endocrine sort of

NOTE Confidence: 0.9149146

00:15:00.152 --> 00:15:02.607 knowledge that knowledge base to

NOTE Confidence: 0.9149146

00:15:02.610 --> 00:15:04.650 the assessment and treatment of women,

NOTE Confidence: 0.9149146

00:15:04.650 --> 00:15:07.722 particularly reproductive time points.

NOTE Confidence: 0.9149146

00:15:07.722 --> 00:15:10.430 Now, what percentage of a woman's

NOTE Confidence: 0.9149146

00:15:10.430 --> 00:15:13.140 life do does she spend pregnant?

NOTE Confidence: 0.9149146

00:15:13.140 --> 00:15:14.139 Very small, yes.

NOTE Confidence: 0.9149146

00:15:14.139 --> 00:15:16.046 It's about 4% if you have

NOTE Confidence: 0.9149146

00:15:16.046 --> 00:15:17.254 on average two children.

NOTE Confidence: 0.9149146

00:15:17.260 --> 00:15:18.300 And some people don't choose

NOTE Confidence: 0.9149146

00:15:18.300 --> 00:15:19.340 to have children at all.

NOTE Confidence: 0.9149146

00:15:19.340 --> 00:15:20.760 Some people have one.

00:15:20.760 --> 00:15:22.180 Obviously people have more,

00:15:22.180 --> 00:15:24.700 but it's on average about 4% of

00:15:24.700 --> 00:15:27.340 the entire life of the female.

00:15:27.340 --> 00:15:28.642 So why is,

00:15:28.642 --> 00:15:31.246 and I refuse to call reproductive

00:15:31.246 --> 00:15:33.660 psychiatry perinatal mental health?

00:15:33.660 --> 00:15:36.285 Because it really is about sort of

00:15:36.285 --> 00:15:38.880 the broad aspects of hormonal effects

00:15:38.880 --> 00:15:42.004 on the brain and behavior in women.

00:15:42.004 --> 00:15:44.256 And so I'm fascinated with

00:15:44.256 --> 00:15:45.600 this particular area.

00:15:45.600 --> 00:15:47.718 And I started out in perinatal.

00:15:47.720 --> 00:15:49.160 And this is Fred Naphtalon.

00:15:49.160 --> 00:15:51.824 Fred Naphtalon was chair of the

00:15:51.824 --> 00:15:55.008 department of OBGYN when I first got

NOTE Confidence: 0.9149146

00:15:55.008 --> 00:15:56.928 interested in perinatal depression.

NOTE Confidence: 0.9149146

00:15:56.928 --> 00:15:57.984 And George,

NOTE Confidence: 0.9149146

00:15:57.984 --> 00:15:59.040 I'm sorry,

NOTE Confidence: 0.9149146

00:15:59.040 --> 00:16:02.232 Fred was very interested in estrogen

NOTE Confidence: 0.9149146

00:16:02.232 --> 00:16:04.360 effects and the hypothalamus

NOTE Confidence: 0.9149146

00:16:04.446 --> 00:16:06.684 and neuronal spine and dendritic

NOTE Confidence: 0.9149146

00:16:06.684 --> 00:16:08.594 connections and things like that.

NOTE Confidence: 0.9149146

00:16:08.600 --> 00:16:10.592 And so he was fascinated that

NOTE Confidence: 0.9149146

00:16:10.592 --> 00:16:12.348 I was interested in estrogen

NOTE Confidence: 0.9149146

00:16:12.348 --> 00:16:14.466 effects on other areas of the

NOTE Confidence: 0.9149146

00:16:14.466 --> 00:16:16.680 brain and was very supportive.

NOTE Confidence: 0.9149146

00:16:16.680 --> 00:16:18.565 It is incredibly helpful when

NOTE Confidence: 0.9149146

00:16:18.565 --> 00:16:20.073 you're a young whippersnapper

NOTE Confidence: 0.9149146

00:16:20.073 --> 00:16:21.885 coming up to have not only

NOTE Confidence: 0.9149146

00:16:21.885 --> 00:16:23.255 your own chair be supportive

NOTE Confidence: 0.92909014

00:16:23.319 --> 00:16:24.700 of you, but a chair of

NOTE Confidence: 0.92909014

00:16:24.700 --> 00:16:25.680 another field of medicine.

NOTE Confidence: 0.92909014

00:16:25.680 --> 00:16:28.668 And again, I was trying to make the brain

NOTE Confidence: 0.92909014

00:16:28.668 --> 00:16:30.857 relevant to all areas of healthcare.

NOTE Confidence: 0.92909014

00:16:30.860 --> 00:16:33.100 And then David Rubenow and Peter Schmidt,

NOTE Confidence: 0.92909014

00:16:33.100 --> 00:16:35.216 who are at the NIMH, Peter still there.

NOTE Confidence: 0.92909014

00:16:35.216 --> 00:16:37.898 David went on to be chair at UNC Chapel Hill,

NOTE Confidence: 0.92909014

00:16:37.900 --> 00:16:40.156 my alma mater and is now

NOTE Confidence: 0.92909014

00:16:40.156 --> 00:16:41.660 kind of semi retired.

NOTE Confidence: 0.92909014

00:16:41.660 --> 00:16:44.780 But I see him quite frequently in meetings.

NOTE Confidence: 0.92909014

00:16:44.780 --> 00:16:46.730 And again, they were incredibly

NOTE Confidence: 0.92909014

00:16:46.730 --> 00:16:49.514 helpful at the time because they were

NOTE Confidence: 0.92909014

00:16:49.514 --> 00:16:51.806 showing that it's not about hormone

NOTE Confidence: 0.92909014

00:16:51.806 --> 00:16:54.852 levels when it comes to these issues,

NOTE Confidence: 0.92909014

00:16:54.852 --> 00:16:58.344 depression and perinatal period or menopause,

NOTE Confidence: 0.92909014

00:16:58.350 --> 00:17:00.382 that it has to do with how the

NOTE Confidence: 0.92909014

00:17:00.382 --> 00:17:02.497 brain is responding to normal

NOTE Confidence: 0.92909014

00:17:02.497 --> 00:17:04.545 fluctuations and gonadal steroids.

NOTE Confidence: 0.92909014

00:17:04.550 --> 00:17:05.510 And you can say, well,

NOTE Confidence: 0.92909014

00:17:05.510 --> 00:17:06.630 we know that now.

NOTE Confidence: 0.92909014

00:17:06.630 --> 00:17:08.190 Well, this was the 1990s,

NOTE Confidence: 0.92909014

00:17:08.190 --> 00:17:09.790 and people didn't know that.

NOTE Confidence: 0.92909014

00:17:09.790 --> 00:17:13.020 And Peter and David's work were

NOTE Confidence: 0.92909014

00:17:13.020 --> 00:17:13.880 incredibly influential.

NOTE Confidence: 0.92909014

00:17:13.880 --> 00:17:16.890 They also showed us how to manipulate

NOTE Confidence: 0.92909014

00:17:16.956 --> 00:17:19.612 hormone levels safely and then be able to

NOTE Confidence: 0.92909014

00:17:19.612 --> 00:17:22.429 study the behavior and biological effects.

NOTE Confidence: 0.92909014

00:17:22.430 --> 00:17:24.910 And so, again, very important.

NOTE Confidence: 0.92909014

00:17:24.910 --> 00:17:28.039 Kathy Wisner, Barb Perry and Lee Cohen

NOTE Confidence: 0.92909014

00:17:28.039 --> 00:17:30.660 were also subject matter experts.

NOTE Confidence: 0.92909014

00:17:30.660 --> 00:17:32.644 I actually just was on a call with

NOTE Confidence: 0.92909014

00:17:32.644 --> 00:17:34.597 Kathy because we're going to be on a

NOTE Confidence: 0.92909014

00:17:34.597 --> 00:17:36.576 panel together at ACMP and she mentioned

NOTE Confidence: 0.92909014

00:17:36.576 --> 00:17:38.562 that George Anderson and she are

NOTE Confidence: 0.92909014

00:17:38.562 --> 00:17:40.178 collaborating on research together.

NOTE Confidence: 0.92909014

00:17:40.178 --> 00:17:43.160 And so it's always kind of interesting

NOTE Confidence: 0.92909014

00:17:43.234 --> 00:17:45.352 how full circle Linda Mays who as

NOTE Confidence: 0.92909014

00:17:45.352 --> 00:17:47.650 you know is the head of the Child

NOTE Confidence: 0.92909014

00:17:47.650 --> 00:17:49.612 Study Center now was also very

NOTE Confidence: 0.92909014

00:17:49.612 --> 00:17:51.538 helpful in getting me thinking

NOTE Confidence: 0.92909014

00:17:51.538 --> 00:17:54.022 about the of women who are going

NOTE Confidence: 0.92909014

00:17:54.022 --> 00:17:55.876 through pregnancy and maybe having

NOTE Confidence: 0.92909014

00:17:55.876 --> 00:17:58.246 depression or other kinds of stress.

NOTE Confidence: 0.92909014

00:17:58.250 --> 00:18:00.968 And then trace of John Crystal.

NOTE Confidence: 0.92909014

00:18:00.970 --> 00:18:02.054 I have to say,

NOTE Confidence: 0.92909014

00:18:02.054 --> 00:18:04.079 the one thing I always say about

NOTE Confidence: 0.92909014

00:18:04.079 --> 00:18:06.526 John I always say about you is that,

NOTE Confidence: 0.92909014

00:18:06.526 --> 00:18:08.434 you know, those people who know

NOTE Confidence: 0.92909014

00:18:08.434 --> 00:18:09.760 something about everything.

NOTE Confidence: 0.92909014

00:18:09.760 --> 00:18:12.400 Sean knows a lot about everything.

NOTE Confidence: 0.92909014

00:18:12.400 --> 00:18:14.423 I mean it it would just like

NOTE Confidence: 0.92909014

00:18:14.423 --> 00:18:15.720 blow my mind that,

NOTE Confidence: 0.92909014

00:18:15.720 --> 00:18:16.530 you know,

NOTE Confidence: 0.92909014

00:18:16.530 --> 00:18:18.555 he's not a reproductive psychiatrist.

NOTE Confidence: 0.92909014

00:18:18.560 --> 00:18:20.918 He doesn't study psycho neuro endocrinology.

NOTE Confidence: 0.92909014

00:18:20.920 --> 00:18:22.639 And I would come out of a meeting with

NOTE Confidence: 0.92909014

00:18:22.639 --> 00:18:24.627 him and he would be telling me something

NOTE Confidence: 0.92909014

00:18:24.627 --> 00:18:26.200 about estrogen and ampereceptors or,

NOTE Confidence: 0.92909014

00:18:26.200 --> 00:18:26.668 you know,

NOTE Confidence: 0.92909014

00:18:26.668 --> 00:18:27.838 and I'd be just like,

NOTE Confidence: 0.92909014

00:18:27.840 --> 00:18:31.040 how in the world do you even know about this?

NOTE Confidence: 0.92909014

00:18:31.040 --> 00:18:31.640 You know,

NOTE Confidence: 0.92909014

00:18:31.640 --> 00:18:34.040 I'm supposed to be the hormone expert and

NOTE Confidence: 0.92909014

00:18:34.107 --> 00:18:35.880 instead people always taught me something.

NOTE Confidence: 0.92909014

00:18:35.880 --> 00:18:38.120 So it was really remarkable.

NOTE Confidence: 0.92909014

00:18:38.120 --> 00:18:40.320 Very humbling I would say.

NOTE Confidence: 0.92909014

00:18:40.320 --> 00:18:42.400 And then Angela Capiello,

NOTE Confidence: 0.92909014

00:18:42.400 --> 00:18:42.920 yes,

NOTE Confidence: 0.92909014

00:18:42.920 --> 00:18:44.948 I mentioned you because you started

NOTE Confidence: 0.92909014

00:18:44.948 --> 00:18:46.575 the menopause research when you

NOTE Confidence: 0.92909014

00:18:46.575 --> 00:18:48.335 were at the VA and how you were

NOTE Confidence: 0.92909014

00:18:48.335 --> 00:18:49.925 doing menopause at the VA is

NOTE Confidence: 0.92909014

00:18:49.925 --> 00:18:51.556 like was especially in the 1990s,

NOTE Confidence: 0.92909014

00:18:51.556 --> 00:18:52.504 was beyond me.

NOTE Confidence: 0.92909014

00:18:52.504 --> 00:18:54.992 But I always wanted to do the

NOTE Confidence: 0.92909014

00:18:54.992 --> 00:18:56.564 whole reproductive lifespan

NOTE Confidence: 0.92909014

00:18:56.564 --> 00:18:57.970 because the things that you can,

NOTE Confidence: 0.92909014

00:18:57.970 --> 00:18:59.430 if you're really interested in

NOTE Confidence: 0.92909014

00:18:59.430 --> 00:19:00.890 how hormones affect the brain,

NOTE Confidence: 0.92909014

00:19:00.890 --> 00:19:02.724 you don't need to study just one

NOTE Confidence: 0.92909014

00:19:02.724 --> 00:19:04.889 area of the reproductive lifespan.

NOTE Confidence: 0.92909014

00:19:04.890 --> 00:19:07.571 You need to be able to interrogate

NOTE Confidence: 0.92909014

00:19:07.571 --> 00:19:10.330 questions across the reproductive lifespan.

NOTE Confidence: 0.92909014

00:19:10.330 --> 00:19:12.466 And Angela is the one that got her

NOTE Confidence: 0.92909014

00:19:12.466 --> 00:19:13.809 menopause research up and running.

NOTE Confidence: 0.92909014

00:19:13.810 --> 00:19:16.730 I think you got a grant from Eli Lilly that,

NOTE Confidence: 0.7730151

00:19:16.730 --> 00:19:18.570 you know, really helped it to get going.

NOTE Confidence: 0.7730151

00:19:18.570 --> 00:19:19.882 And then Tracy Bale,

NOTE Confidence: 0.7730151

00:19:19.882 --> 00:19:22.001 was John mentioned again,

NOTE Confidence: 0.7730151

00:19:22.001 --> 00:19:24.986 really such an amazing collaborator.

NOTE Confidence: 0.7730151

00:19:24.990 --> 00:19:26.355 I think part of my bucket list

NOTE Confidence: 0.7730151

00:19:26.355 --> 00:19:27.821 is I always wanted to collaborate

NOTE Confidence: 0.7730151

00:19:27.821 --> 00:19:28.933 with the basic scientists

NOTE Confidence: 0.7730151

00:19:28.933 --> 00:19:30.749 because as a clinical researcher,

NOTE Confidence: 0.7730151

00:19:30.750 --> 00:19:32.718 you can only get so far when it

NOTE Confidence: 0.7730151

00:19:32.718 --> 00:19:34.726 comes to mechanism and it would

NOTE Confidence: 0.7730151

00:19:34.726 --> 00:19:36.904 drive me bananas that everything was

NOTE Confidence: 0.7730151

00:19:36.968 --> 00:19:39.352 associative or correlative, you know.

NOTE Confidence: 0.7730151

00:19:39.352 --> 00:19:41.879 And the idea that you could actually

NOTE Confidence: 0.7730151

00:19:41.879 --> 00:19:44.266 get in and do more basic science

NOTE Confidence: 0.7730151

00:19:44.266 --> 00:19:47.130 research was in this area was terrific.

NOTE Confidence: 0.7730151

00:19:47.130 --> 00:19:49.970 So Tracy and I have been focusing on

NOTE Confidence: 0.7730151

00:19:49.970 --> 00:19:51.742 preconception and intergenerational

NOTE Confidence: 0.7730151

00:19:51.742 --> 00:19:54.226 transmission of stress and how

NOTE Confidence: 0.7730151

00:19:54.226 --> 00:19:56.470 stress hormones as well as gonadal

NOTE Confidence: 0.7730151

00:19:56.546 --> 00:19:58.130 steroids are involved.

NOTE Confidence: 0.7730151

00:19:58.130 --> 00:20:01.298 So you can see I've had a lot of

NOTE Confidence: 0.7730151

00:20:01.298 --> 00:20:02.958 support and George was right,

NOTE Confidence: 0.7730151

00:20:02.958 --> 00:20:04.593 it's really important to have.

NOTE Confidence: 0.7730151

00:20:04.600 --> 00:20:06.384 These professional colleagues that

NOTE Confidence: 0.7730151

00:20:06.384 --> 00:20:09.862 kind of help you get your start and

NOTE Confidence: 0.7730151

00:20:09.862 --> 00:20:12.655 support you all along the way and

NOTE Confidence: 0.7730151

00:20:12.655 --> 00:20:14.500 basically premenstrual dysphoric

NOTE Confidence: 0.7730151

00:20:14.500 --> 00:20:18.295 disorder effects about 5% of misrating women,

NOTE Confidence: 0.7730151

00:20:18.295 --> 00:20:21.181 although more than 50% will have some

NOTE Confidence: 0.7730151

00:20:21.181 --> 00:20:23.383 kinds of what we call premenstrual

NOTE Confidence: 0.7730151

00:20:23.383 --> 00:20:25.398 symptoms or premenstrual distress.

NOTE Confidence: 0.7730151

00:20:25.400 --> 00:20:27.829 About 20% of women will have some

NOTE Confidence: 0.7730151

00:20:27.829 --> 00:20:29.680 level of perinatal depression,

NOTE Confidence: 0.7730151

00:20:29.680 --> 00:20:32.350 and menopause is a very

NOTE Confidence: 0.7730151

00:20:32.350 --> 00:20:33.418 interesting transition.

NOTE Confidence: 0.7730151

00:20:33.420 --> 00:20:36.140 And if all of us are who identify as female

NOTE Confidence: 0.7730151

00:20:36.210 --> 00:20:38.618 and have our ovaries live long enough,

NOTE Confidence: 0.7730151

00:20:38.620 --> 00:20:41.938 we will go through this transition.

NOTE Confidence: 0.7730151

00:20:41.940 --> 00:20:43.375 And I don't know if you know,

NOTE Confidence: 0.7730151

00:20:43.380 --> 00:20:47.512 but basically if you've never had a

NOTE Confidence: 0.7730151

00:20:47.512 --> 00:20:49.899 depressive episode in your entire life,

NOTE Confidence: 0.7730151

00:20:49.900 --> 00:20:51.616 as you go through the perimenopause,

NOTE Confidence: 0.7730151

00:20:51.620 --> 00:20:53.900 you're at threefold increased risk

NOTE Confidence: 0.7730151

00:20:53.900 --> 00:20:56.588 of having your very first episode

NOTE Confidence: 0.7730151

00:20:56.588 --> 00:20:57.932 in the perimenopause.

NOTE Confidence: 0.7730151

00:20:57.940 --> 00:21:00.956 It was a very powerful time in people's

NOTE Confidence: 0.7730151

00:21:00.956 --> 00:21:02.232 lives with respect to hormones,

NOTE Confidence: 0.7730151

00:21:02.232 --> 00:21:03.932 and that is if you go through

NOTE Confidence: 0.7730151

00:21:03.932 --> 00:21:04.859 a natural process.

NOTE Confidence: 0.7730151

00:21:04.860 --> 00:21:07.898 So I studied the whole reproductive lifespan.

NOTE Confidence: 0.7730151

00:21:07.900 --> 00:21:10.216 So clearly I took George's advice,

NOTE Confidence: 0.7730151

00:21:10.220 --> 00:21:12.812 and I never allowed myself to get too

NOTE Confidence: 0.7730151

00:21:12.812 --> 00:21:15.020 comfortable in any one particular area.

NOTE Confidence: 0.7730151

00:21:15.020 --> 00:21:17.603 I also never allowed myself to get

NOTE Confidence: 0.7730151

00:21:17.603 --> 00:21:20.148 too comfortable when it came to the

NOTE Confidence: 0.7730151

00:21:20.148 --> 00:21:22.200 techniques I used to interrogate the

NOTE Confidence: 0.7730151

00:21:22.271 --> 00:21:25.085 questions that I had about how these

NOTE Confidence: 0.7730151

00:21:25.085 --> 00:21:27.256 hormones were affecting the brain.

NOTE Confidence: 0.7730151

00:21:27.256 --> 00:21:30.124 I would do pharmacologic manipulations of

NOTE Confidence: 0.7730151

00:21:30.124 --> 00:21:32.769 proton magnetic resonance spectroscopy,

NOTE Confidence: 0.7730151

00:21:32.770 --> 00:21:37.288 functional imaging network analysis early on,

NOTE Confidence: 0.7730151

00:21:37.290 --> 00:21:38.970 and I'll talk a little bit about

NOTE Confidence: 0.7730151

00:21:38.970 --> 00:21:39.690 the serotonin work.

NOTE Confidence: 0.7730151

00:21:39.690 --> 00:21:40.623 But, you know,

NOTE Confidence: 0.7730151

00:21:40.623 --> 00:21:42.489 going and attending a grand rounds

NOTE Confidence: 0.7730151

00:21:42.489 --> 00:21:44.900 as a junior faculty member here at

NOTE Confidence: 0.7730151

00:21:44.900 --> 00:21:47.245 Yale and hearing somebody talk about

NOTE Confidence: 0.7730151

00:21:47.245 --> 00:21:49.077 the platelet serotonin transporter,

NOTE Confidence: 0.7730151

00:21:49.080 --> 00:21:51.180 I knew nothing about the platelet

NOTE Confidence: 0.7730151

39

00:21:51.180 --> 00:21:51.880 serotonin transporter.

NOTE Confidence: 0.7730151

00:21:51.880 --> 00:21:52.460 I mean,

NOTE Confidence: 0.7730151

00:21:52.460 --> 00:21:54.490 I had no idea that your platelets

NOTE Confidence: 0.7730151

00:21:54.490 --> 00:21:56.398 had a serotonin transporter.

NOTE Confidence: 0.7730151

00:21:56.400 --> 00:21:59.480 And then to hear in that talk that

NOTE Confidence: 0.7730151

00:21:59.480 --> 00:22:01.400 that transporter is identical

NOTE Confidence: 0.7730151

00:22:01.400 --> 00:22:03.800 to the transporter on neurons.

NOTE Confidence: 0.7730151

00:22:03.800 --> 00:22:04.616 And at that point,

NOTE Confidence: 0.7730151

00:22:04.616 --> 00:22:06.258 I was about to start a postpartum

NOTE Confidence: 0.7730151

00:22:06.258 --> 00:22:08.436 depression treatment study with an SSRI,

NOTE Confidence: 0.7730151

00:22:08.440 --> 00:22:11.000 and I wanted to allow people to breastfeed.

NOTE Confidence: 0.7730151

00:22:11.000 --> 00:22:12.425 And I thought,

NOTE Confidence: 0.7730151

00:22:12.425 --> 00:22:15.300 I can use that system to test

NOTE Confidence: 0.7730151

00:22:15.300 --> 00:22:17.050 whether this is going to have an

NOTE Confidence: 0.7730151

00:22:17.050 --> 00:22:18.158 impact on the infants.

NOTE Confidence: 0.7730151

00:22:18.160 --> 00:22:19.918 And I'll show you those data.

NOTE Confidence: 0.7730151

00:22:19.920 --> 00:22:21.595 I've done a number of

NOTE Confidence: 0.7730151

00:22:21.595 --> 00:22:22.600 stress Physiology tests,

NOTE Confidence: 0.7730151

00:22:22.600 --> 00:22:24.049 everything from threatening

NOTE Confidence: 0.7730151

00:22:24.049 --> 00:22:26.464 people with shock and measuring

NOTE Confidence: 0.7730151

00:22:26.464 --> 00:22:27.430 their psychophysiologic

NOTE Confidence: 0.24615589

00:22:27.489 --> 00:22:29.409 response to a threat of shock

NOTE Confidence: 0.24615589

00:22:29.409 --> 00:22:31.040 to the trirosocial stress test.

NOTE Confidence: 0.24615589

00:22:31.040 --> 00:22:33.128 And now we've moved the trirosocial

NOTE Confidence: 0.24615589

00:22:33.128 --> 00:22:34.910 stress test during the pandemic

NOTE Confidence: 0.24615589

00:22:34.910 --> 00:22:37.796 to a virtual model for the TSST.

NOTE Confidence: 0.24615589

00:22:37.800 --> 00:22:40.992 I've done a number of hormonal

NOTE Confidence: 0.24615589

00:22:40.992 --> 00:22:43.120 manipulations and again psychophysiology.

NOTE Confidence: 0.24615589

00:22:43.120 --> 00:22:46.508 And then came my interest in this

NOTE Confidence: 0.24615589

00:22:46.508 --> 00:22:49.376 concept of why do some people

NOTE Confidence: 0.24615589

00:22:49.376 --> 00:22:52.609 experience their very first episode of

NOTE Confidence: 0.24615589

00:22:52.609 --> 00:22:55.454 depression or psychosis or cognitive

NOTE Confidence: 0.24615589

00:22:55.454 --> 00:22:57.718 change or obsessionality in the

NOTE Confidence: 0.24615589

00:22:57.718 --> 00:22:59.828 context of these hormonal changes?

NOTE Confidence: 0.24615589

00:22:59.830 --> 00:23:02.602 And it's not just about the biology of the

NOTE Confidence: 0.24615589

00:23:02.602 --> 00:23:04.787 hormones and how they affect the brain,

NOTE Confidence: 0.24615589

00:23:04.790 --> 00:23:07.107 but we know that early life adversity,

NOTE Confidence: 0.24615589

00:23:07.110 --> 00:23:08.246 childhood adversity,

NOTE Confidence: 0.24615589

00:23:08.246 --> 00:23:09.950 changes the brain.

NOTE Confidence: 0.24615589

00:23:09.950 --> 00:23:12.860 And so I started wondering about

NOTE Confidence: 0.24615589

00:23:12.860 --> 00:23:15.150 whether the patients I was seeing

NOTE Confidence: 0.24615589

00:23:15.150 --> 00:23:17.450 if adverse childhood experiences set

NOTE Confidence: 0.24615589

00:23:17.450 --> 00:23:21.045 them up for having this risk that when

NOTE Confidence: 0.24615589

00:23:21.045 --> 00:23:23.481 the hormones change later in life

NOTE Confidence: 0.24615589

00:23:23.481 --> 00:23:26.403 that that would unmask some of the

NOTE Confidence: 0.24615589

00:23:26.403 --> 00:23:28.365 impact of these adverse experiences.

NOTE Confidence: 0.24615589

00:23:28.365 --> 00:23:31.988 So that it was like a when a perfect storm,

NOTE Confidence: 0.24615589

00:23:31.988 --> 00:23:33.266 if you will.

NOTE Confidence: 0.24615589

00:23:33.270 --> 00:23:35.706 And perhaps because I'm married to a

NOTE Confidence: 0.24615589

00:23:35.706 --> 00:23:37.569 child and adolescent psychiatrist who

NOTE Confidence: 0.24615589

00:23:37.569 --> 00:23:40.222 does trauma work with youth and adults,

NOTE Confidence: 0.24615589

00:23:40.230 --> 00:23:42.830 I started measuring the adverse

NOTE Confidence: 0.24615589

00:23:42.830 --> 00:23:45.038 childhood experiences in all of my

NOTE Confidence: 0.24615589

00:23:45.038 --> 00:23:46.790 patients and all of my research.

NOTE Confidence: 0.24615589

00:23:46.790 --> 00:23:47.948 And for those of, you know,

NOTE Confidence: 0.24615589

00:23:47.950 --> 00:23:48.886 the ACE questionnaire,

NOTE Confidence: 0.24615589

00:23:48.886 --> 00:23:51.470 it's a 10 item scale that's still being,

NOTE Confidence: 0.24615589

00:23:51.470 --> 00:23:53.990 you know, used in multiple states.

NOTE Confidence: 0.24615589

00:23:53.990 --> 00:23:57.515 It has a very strong epidemiologic sort

NOTE Confidence: 0.24615589

00:23:57.515 --> 00:24:00.350 of reliability and it's used in mint,

NOTE Confidence: 0.24615589

00:24:00.350 --> 00:24:02.843 like I said in many states as part of

NOTE Confidence: 0.24615589

00:24:02.843 --> 00:24:05.257 their risk assessments for individuals

NOTE Confidence: 0.24615589

00:24:05.260 --> 00:24:06.700 measures three types of abuse,

00:24:06.700 --> 00:24:09.500 neglect and house five times

00:24:09.500 --> 00:24:11.180 of household dysfunction.

00:24:11.180 --> 00:24:11.650 Again,

00:24:11.650 --> 00:24:14.940 this concept that you want to make

00:24:14.940 --> 00:24:17.820 brain health relevant to all health

00:24:17.820 --> 00:24:19.818 people have shown that average shotted

00:24:19.818 --> 00:24:21.605 experience has not only increased

00:24:21.605 --> 00:24:23.575 the risk of psychiatric illnesses,

00:24:23.580 --> 00:24:26.418 but a number of medical conditions,

00:24:26.420 --> 00:24:29.456 even loss of your first pregnancy.

00:24:29.460 --> 00:24:31.508 If you have four more Aces on your

00:24:31.508 --> 00:24:32.780 childhood before the age of 18,

00:24:32.780 --> 00:24:34.250 you're at greater risk of that

00:24:34.250 --> 00:24:35.780 loss of that first pregnancy.

00:24:35.780 --> 00:24:39.460 So there's migraines, endocrine disorders,

NOTE Confidence: 0.24615589

00:24:39.460 --> 00:24:41.236 obviously metabolic disorders.

NOTE Confidence: 0.24615589

00:24:41.236 --> 00:24:42.420 So again,

NOTE Confidence: 0.24615589

00:24:42.420 --> 00:24:44.382 it was a way to think about can we

NOTE Confidence: 0.24615589

00:24:44.382 --> 00:24:46.496 use instruments that will help other

NOTE Confidence: 0.24615589

00:24:46.496 --> 00:24:48.331 clinicians from other fields of

NOTE Confidence: 0.24615589

00:24:48.395 --> 00:24:50.975 medicine understand what we're talking about.

NOTE Confidence: 0.24615589

00:24:50.980 --> 00:24:53.419 And I'm sorry but the CTQ is a little

NOTE Confidence: 0.24615589

00:24:53.419 --> 00:24:55.964 bit too sophisticated for the internist,

NOTE Confidence: 0.24615589

00:24:55.964 --> 00:24:59.228 but an ACE questionnaire is very

NOTE Confidence: 0.24615589

00:24:59.228 --> 00:25:00.860 easy to administer.

NOTE Confidence: 0.24615589

00:25:00.860 --> 00:25:02.750 So I'm just going to highlight some

NOTE Confidence: 0.24615589

00:25:02.750 --> 00:25:04.856 of the areas of research that my my

NOTE Confidence: 0.24615589

00:25:04.860 --> 00:25:06.498 that I have touched over my career,

NOTE Confidence: 0.24615589

00:25:06.500 --> 00:25:08.740 focusing first on the perinatal.

NOTE Confidence: 0.24615589

00:25:08.740 --> 00:25:11.252 So I promised that I would talk about

NOTE Confidence: 0.24615589

00:25:11.252 --> 00:25:13.718 work all over the my career and some

NOTE Confidence: 0.24615589

00:25:13.718 --> 00:25:16.738 that I did here and in other institutions.

NOTE Confidence: 0.24615589

00:25:16.740 --> 00:25:18.600 But because I was interested

NOTE Confidence: 0.24615589

00:25:18.600 --> 00:25:20.088 in perinatal mental health,

NOTE Confidence: 0.24615589

00:25:20.090 --> 00:25:21.775 people weren't sure whether postpartum

NOTE Confidence: 0.24615589

00:25:21.775 --> 00:25:23.898 depression was the same as major

NOTE Confidence: 0.24615589

00:25:23.898 --> 00:25:26.166 depressive disorder occurring at other times.

NOTE Confidence: 0.24615589

00:25:26.170 --> 00:25:29.145 And so I was really interested again

NOTE Confidence: 0.24615589

00:25:29.145 --> 00:25:31.440 in that question of obsessionality

NOTE Confidence: 0.24615589

00:25:31.440 --> 00:25:34.236 and I wanted to use antidepressants

NOTE Confidence: 0.24615589

00:25:34.236 --> 00:25:37.695 as a way to tease apart whether

NOTE Confidence: 0.24615589

00:25:37.695 --> 00:25:40.970 obsessionality is more serotonergic based

NOTE Confidence: 0.24615589

00:25:40.970 --> 00:25:44.453 like we were seeing with OCD at the time,

NOTE Confidence: 0.3527479

00:25:44.460 --> 00:25:46.776 at least with respect to treatment.

NOTE Confidence: 0.3527479

00:25:46.780 --> 00:25:49.328 But and so I had designed this

NOTE Confidence: 0.3527479

00:25:49.328 --> 00:25:51.394 NARSAD grant that was really

NOTE Confidence: 0.3527479

00:25:51.394 --> 00:25:53.619 kind of probably not feasible.

NOTE Confidence: 0.3527479

00:25:53.620 --> 00:25:55.900 And and Larry Price said,

NOTE Confidence: 0.3527479

00:25:55.900 --> 00:25:58.660 Neil, I'm sorry if there's no

NOTE Confidence: 0.3527479

00:25:58.660 --> 00:26:00.200 placebo-controlled study in the

NOTE Confidence: 0.3527479

00:26:00.200 --> 00:26:01.740 treatment of postpartum depression.

NOTE Confidence: 0.3527479

00:26:01.740 --> 00:26:03.518 That's the study that you have to

NOTE Confidence: 0.3527479

00:26:03.518 --> 00:26:05.579 do is the antidepressant study.

NOTE Confidence: 0.3527479

00:26:05.580 --> 00:26:08.310 I said, but that's so boring.

NOTE Confidence: 0.3527479

00:26:08.310 --> 00:26:09.870 I said, you know, you know,

NOTE Confidence: 0.3527479

00:26:09.870 --> 00:26:11.229 can't I do the other one he gives me?

NOTE Confidence: 0.3527479

00:26:11.230 --> 00:26:12.504 How are you going to recruit women?

NOTE Confidence: 0.3527479

00:26:12.510 --> 00:26:13.938 You're going to put out advertisement

NOTE Confidence: 0.3527479

00:26:13.938 --> 00:26:15.819 in in the newspaper that says if you

NOTE Confidence: 0.3527479

00:26:15.819 --> 00:26:17.145 have thoughts of killing your child,

NOTE Confidence: 0.3527479

00:26:17.150 --> 00:26:18.710 come see me, you know,

NOTE Confidence: 0.3527479

00:26:18.710 --> 00:26:20.330 He said you're you're,

NOTE Confidence: 0.3527479

00:26:20.330 --> 00:26:21.950 you can measure that,

NOTE Confidence: 0.3527479

00:26:21.950 --> 00:26:23.318 but you're going to have to

NOTE Confidence: 0.3527479

00:26:23.318 --> 00:26:24.590 do the SSRI study first.

NOTE Confidence: 0.3527479

00:26:24.590 --> 00:26:26.879 And so we showed that Sir Trilling

NOTE Confidence: 0.3527479

00:26:26.879 --> 00:26:28.942 was more effective than placebo

NOTE Confidence: 0.3527479

00:26:28.942 --> 00:26:31.107 and the treatment of depression

NOTE Confidence: 0.3527479

00:26:31.107 --> 00:26:33.673 with onset according to DSM 4

NOTE Confidence: 0.3527479

00:26:33.673 --> 00:26:35.325 criteria for postpartum onset.

NOTE Confidence: 0.3527479

00:26:35.330 --> 00:26:36.670 So that's onset within

NOTE Confidence: 0.3527479

00:26:36.670 --> 00:26:38.010 four weeks of delivery.

NOTE Confidence: 0.3527479

00:26:38.010 --> 00:26:39.230 And I have had,

NOTE Confidence: 0.3527479

00:26:39.230 --> 00:26:41.600 I had a number of people who were

NOTE Confidence: 0.3527479

00:26:41.600 --> 00:26:43.210 really involved in that work and I

NOTE Confidence: 0.3527479

00:26:43.210 --> 00:26:45.093 have to thank Larry Price for sort of

NOTE Confidence: 0.3527479

00:26:45.093 --> 00:26:46.849 guiding me in the right direction.

NOTE Confidence: 0.3527479

00:26:46.850 --> 00:26:48.128 And that's the thing about I've,

NOTE Confidence: 0.3527479

00:26:48.130 --> 00:26:50.328 I've noticed with some of my mentees,

NOTE Confidence: 0.3527479

00:26:50.330 --> 00:26:50.804 you know,

NOTE Confidence: 0.3527479

00:26:50.804 --> 00:26:52.463 people have that pie in the sky

NOTE Confidence: 0.3527479

00:26:52.463 --> 00:26:54.236 idea for what they want to do

NOTE Confidence: 0.3527479

00:26:54.236 --> 00:26:55.590 as their first research study.

NOTE Confidence: 0.3527479

00:26:55.590 --> 00:26:58.986 Dear God, listen to your mentor.

NOTE Confidence: 0.3527479

00:26:58.990 --> 00:27:00.450 They know what they're talking

NOTE Confidence: 0.3527479

00:27:00.450 --> 00:27:01.910 about when they say no,

NOTE Confidence: 0.3527479

00:27:01.910 --> 00:27:04.310 you should do this study first.

NOTE Confidence: 0.3527479

00:27:04.310 --> 00:27:06.830 So I used to lie in bed at night and go,

NOTE Confidence: 0.3527479

00:27:06.830 --> 00:27:08.060 Oh my God,

NOTE Confidence: 0.3527479

00:27:08.060 --> 00:27:10.930 I'm letting mom's breastfeed and take SSRIs.

NOTE Confidence: 0.3527479

00:27:10.930 --> 00:27:12.953 And at that point we had no

NOTE Confidence: 0.3527479

00:27:12.953 --> 00:27:14.890 idea for sure whether SSRIs.

NOTE Confidence: 0.3527479

00:27:14.890 --> 00:27:17.110 We knew that they got into

NOTE Confidence: 0.3527479

00:27:17.110 --> 00:27:18.600 the baby at low levels.

NOTE Confidence: 0.3527479

00:27:18.600 --> 00:27:20.350 There were low levels in the breast

NOTE Confidence: 0.3527479

00:27:20.406 --> 00:27:22.009 milk and low levels in the baby,

NOTE Confidence: 0.3527479

00:27:22.010 --> 00:27:23.550 but I didn't know whether

NOTE Confidence: 0.3527479

00:27:23.550 --> 00:27:25.090 they had a biological effect.

NOTE Confidence: 0.3527479

00:27:25.090 --> 00:27:27.365 So our first study was with sertraline.

NOTE Confidence: 0.3527479

00:27:27.370 --> 00:27:30.394 You can see here that the moms had

NOTE Confidence: 0.3527479

00:27:30.394 --> 00:27:32.770 a dramatic drop in their platelets,

NOTE Confidence: 0.3527479

00:27:32.770 --> 00:27:34.770 serotonin levels because the drug

NOTE Confidence: 0.3527479

00:27:34.770 --> 00:27:36.989 blocked the serotonin transporter.

NOTE Confidence: 0.3527479

00:27:36.990 --> 00:27:38.966 And you can see that in this very

NOTE Confidence: 0.3527479

00:27:38.966 --> 00:27:40.555 small sample of babies that we

NOTE Confidence: 0.3527479

00:27:40.555 --> 00:27:42.103 had very little effect at all.

NOTE Confidence: 0.3527479

00:27:42.110 --> 00:27:43.902 And so then we went and did this

NOTE Confidence: 0.3527479

00:27:43.902 --> 00:27:45.269 in a larger sample.

NOTE Confidence: 0.3527479

00:27:45.270 --> 00:27:45.770 Again,

NOTE Confidence: 0.3527479

00:27:45.770 --> 00:27:48.982 moms have a dramatic drop in platelets,

NOTE Confidence: 0.3527479

00:27:48.982 --> 00:27:50.598 serotonin levels because they

NOTE Confidence: 0.3527479

00:27:50.598 --> 00:27:51.810 blocked the drug.

NOTE Confidence: 0.3527479

00:27:51.810 --> 00:27:53.150 They're getting enough of the

NOTE Confidence: 0.3527479

00:27:53.150 --> 00:27:54.490 drug to block the transporter.

NOTE Confidence: 0.3527479

00:27:54.490 --> 00:27:56.688 But our babies on average did not

NOTE Confidence: 0.3527479

00:27:56.688 --> 00:27:58.766 have a sufficient amount of the

NOTE Confidence: 0.3527479

00:27:58.766 --> 00:28:00.551 medication in their bloodstream to

NOTE Confidence: 0.3527479

00:28:00.551 --> 00:28:03.488 block the serotonin transporter on platelets.

NOTE Confidence: 0.3527479

00:28:03.490 --> 00:28:04.100 And again,

NOTE Confidence: 0.3527479

00:28:04.100 --> 00:28:05.930 that's a proxy for what we,

NOTE Confidence: 0.3527479

00:28:05.930 --> 00:28:07.946 or at least we were saying is proxy

NOTE Confidence: 0.3527479

00:28:07.950 --> 00:28:09.378 for what might be happening at

NOTE Confidence: 0.3527479

00:28:09.378 --> 00:28:10.630 the central nervous system level.

NOTE Confidence: 0.3527479

00:28:10.630 --> 00:28:12.163 And it turns out that Kathy Wisner

NOTE Confidence: 0.3527479

00:28:12.163 --> 00:28:13.840 and George are going to be doing

NOTE Confidence: 0.3527479

00:28:13.840 --> 00:28:15.050 this now with pregnant women

NOTE Confidence: 0.3527479

00:28:15.050 --> 00:28:16.548 because obviously during pregnancy,

NOTE Confidence: 0.3527479

00:28:16.550 --> 00:28:19.077 women get exposed the baby and the

NOTE Confidence: 0.3527479

00:28:19.077 --> 00:28:20.994 fetus gets exposed to more medication.

NOTE Confidence: 0.3527479

00:28:20.994 --> 00:28:23.490 And so there are a number of people.

NOTE Confidence: 0.7276675

00:28:23.490 --> 00:28:26.730 Chris McDougal, who's long left Yale,

NOTE Confidence: 0.7276675

00:28:26.730 --> 00:28:28.935 was very supportive to me early in

NOTE Confidence: 0.7276675

00:28:28.935 --> 00:28:31.265 my career as well. And and George

NOTE Confidence: 0.7276675

00:28:31.265 --> 00:28:32.890 and Peter Jatlow were terrific.

NOTE Confidence: 0.7276675

00:28:32.890 --> 00:28:34.672 And that most of you might

NOTE Confidence: 0.7276675

00:28:34.672 --> 00:28:35.563 remember Catherine Zarkowski,

NOTE Confidence: 0.7276675

00:28:35.570 --> 00:28:38.930 who basically was, I have to tell you,

NOTE Confidence: 0.7276675

00:28:38.930 --> 00:28:41.354 the people who work for you and and

NOTE Confidence: 0.7276675

00:28:41.354 --> 00:28:43.649 and partner with you on this journey,

NOTE Confidence: 0.7276675

00:28:43.650 --> 00:28:46.410 they're really incredibly important.

NOTE Confidence: 0.7276675

00:28:46.410 --> 00:28:47.850 So then I went to Yale.

NOTE Confidence: 0.7276675

00:28:47.850 --> 00:28:48.582 I mean, sorry,

NOTE Confidence: 0.7276675

00:28:48.582 --> 00:28:53.121 I went to Penn and I wanted to study sort

NOTE Confidence: 0.7276675

00:28:53.121 --> 00:28:54.726 of maternal early childhood adversity

NOTE Confidence: 0.7276675

00:28:54.726 --> 00:28:56.880 and how it might be transmitted.

NOTE Confidence: 0.7276675

00:28:56.880 --> 00:28:58.264 That information might be

NOTE Confidence: 0.7276675

00:28:58.264 --> 00:28:59.994 transmitted to the next generation.

NOTE Confidence: 0.7276675

00:29:00.000 --> 00:29:01.440 There's been plenty of evidence

NOTE Confidence: 0.7276675

00:29:01.440 --> 00:29:02.880 from like the Dutch hunger,

NOTE Confidence: 0.7276675

00:29:02.880 --> 00:29:04.905 winter and other sort of

NOTE Confidence: 0.7276675

00:29:04.905 --> 00:29:06.120 large epidemiologic studies.

NOTE Confidence: 0.7276675

00:29:06.120 --> 00:29:08.910 We know that maternal stress during

NOTE Confidence: 0.7276675

00:29:08.910 --> 00:29:11.577 pregnancy can have a negative

NOTE Confidence: 0.7276675

00:29:11.577 --> 00:29:14.437 impact on infant neurodevelopment,

NOTE Confidence: 0.7276675

00:29:14.440 --> 00:29:16.320 even sort of their stress

NOTE Confidence: 0.7276675

00:29:16.320 --> 00:29:17.824 response later in life.

NOTE Confidence: 0.7276675

00:29:17.830 --> 00:29:20.926 But our hypothesis was that women

NOTE Confidence: 0.7276675

00:29:20.926 --> 00:29:23.476 who've been adversely affected in

NOTE Confidence: 0.7276675

00:29:23.476 --> 00:29:25.894 childhood come into the pregnancy with

NOTE Confidence: 0.7276675

00:29:25.894 --> 00:29:28.782 a way of responding to environmental

NOTE Confidence: 0.7276675

00:29:28.782 --> 00:29:32.506 stressors that is likely to be unique.

NOTE Confidence: 0.7276675

00:29:32.510 --> 00:29:34.974 And so we wanted to study how this

NOTE Confidence: 0.7276675

00:29:34.974 --> 00:29:36.837 might impact fetal development and we

NOTE Confidence: 0.7276675

00:29:36.837 --> 00:29:40.050 wanted to do so in a sex specific fashion.

NOTE Confidence: 0.7276675

00:29:40.050 --> 00:29:42.490 So we basically measured on,

NOTE Confidence: 0.7276675

00:29:42.490 --> 00:29:45.502 borrowed from the OBGYN and maternal

NOTE Confidence: 0.7276675

00:29:45.502 --> 00:29:47.510 fetal medicine literature and

NOTE Confidence: 0.7276675

00:29:47.586 --> 00:29:50.056 research using 3D ultrasound to

NOTE Confidence: 0.7276675

00:29:50.056 --> 00:29:52.526 measure the fetal adrenal volume.

NOTE Confidence: 0.7276675

00:29:52.530 --> 00:29:54.770 We measured it over two time points.

00:29:54.770 --> 00:29:57.010 Eileen Wong was at OBGYN.

00:29:57.010 --> 00:29:58.720 Debbie Kim was a psychiatrist

00:29:58.720 --> 00:30:01.283 researcher at the time and Lisa Hanso

00:30:01.283 --> 00:30:03.248 is assistant professor at Hopkins.

00:30:03.250 --> 00:30:05.806 So this was a team effort,

00:30:05.810 --> 00:30:07.730 and again, to George's point,

00:30:07.730 --> 00:30:09.860 beware of getting too comfortable,

00:30:09.860 --> 00:30:10.814 try new techniques,

00:30:10.814 --> 00:30:12.722 and really think about how you

00:30:12.722 --> 00:30:14.773 can use technology from other

00:30:14.773 --> 00:30:16.863 fields of medicine to potentially

00:30:16.863 --> 00:30:18.697 interrogate the questions you have.

00:30:18.700 --> 00:30:20.940 So because I'm showing you these data,

00:30:20.940 --> 00:30:22.908 they must have come out positive.

00:30:22.910 --> 00:30:24.884 You need a really good biased

00:30:24.884 --> 00:30:27.390 statistician to do a lot of this work.

NOTE Confidence: 0.7276675

00:30:27.390 --> 00:30:29.190 Mary Sammel and her mentee,

NOTE Confidence: 0.7276675

00:30:29.190 --> 00:30:30.102 Rachel Johnson,

NOTE Confidence: 0.7276675

00:30:30.102 --> 00:30:33.750 and then Karina Duffy is a science writer.

NOTE Confidence: 0.7276675

00:30:33.750 --> 00:30:35.110 Now that I'm a chair of a department,

NOTE Confidence: 0.7276675

00:30:35.110 --> 00:30:36.703 I just don't have as much time to write.

NOTE Confidence: 0.7276675

00:30:36.710 --> 00:30:37.390 I have to tell you,

NOTE Confidence: 0.7276675

00:30:37.390 --> 00:30:39.665 I hired 2 science writers and they

NOTE Confidence: 0.7276675

00:30:39.665 --> 00:30:42.038 have been amazing at helping us to

NOTE Confidence: 0.7276675

00:30:42.038 --> 00:30:43.703 stay as productive as possible.

NOTE Confidence: 0.7276675

00:30:43.710 --> 00:30:44.826 So I'll walk you through this.

NOTE Confidence: 0.7276675

00:30:44.830 --> 00:30:47.350 This is weight adjusted fetal adrenal volume.

NOTE Confidence: 0.7276675

00:30:47.350 --> 00:30:49.660 You have to weight adjust because baby

NOTE Confidence: 0.7276675

00:30:49.660 --> 00:30:52.397 boys have larger adrenals and they're bigger.

NOTE Confidence: 0.7276675

00:30:52.400 --> 00:30:53.333 By and large,

NOTE Confidence: 0.7276675

00:30:53.333 --> 00:30:55.510 this is the female group and these

56

NOTE Confidence: 0.7276675

00:30:55.583 --> 00:30:58.446 moms either had high amount of adverse

NOTE Confidence: 0.7276675

00:30:58.446 --> 00:31:00.520 childhood experiences or low amounts.

NOTE Confidence: 0.7276675

00:31:00.520 --> 00:31:03.012 And we looked at whether that was

NOTE Confidence: 0.7276675

00:31:03.012 --> 00:31:05.896 there a fetal sex by maternal ace

NOTE Confidence: 0.7276675

00:31:05.896 --> 00:31:08.200 interaction and the answer is yes.

NOTE Confidence: 0.7276675

00:31:08.200 --> 00:31:10.760 And if you look at who's mostly affected,

NOTE Confidence: 0.7276675

00:31:10.760 --> 00:31:11.771 not the females,

NOTE Confidence: 0.7276675

00:31:11.771 --> 00:31:13.456 the low and highest females

NOTE Confidence: 0.7276675

00:31:13.456 --> 00:31:14.680 look pretty similar.

NOTE Confidence: 0.7276675

00:31:14.680 --> 00:31:16.280 The low and highest males

NOTE Confidence: 0.7276675

00:31:16.280 --> 00:31:17.240 look very different.

NOTE Confidence: 0.7276675

00:31:17.240 --> 00:31:19.316 The highest males have a much

NOTE Confidence: 0.7276675

00:31:19.316 --> 00:31:20.700 smaller weight adjusted fetal

NOTE Confidence: 0.7276675

00:31:20.759 --> 00:31:22.799 adrenal volume to the point that

NOTE Confidence: 0.7276675

00:31:22.799 --> 00:31:24.159 they look more feminized.

NOTE Confidence: 0.7276675

00:31:24.160 --> 00:31:26.530 And actually that's their data in

NOTE Confidence: 0.7276675

00:31:26.530 --> 00:31:29.117 animal studies that do talk about

NOTE Confidence: 0.7276675

00:31:29.117 --> 00:31:31.437 feminization of the male phenotype,

NOTE Confidence: 0.7709834

00:31:31.440 --> 00:31:35.920 Often they're looking at their sex behavior,

NOTE Confidence: 0.7709834

00:31:35.920 --> 00:31:39.200 but there are data to suggest that maternal

NOTE Confidence: 0.7709834

00:31:39.200 --> 00:31:42.000 stress can have this kind of impact.

NOTE Confidence: 0.7709834

00:31:42.000 --> 00:31:44.226 And so our question is, is OK,

NOTE Confidence: 0.7709834

00:31:44.226 --> 00:31:46.277 does that play out later in life?

NOTE Confidence: 0.7709834

00:31:46.280 --> 00:31:48.760 And we looked at six months of age,

NOTE Confidence: 0.7709834

00:31:48.760 --> 00:31:50.853 we took babies away from their moms

NOTE Confidence: 0.7709834

00:31:50.853 --> 00:31:53.285 and did a stress test where basically

NOTE Confidence: 0.7709834

00:31:53.285 --> 00:31:55.880 it was hold the baby's arms down,

NOTE Confidence: 0.7709834

00:31:55.880 --> 00:31:57.800 don't look at the baby,

NOTE Confidence: 0.7709834

00:31:57.800 --> 00:31:59.628 have built a bullhorn,

NOTE Confidence: 0.7709834

00:31:59.628 --> 00:32:01.913 make three loud noise bursts.

NOTE Confidence: 0.7709834

00:32:01.920 --> 00:32:03.560 So it is pretty stressful.

NOTE Confidence: 0.7709834

00:32:03.560 --> 00:32:05.648 And the moms would have to sit in

NOTE Confidence: 0.7709834

00:32:05.648 --> 00:32:07.533 another room while their babies

NOTE Confidence: 0.7709834

00:32:07.533 --> 00:32:08.838 were undergoing distressor.

NOTE Confidence: 0.7709834

00:32:08.840 --> 00:32:11.452 And with 95 infants,

NOTE Confidence: 0.7709834

00:32:11.452 --> 00:32:14.717 we basically showed that overall,

NOTE Confidence: 0.7709834

00:32:14.720 --> 00:32:17.028 there's no significant maternal

NOTE Confidence: 0.7709834

00:32:17.028 --> 00:32:19.913 ace bifetal baby sex interaction.

NOTE Confidence: 0.7709834

00:32:19.920 --> 00:32:21.950 But if you take it apart and

NOTE Confidence: 0.7709834

00:32:21.950 --> 00:32:23.639 you actually look at the high,

NOTE Confidence: 0.7709834

00:32:23.640 --> 00:32:25.212 the girls of high ace moms

NOTE Confidence: 0.7709834

00:32:25.212 --> 00:32:27.199 and the boys of high ace moms,

NOTE Confidence: 0.7709834

00:32:27.200 --> 00:32:29.516 you see this kind of dampened

NOTE Confidence: 0.7709834

00:32:29.520 --> 00:32:32.430 response in those boys who had

NOTE Confidence: 0.7709834

00:32:32.430 --> 00:32:35.020 the more small fetal adrenals.

NOTE Confidence: 0.7709834

00:32:35.020 --> 00:32:36.640 And so again,

NOTE Confidence: 0.7709834

00:32:36.640 --> 00:32:38.902 suggesting that you know what was

NOTE Confidence: 0.7709834

00:32:38.902 --> 00:32:40.740 going on and what you could say,

NOTE Confidence: 0.7709834

00:32:40.740 --> 00:32:42.098 well, wait a minute, wait a minute.

NOTE Confidence: 0.7709834

00:32:42.100 --> 00:32:43.956 These women had adversity.

NOTE Confidence: 0.7709834

00:32:43.956 --> 00:32:46.740 Were they more stressed during pregnancy?

NOTE Confidence: 0.7709834

00:32:46.740 --> 00:32:47.176 Luckily,

NOTE Confidence: 0.7709834

00:32:47.176 --> 00:32:49.356 we found that their perceived

NOTE Confidence: 0.7709834

00:32:49.356 --> 00:32:51.555 stress was not different between

NOTE Confidence: 0.7709834

00:32:51.555 --> 00:32:53.460 the high and lowest moms.

NOTE Confidence: 0.7709834

00:32:53.460 --> 00:32:55.770 And so we're really thinking that

NOTE Confidence: 0.7709834

00:32:55.770 --> 00:32:58.041 this has some relationship to what

NOTE Confidence: 0.7709834

00:32:58.041 --> 00:33:00.015 happened to moms earlier in life.

NOTE Confidence: 0.7709834

00:33:00.020 --> 00:33:01.637 And one of the ways in which

NOTE Confidence: 0.7709834

00:33:01.637 --> 00:33:02.948 we might have intergenerational

NOTE Confidence: 0.7709834

00:33:02.948 --> 00:33:04.637 transmission of stress.

NOTE Confidence: 0.7709834

00:33:04.640 --> 00:33:05.184 Now, you could say,

NOTE Confidence: 0.7709834

00:33:05.184 --> 00:33:05.320 well,

NOTE Confidence: 0.7709834

00:33:05.320 --> 00:33:07.036 what's the clinical significance of this?

NOTE Confidence: 0.7709834

00:33:07.040 --> 00:33:07.320 Well,

NOTE Confidence: 0.7709834

00:33:07.320 --> 00:33:09.000 the one thing about moving around

NOTE Confidence: 0.7709834

00:33:09.000 --> 00:33:11.235 a lot is we weren't able to

NOTE Confidence: 0.7709834

00:33:11.235 --> 00:33:12.740 follow those children until like

NOTE Confidence: 0.7709834

00:33:12.740 --> 00:33:14.240 four and five years of age.

NOTE Confidence: 0.7709834

00:33:14.240 --> 00:33:16.532 But there are data in the

NOTE Confidence: 0.7709834

00:33:16.532 --> 00:33:18.060 literature that when children

NOTE Confidence: 0.7709834

00:33:18.139 --> 00:33:20.059 have attention attention deficit

NOTE Confidence: 0.7709834

00:33:20.059 --> 00:33:22.939 disorder kinds of symptoms that they

NOTE Confidence: 0.7709834

00:33:23.012 --> 00:33:25.237 have a dampened stress response.

NOTE Confidence: 0.7709834

00:33:25.240 --> 00:33:27.556 There's also data from college students,

NOTE Confidence: 0.7709834

00:33:27.560 --> 00:33:29.560 whether you're male or female,

NOTE Confidence: 0.7709834

00:33:29.560 --> 00:33:32.150 that even in normal populations,

NOTE Confidence: 0.7709834

00:33:32.150 --> 00:33:33.778 that psychopathy symptoms are

NOTE Confidence: 0.7709834

00:33:33.778 --> 00:33:36.220 greater in those that have a

NOTE Confidence: 0.7709834

00:33:36.299 --> 00:33:38.549 dampened response to a stressor.

NOTE Confidence: 0.7709834

00:33:38.550 --> 00:33:39.136 So again,

NOTE Confidence: 0.7709834

00:33:39.136 --> 00:33:41.480 we need to follow this up to determine

NOTE Confidence: 0.7709834

00:33:41.549 --> 00:33:43.629 the sort of clinical significance.

NOTE Confidence: 0.7709834

00:33:43.630 --> 00:33:44.526 But again,

NOTE Confidence: 0.7709834

00:33:44.526 --> 00:33:45.870 as George says,

NOTE Confidence: 0.7709834

00:33:45.870 --> 00:33:48.342 you need to be thinking about

NOTE Confidence: 0.7709834

00:33:48.342 --> 00:33:50.522 mechanisms that could lead to

NOTE Confidence: 0.7709834

00:33:50.522 --> 00:33:52.346 risk for psychopathology and

NOTE Confidence: 0.7709834

00:33:52.346 --> 00:33:54.626 offspring due to these events.

NOTE Confidence: 0.7709834

00:33:54.630 --> 00:33:57.945 And mom also thinking about

NOTE Confidence: 0.7709834

00:33:57.945 --> 00:34:00.120 working with a basic scientist.

NOTE Confidence: 0.7709834

00:34:00.120 --> 00:34:01.478 I'm going to walk you through this.

NOTE Confidence: 0.7709834

00:34:01.480 --> 00:34:03.928 This is a project that I did with

NOTE Confidence: 0.7709834

00:34:03.928 --> 00:34:06.865 Tracy early in our career work

NOTE Confidence: 0.7709834

00:34:06.865 --> 00:34:09.675 together and Katie Morrison is

NOTE Confidence: 0.7709834

00:34:09.675 --> 00:34:12.600 now an assistant professor at

NOTE Confidence: 0.7709834

00:34:12.600 --> 00:34:13.874 How much more time do I have?

NOTE Confidence: 0.7709834

00:34:13.880 --> 00:34:15.994 I'm just trying to figure this out.

NOTE Confidence: 0.7709834

00:34:16.000 --> 00:34:19.840 OK, OK, OK, good. OK, great.

NOTE Confidence: 0.7709834

00:34:19.840 --> 00:34:21.850 So basically these moms we're

NOTE Confidence: 0.7709834

00:34:21.850 --> 00:34:23.860 having their babies taken away

NOTE Confidence: 0.7709834

00:34:23.932 --> 00:34:25.997 from them to go do that stress

NOTE Confidence: 0.7709834

00:34:25.997 --> 00:34:28.330 test that was just talking about

NOTE Confidence: 0.7709834

00:34:28.330 --> 00:34:30.170 and our research coordinator,

NOTE Confidence: 0.7709834

00:34:30.170 --> 00:34:32.102 we were having a whole lab meeting

NOTE Confidence: 0.7709834

00:34:32.102 --> 00:34:33.973 sort of basic science and our

NOTE Confidence: 0.7709834

00:34:33.973 --> 00:34:36.170 clinical lab was meeting and

NOTE Confidence: 0.7709834

00:34:36.170 --> 00:34:38.726 the the our research coordinator

NOTE Confidence: 0.7709834

00:34:38.726 --> 00:34:41.825 said you know we can tell which

NOTE Confidence: 0.7709834

00:34:41.825 --> 00:34:44.370 mothers are high A's moms versus

NOTE Confidence: 0.7709834

00:34:44.370 --> 00:34:46.410 low A's moms based upon

NOTE Confidence: 0.42088047

00:34:46.498 --> 00:34:49.730 how they act when we take their child.

NOTE Confidence: 0.42088047

00:34:49.730 --> 00:34:50.610 And we were like, oh,

NOTE Confidence: 0.42088047

00:34:50.610 --> 00:34:52.320 will tell us more about that.

NOTE Confidence: 0.42088047

00:34:52.320 --> 00:34:53.640 They were like, well, you know,

NOTE Confidence: 0.42088047

00:34:53.640 --> 00:34:56.272 the moms that are lowest did

NOTE Confidence: 0.42088047

00:34:56.272 --> 00:34:57.360 not have childhood diversity,

NOTE Confidence: 0.42088047

00:34:57.360 --> 00:34:58.920 asked a lot of questions.

NOTE Confidence: 0.42088047

00:34:58.920 --> 00:35:00.848 They make us promise that if the baby

NOTE Confidence: 0.42088047

00:35:00.848 --> 00:35:02.676 cries for a minute straight that they

NOTE Confidence: 0.42088047

00:35:02.676 --> 00:35:04.838 we will bring the baby back right away.

NOTE Confidence: 0.42088047

00:35:04.840 --> 00:35:07.690 They're much more concerned and kind

NOTE Confidence: 0.42088047

00:35:07.690 --> 00:35:10.560 of agitated about this separation.

NOTE Confidence: 0.42088047

00:35:10.560 --> 00:35:12.120 And then the other moms,

00:35:12.120 --> 00:35:15.560 the moms that underwent a lot of adversity,

00:35:15.560 --> 00:35:17.160 we're not as concerned.

00:35:17.160 --> 00:35:19.304 They were sort of yes,

00:35:19.304 --> 00:35:22.750 fine here, here's the baby.

00:35:22.750 --> 00:35:24.840 So, so basically we said wow,

00:35:24.840 --> 00:35:27.400 maybe we should start looking at the moms.

00:35:27.400 --> 00:35:29.760 So we basically started testing

00:35:29.760 --> 00:35:32.120 the mom salivary cortisol response

00:35:32.192 --> 00:35:34.477 to having the infant separation.

00:35:34.480 --> 00:35:35.143 And you know,

00:35:35.143 --> 00:35:37.030 so we had them come in and rest

00:35:37.030 --> 00:35:38.692 and relax just like what they

00:35:38.692 --> 00:35:40.079 were doing with the baby.

00:35:40.080 --> 00:35:42.708 And you can see the sort of the paradigm

00:35:42.708 --> 00:35:45.038 as we measure salivary cortisol.

00:35:45.040 --> 00:35:47.254 And what you can see here is what you

NOTE Confidence: 0.42088047

00:35:47.254 --> 00:35:49.338 would expect based upon the phenotype

NOTE Confidence: 0.42088047

00:35:49.340 --> 00:35:51.811 and the behavior is that the women

NOTE Confidence: 0.42088047

00:35:51.811 --> 00:35:54.650 in the lowest group had a higher

NOTE Confidence: 0.42088047

00:35:54.650 --> 00:35:57.251 cortisol response to the stressor of

NOTE Confidence: 0.42088047

00:35:57.251 --> 00:36:00.077 infant separation than the moms in

NOTE Confidence: 0.42088047

00:36:00.077 --> 00:36:03.138 the more adversely experienced group.

NOTE Confidence: 0.42088047

00:36:03.138 --> 00:36:05.256 And Katie said,

NOTE Confidence: 0.42088047

00:36:05.260 --> 00:36:05.582 well,

NOTE Confidence: 0.42088047

00:36:05.582 --> 00:36:08.158 I can model that and I wrote it.

NOTE Confidence: 0.42088047

00:36:08.160 --> 00:36:10.736 So she created this little box here

NOTE Confidence: 0.42088047

00:36:10.736 --> 00:36:13.398 where these moms are either controlled

NOTE Confidence: 0.42088047

00:36:13.400 --> 00:36:16.998 rat moms or they were stressed in

NOTE Confidence: 0.42088047

00:36:16.998 --> 00:36:20.119 the peripubertal window with a 14

NOTE Confidence: 0.42088047

00:36:20.119 --> 00:36:22.599 day chronic variable stress model.

NOTE Confidence: 0.42088047

00:36:22.600 --> 00:36:25.156 And then they separated the moms.

NOTE Confidence: 0.42088047

00:36:25.160 --> 00:36:26.552 After they let the moms grow

NOTE Confidence: 0.42088047

00:36:26.552 --> 00:36:27.480 up and have babies,

NOTE Confidence: 0.42088047

00:36:27.480 --> 00:36:30.000 they separated the moms from their pups.

NOTE Confidence: 0.42088047

00:36:30.000 --> 00:36:31.716 The moms could smell the pups.

NOTE Confidence: 0.42088047

00:36:31.720 --> 00:36:34.126 The moms could hear the pups,

NOTE Confidence: 0.42088047

00:36:34.130 --> 00:36:36.811 and I can tell you normal maternal

NOTE Confidence: 0.42088047

00:36:36.811 --> 00:36:39.479 mouse mom behavior is to go and scurry

NOTE Confidence: 0.42088047

00:36:39.479 --> 00:36:42.009 and get that pup and bring it back,

NOTE Confidence: 0.42088047

00:36:42.010 --> 00:36:44.323 sniff it, lick it, put it in the nest,

NOTE Confidence: 0.42088047

00:36:44.330 --> 00:36:46.030 make sure it's warm.

NOTE Confidence: 0.42088047

00:36:46.030 --> 00:36:47.730 That's normal maternal behavior.

NOTE Confidence: 0.42088047

00:36:47.730 --> 00:36:50.340 So we hypothesize that the moms

NOTE Confidence: 0.42088047

00:36:50.340 --> 00:36:52.910 with early life or peripheral

NOTE Confidence: 0.42088047

00:36:52.910 --> 00:36:54.918 stress wouldn't would just kind

NOTE Confidence: 0.42088047

00:36:54.918 --> 00:36:57.504 of give up or maybe not try as

NOTE Confidence: 0.42088047

00:36:57.504 --> 00:36:59.340 hard and that they would have,

NOTE Confidence: 0.42088047

00:36:59.340 --> 00:37:00.678 they would have this kind of

NOTE Confidence: 0.42088047

00:37:00.678 --> 00:37:02.052 behavior that it just showed that

NOTE Confidence: 0.42088047

00:37:02.052 --> 00:37:03.578 they they kind of like you said,

NOTE Confidence: 0.42088047

00:37:03.580 --> 00:37:06.060 they kind of gave up in that situation.

NOTE Confidence: 0.42088047

00:37:06.060 --> 00:37:08.734 And what we found is very similar.

NOTE Confidence: 0.42088047

00:37:08.740 --> 00:37:10.420 They basically travelled,

NOTE Confidence: 0.42088047

00:37:10.420 --> 00:37:12.106 they made the control.

NOTE Confidence: 0.42088047

00:37:12.106 --> 00:37:13.804 Moms kept going around and round

NOTE Confidence: 0.42088047

00:37:13.804 --> 00:37:15.545 and the more they kept going

NOTE Confidence: 0.42088047

00:37:15.545 --> 00:37:16.935 around and around the more

NOTE Confidence: 0.42088047

00:37:16.935 --> 00:37:18.222 they produced corticosterone.

NOTE Confidence: 0.42088047

00:37:18.222 --> 00:37:21.354 And then the moms that have

NOTE Confidence: 0.42088047

00:37:21.354 --> 00:37:24.312 peripedal stress did start to have

NOTE Confidence: 0.42088047

00:37:24.312 --> 00:37:26.011 they produced less corticosterone

NOTE Confidence: 0.42088047

00:37:26.011 --> 00:37:28.748 and did not travel around as much

68

NOTE Confidence: 0.42088047

00:37:28.748 --> 00:37:31.949 to get the pups and their overall

NOTE Confidence: 0.42088047

00:37:31.949 --> 00:37:33.825 corticosterone levels look very

NOTE Confidence: 0.42088047

00:37:33.825 --> 00:37:36.147 similar to what we saw in humans.

NOTE Confidence: 0.42088047

00:37:36.150 --> 00:37:39.942 Now I last time I checked moms,

NOTE Confidence: 0.42088047

00:37:39.942 --> 00:37:42.118 human moms don't like you to take a

NOTE Confidence: 0.42088047

00:37:42.118 --> 00:37:44.998 piece of their brain so that you can

NOTE Confidence: 0.42088047

00:37:44.998 --> 00:37:47.715 measure any kind of protein expression

NOTE Confidence: 0.42088047

00:37:47.715 --> 00:37:50.900 or gene changes or things like that.

NOTE Confidence: 0.42088047

00:37:50.900 --> 00:37:53.590 And so Tracy and them were able to do that

NOTE Confidence: 0.44621158

00:37:53.657 --> 00:37:56.170 in the mice and they definitely saw

NOTE Confidence: 0.44621158

00:37:56.170 --> 00:37:58.080 in the peripuperally stressed rat

NOTE Confidence: 0.44621158

00:37:58.080 --> 00:38:00.314 mothers or mice mothers that there

NOTE Confidence: 0.44621158

00:38:00.314 --> 00:38:02.743 were changes in up regulation and a

NOTE Confidence: 0.44621158

00:38:02.743 --> 00:38:05.244 number of genes and many of these

NOTE Confidence: 0.44621158

00:38:05.244 --> 00:38:07.049 genes were immediate early genes

NOTE Confidence: 0.44621158

00:38:07.049 --> 00:38:09.457 that are going to be responsible for

NOTE Confidence: 0.44621158

00:38:09.460 --> 00:38:11.296 various protein expression particularly

NOTE Confidence: 0.44621158

00:38:11.296 --> 00:38:14.300 related to the stress response and so.

NOTE Confidence: 0.44621158

00:38:14.300 --> 00:38:16.644 So again, it's a model that we created

NOTE Confidence: 0.44621158

00:38:16.644 --> 00:38:19.109 that we can now use again to continue

NOTE Confidence: 0.44621158

00:38:19.109 --> 00:38:23.720 to study what might be happening with

NOTE Confidence: 0.44621158

00:38:23.720 --> 00:38:27.404 peripuperal stress and how it impacts

NOTE Confidence: 0.44621158

00:38:27.404 --> 00:38:30.840 actual changes in the brain of the mom.

NOTE Confidence: 0.44621158

00:38:30.840 --> 00:38:32.600 All right, so moving on,

NOTE Confidence: 0.44621158

00:38:32.600 --> 00:38:33.323 menstrual cycle studies,

NOTE Confidence: 0.44621158

00:38:33.323 --> 00:38:35.294 I know it's a Tour de force when

NOTE Confidence: 0.44621158

00:38:35.294 --> 00:38:36.918 you when you do the whole lifespan.

NOTE Confidence: 0.3240893

00:38:39.600 --> 00:38:43.445 So this is early premenstrual dysphoric

NOTE Confidence: 0.3240893

00:38:43.445 --> 00:38:46.659 disorder research that I did hear at Yale.

NOTE Confidence: 0.3240893

00:38:46.660 --> 00:38:47.900 And I have to say,

NOTE Confidence: 0.3240893

00:38:47.900 --> 00:38:50.582 this was me actually going against

NOTE Confidence: 0.3240893

00:38:50.582 --> 00:38:53.458 what a mentor suggested at that time.

NOTE Confidence: 0.3240893

00:38:53.460 --> 00:38:55.140 Dennis Charney was still here, I know.

NOTE Confidence: 0.3240893

00:38:55.140 --> 00:38:56.740 So it feels like a long time ago.

NOTE Confidence: 0.3240893

00:38:56.740 --> 00:38:59.554 And he really thought that I should

NOTE Confidence: 0.3240893

00:38:59.554 --> 00:39:01.740 study estrogen effects on the brain.

NOTE Confidence: 0.3240893

00:39:01.740 --> 00:39:02.540 And I'm like, you know,

NOTE Confidence: 0.3240893

00:39:02.540 --> 00:39:04.300 well dude, that's really helpful.

NOTE Confidence: 0.3240893

00:39:04.300 --> 00:39:06.204 But did you read the Women's Health

NOTE Confidence: 0.3240893

00:39:06.204 --> 00:39:07.740 Initiative study that just came out?

NOTE Confidence: 0.3240893

00:39:07.740 --> 00:39:11.124 I don't think the NIH is going to be

NOTE Confidence: 0.3240893

00:39:11.124 --> 00:39:13.886 funding any grants to study estradiol

NOTE Confidence: 0.3240893

00:39:13.886 --> 00:39:16.745 and the brain for a number of years

NOTE Confidence: 0.3240893

00:39:16.745 --> 00:39:18.702 because we're all reeling from what

NOTE Confidence: 0.3240893

00:39:18.702 --> 00:39:20.827 happened with Women's Health Initiative.

NOTE Confidence: 0.3240893

00:39:20.830 --> 00:39:23.238 So I was very interested in the fact

NOTE Confidence: 0.3240893

00:39:23.238 --> 00:39:25.110 that progesterone gets converted to

NOTE Confidence: 0.3240893

00:39:25.110 --> 00:39:26.316 allopregnanolone and allopregnanolone

NOTE Confidence: 0.3240893

00:39:26.316 --> 00:39:28.430 is a very potent gastric,

NOTE Confidence: 0.3240893

00:39:28.430 --> 00:39:30.020 a receptor agonist.

NOTE Confidence: 0.3240893

00:39:30.020 --> 00:39:32.140 And at that time,

NOTE Confidence: 0.3240893

00:39:32.140 --> 00:39:35.220 Jerry Sanacora and a number of other people,

NOTE Confidence: 0.3240893

00:39:35.220 --> 00:39:38.065 Graham Mason and Doug Rothman and

NOTE Confidence: 0.3240893

00:39:38.065 --> 00:39:39.490 John Crystal were all involved

NOTE Confidence: 0.3240893

00:39:39.490 --> 00:39:40.900 in building out the Mrs.

NOTE Confidence: 0.3240893

00:39:40.900 --> 00:39:41.392 program here.

NOTE Confidence: 0.3240893

00:39:41.392 --> 00:39:44.191 And what we were able to show is that in

NOTE Confidence: 0.3240893

00:39:44.191 --> 00:39:46.136 women with premenstrual dysphoric disorder,

NOTE Confidence: 0.3240893

00:39:46.140 --> 00:39:46.722 GABA,

NOTE Confidence: 0.3240893

00:39:46.722 --> 00:39:49.050 concentrations varied across the

NOTE Confidence: 0.3240893

00:39:49.050 --> 00:39:52.104 menstrual cycle in a menstrual cycle

NOTE Confidence: 0.3240893

00:39:52.104 --> 00:39:54.459 dependent and diagnosis dependent manner.

NOTE Confidence: 0.3240893

00:39:54.460 --> 00:39:57.827 So that we saw these differences in

NOTE Confidence: 0.3240893

00:39:57.827 --> 00:40:01.339 how the brain of a woman with PNDD

NOTE Confidence: 0.3240893

00:40:01.340 --> 00:40:05.911 responds to this neurosteroid and again

NOTE Confidence: 0.3240893

00:40:05.911 --> 00:40:08.857 understanding mechanisms of what we do.

NOTE Confidence: 0.3240893

00:40:08.860 --> 00:40:11.540 So this work also supported

NOTE Confidence: 0.3240893

00:40:11.540 --> 00:40:13.076 research done internationally

NOTE Confidence: 0.3240893

00:40:13.076 --> 00:40:15.170 with Toby Backstrom's group.

NOTE Confidence: 0.3240893

00:40:15.170 --> 00:40:17.845 Looking at sopranolone which actually

NOTE Confidence: 0.3240893

00:40:17.845 --> 00:40:20.385 blocks the effects of allopregnanolone

NOTE Confidence: 0.3240893

00:40:20.385 --> 00:40:23.934 at the GABA A receptor and we showed

NOTE Confidence: 0.3240893

00:40:23.934 --> 00:40:26.742 that that it decreased the premenstrual

NOTE Confidence: 0.3240893

00:40:26.742 --> 00:40:29.566 sport disorder symptoms and then

NOTE Confidence: 0.3240893

00:40:29.566 --> 00:40:31.398 SAGE therapeutics basically started

NOTE Confidence: 0.3240893

00:40:31.398 --> 00:40:34.570 studying a GABA A receptor agonist,

NOTE Confidence: 0.3240893

00:40:34.570 --> 00:40:35.251 allopregnanolone,

NOTE Confidence: 0.3240893

00:40:35.251 --> 00:40:38.656 brexanolone in the treatment of

00:40:38.656 --> 00:40:40.922 postpartum depression and anxiety.

00:40:40.922 --> 00:40:44.191 We also looked at sleep and you can

00:40:44.191 --> 00:40:47.352 see that with a basically a 60 hour

00:40:47.352 --> 00:40:50.070 infusion that there's a separation from

00:40:50.152 --> 00:40:53.379 placebo with this GABA A receptor agonist.

00:40:53.380 --> 00:40:56.236 The IV version is really almost

00:40:56.236 --> 00:40:57.664 identical to allopregnanolone

00:40:57.664 --> 00:40:59.620 that's naturally occurring.

00:40:59.620 --> 00:41:01.979 The oral Zuranolone that is now FDA

00:41:01.979 --> 00:41:04.396 approved for the treatment of postpartum

00:41:04.396 --> 00:41:07.072 depression and is an oral preparation.

00:41:07.080 --> 00:41:08.976 It just has a little modification

00:41:08.976 --> 00:41:10.240 so that it's bioavailable.

00:41:10.240 --> 00:41:13.558 But again potent GABA A receptor agonist.

00:41:13.560 --> 00:41:16.094 And it appears that again that the

NOTE Confidence: 0.3240893

00:41:16.094 --> 00:41:18.759 GABA A receptor as obviously seems to

NOTE Confidence: 0.3240893

00:41:18.759 --> 00:41:21.748 be really important in some of these

NOTE Confidence: 0.3240893

00:41:21.748 --> 00:41:24.096 reproductive mood disorders having the.

NOTE Confidence: 0.3240893

00:41:24.096 --> 00:41:26.640 So when I first started research,

NOTE Confidence: 0.3240893

00:41:26.640 --> 00:41:29.196 PMTD was actually not in the DSM 5 or

NOTE Confidence: 0.3240893

00:41:29.196 --> 00:41:31.835 of the DSM 5 wasn't even developed,

NOTE Confidence: 0.3240893

00:41:31.840 --> 00:41:33.040 but it wasn't in the DSM.

NOTE Confidence: 0.3240893

00:41:33.040 --> 00:41:34.720 It was a mood disorder,

NOTE Confidence: 0.3240893

00:41:34.720 --> 00:41:36.019 not otherwise specified.

NOTE Confidence: 0.3240893

00:41:36.019 --> 00:41:39.050 But because of some of this research,

NOTE Confidence: 0.3240893

00:41:39.050 --> 00:41:40.810 mine and that of others,

NOTE Confidence: 0.3240893

00:41:40.810 --> 00:41:43.470 we were able to really get together

NOTE Confidence: 0.3240893

00:41:43.470 --> 00:41:47.240 as a team and encourage the DSM 5

NOTE Confidence: 0.3240893

00:41:47.240 --> 00:41:51.125 version to include PMDD as a diagnosis.

NOTE Confidence: 0.3240893

00:41:51.130 --> 00:41:51.445 OK,

NOTE Confidence: 0.3240893

00:41:51.445 --> 00:41:53.965 that was a quick run through menstrual cycle.

NOTE Confidence: 0.3240893

00:41:53.970 --> 00:41:56.781 Let's go to menopause. All right.

NOTE Confidence: 0.3240893

00:41:56.781 --> 00:41:59.760 I want to make it very clear that the

NOTE Confidence: 0.3240893

00:41:59.842 --> 00:42:02.326 experience in menopause is not a,

NOTE Confidence: 0.3240893

00:42:02.330 --> 00:42:04.282 you know, one-size-fits-all.

NOTE Confidence: 0.3240893

00:42:04.282 --> 00:42:06.394 It's really depends a lot on

NOTE Confidence: 0.3240893

00:42:06.394 --> 00:42:07.450 whether you go

NOTE Confidence: 0.740777592857143

00:42:07.509 --> 00:42:09.097 through a natural menopause.

NOTE Confidence: 0.740777592857143

00:42:09.100 --> 00:42:10.500 It depends on whether you

NOTE Confidence: 0.740777592857143

00:42:10.500 --> 00:42:11.620 go through it prematurely.

NOTE Confidence: 0.740777592857143

00:42:11.620 --> 00:42:14.077 I've, you know, worked with women who

NOTE Confidence: 0.740777592857143

00:42:14.077 --> 00:42:16.899 were on oral contraceptives, age of 28.

NOTE Confidence: 0.740777592857143

00:42:16.899 --> 00:42:18.767 I'm going to go off my oral contraceptives

NOTE Confidence: 0.740777592857143

00:42:18.767 --> 00:42:20.979 because I want to have a baby.

NOTE Confidence: 0.740777592857143

00:42:20.980 --> 00:42:21.808 And guess what?

NOTE Confidence: 0.740777592857143

00:42:21.808 --> 00:42:23.188 They have hot flashes and

NOTE Confidence: 0.740777592857143

00:42:23.188 --> 00:42:24.832 night sweats and they're post

NOTE Confidence: 0.740777592857143

00:42:24.832 --> 00:42:26.940 menopausal and they didn't know it.

NOTE Confidence: 0.740777592857143

00:42:26.940 --> 00:42:28.380 That's obviously not what

NOTE Confidence: 0.740777592857143

00:42:28.380 --> 00:42:30.820 people expect at the age of 28.

NOTE Confidence: 0.740777592857143

00:42:30.820 --> 00:42:33.108 I also work with a lot of women

NOTE Confidence: 0.740777592857143

00:42:33.108 --> 00:42:35.676 who undergo inferectomy for cancer

NOTE Confidence: 0.740777592857143

00:42:35.676 --> 00:42:38.808 risk reduction and it's it's really

NOTE Confidence: 0.740777592857143

00:42:38.808 --> 00:42:40.324 remarkable the differences between

NOTE Confidence: 0.740777592857143

00:42:40.324 --> 00:42:42.695 what they go through and somebody's

NOTE Confidence: 0.740777592857143

00:42:42.695 --> 00:42:44.363 going through a natural menopause.

NOTE Confidence: 0.740777592857143

00:42:44.363 --> 00:42:46.109 So I tend to think impairing

NOTE Confidence: 0.740777592857143

00:42:46.109 --> 00:42:47.489 menopause is the perfect storm.

NOTE Confidence: 0.740777592857143

00:42:47.490 --> 00:42:49.992 You have this fluctuating mass of

NOTE Confidence: 0.740777592857143

00:42:49.992 --> 00:42:51.738 fluctuations in estradiol, progesterone,

NOTE Confidence: 0.740777592857143

00:42:51.738 --> 00:42:53.690 forget about it, alopregnanolone,

NOTE Confidence: 0.740777592857143

00:42:53.690 --> 00:42:56.330 who knows what's going on,

NOTE Confidence: 0.740777592857143

00:42:56.330 --> 00:42:59.102 But eventually you have a dearth of

NOTE Confidence: 0.740777592857143

00:42:59.102 --> 00:43:02.489 any kind of this hormonal production.

NOTE Confidence: 0.740777592857143

00:43:02.490 --> 00:43:04.986 I've often seen childhood adversity and

NOTE Confidence: 0.740777592857143

00:43:04.986 --> 00:43:08.242 some of my research put women at risk

NOTE Confidence: 0.740777592857143

00:43:08.242 --> 00:43:10.522 for mood disorders during this time.

NOTE Confidence: 0.740777592857143

00:43:10.530 --> 00:43:12.357 We've also seen that it puts women

NOTE Confidence: 0.740777592857143

00:43:12.357 --> 00:43:14.054 at risk for cognitive issues and

NOTE Confidence: 0.740777592857143

00:43:14.054 --> 00:43:16.500 that I don't have time to get into

NOTE Confidence: 0.740777592857143

00:43:16.500 --> 00:43:18.490 current life stress and inflammation.

NOTE Confidence: 0.740777592857143

00:43:18.490 --> 00:43:21.330 But we these are some other areas that

NOTE Confidence: 0.740777592857143

00:43:21.330 --> 00:43:23.423 we're investigating and have seen some

NOTE Confidence: 0.740777592857143

00:43:23.423 --> 00:43:25.403 relevance to what we're looking at.

NOTE Confidence: 0.740777592857143

00:43:25.410 --> 00:43:28.090 So this is just like sort of where

NOTE Confidence: 0.740777592857143

00:43:28.090 --> 00:43:30.194 primary places that estradiol exerts

NOTE Confidence: 0.740777592857143

00:43:30.194 --> 00:43:32.836 its effects in the human brain.

NOTE Confidence: 0.740777592857143

00:43:32.836 --> 00:43:34.720 We know that cognition,

NOTE Confidence: 0.740777592857143

00:43:34.720 --> 00:43:35.880 mood regulation,

NOTE Confidence: 0.740777592857143

00:43:35.880 --> 00:43:38.780 stress perception and reward processing,

NOTE Confidence: 0.740777592857143

00:43:38.780 --> 00:43:41.496 estradiol impacts all of those brain regions.

NOTE Confidence: 0.740777592857143

00:43:41.500 --> 00:43:44.655 I was particularly interested in the area

NOTE Confidence: 0.740777592857143

00:43:44.655 --> 00:43:47.700 of the brain for working memory because,

NOTE Confidence: 0.740777592857143

00:43:47.700 --> 00:43:49.940 again, patients are our muses.

NOTE Confidence: 0.740777592857143

00:43:49.940 --> 00:43:51.760 And when you sit down with women

NOTE Confidence: 0.740777592857143

00:43:51.760 --> 00:43:53.356 who come to you with complaints

NOTE Confidence: 0.740777592857143

00:43:53.356 --> 00:43:55.372 that my memory is not very good,

NOTE Confidence: 0.740777592857143

00:43:55.380 --> 00:43:56.700 am I going to have dementia?

NOTE Confidence: 0.740777592857143

00:43:56.700 --> 00:43:58.722 Because we know that women are

NOTE Confidence: 0.740777592857143

00:43:58.722 --> 00:44:00.563 at increased risk of Alzheimer's

NOTE Confidence: 0.740777592857143

00:44:00.563 --> 00:44:03.100 disease compared to men or males,

NOTE Confidence: 0.740777592857143

00:44:03.100 --> 00:44:05.300 and they're worried about that.

NOTE Confidence: 0.740777592857143

00:44:05.300 --> 00:44:06.215 And you're like,

NOTE Confidence: 0.740777592857143

00:44:06.215 --> 00:44:07.740 this doesn't sound like dementia.

NOTE Confidence: 0.740777592857143

00:44:07.740 --> 00:44:10.218 This sounds like ADHD to me.

NOTE Confidence: 0.740777592857143

00:44:10.220 --> 00:44:12.020 And so while I was still at Yale,

NOTE Confidence: 0.740777592857143

00:44:12.020 --> 00:44:14.244 I started working with Tom Brown who had

NOTE Confidence: 0.740777592857143

00:44:14.244 --> 00:44:16.697 the Brown Attention Deficit Disorder scale.

NOTE Confidence: 0.740777592857143

00:44:16.700 --> 00:44:18.257 He saw a lot of patients and he goes,

NOTE Confidence: 0.740777592857143

00:44:18.260 --> 00:44:20.360 yeah, I do keep getting these

NOTE Confidence: 0.740777592857143

00:44:20.360 --> 00:44:22.457 middle-aged women coming in and telling

NOTE Confidence: 0.740777592857143

00:44:22.457 --> 00:44:24.655 me that these things are going on.

NOTE Confidence: 0.740777592857143

00:44:24.660 --> 00:44:26.660 And he created the subscale,

NOTE Confidence: 0.740777592857143

00:44:26.660 --> 00:44:29.172 and I really love it because it addresses

NOTE Confidence: 0.740777592857143

00:44:29.172 --> 00:44:30.939 organization and activating for work.

NOTE Confidence: 0.740777592857143

00:44:30.940 --> 00:44:33.166 So that that momentum that it takes

NOTE Confidence: 0.740777592857143

00:44:33.166 --> 00:44:36.100 to do the things that you need to do,

NOTE Confidence: 0.740777592857143

00:44:36.100 --> 00:44:39.020 sustaining the tension and concentration,

00:44:39.020 --> 00:44:39.540 alertness,

00:44:39.540 --> 00:44:41.620 effort and processing speed,

00:44:41.620 --> 00:44:43.804 managing affective interference

00:44:43.804 --> 00:44:45.988 and working memory.

00:44:45.990 --> 00:44:47.438 So my doctoral student,

00:44:47.438 --> 00:44:49.248 who then became a postdoc

00:44:49.248 --> 00:44:50.869 of Ted sutterweight,

00:44:50.870 --> 00:44:53.726 Sheila Chen Moogan and I worked with

00:44:53.726 --> 00:44:55.978 Susan Domchek to recruit a group

00:44:55.978 --> 00:44:58.120 of women from the bachelor center

00:44:58.191 --> 00:45:00.386 bras clinical care and research.

00:45:00.390 --> 00:45:03.253 And they completed the not only the

00:45:03.253 --> 00:45:05.430 Adverse Childhood Experiences Questionnaire,

00:45:05.430 --> 00:45:08.027 but we got assessment of their mood.

00:45:08.030 --> 00:45:09.746 They could have major depressive illness.

00:45:09.750 --> 00:45:10.790 They could be on medications.

NOTE Confidence: 0.740777592857143

00:45:10.790 --> 00:45:11.870 It was a large sample.

NOTE Confidence: 0.48689485

00:45:11.870 --> 00:45:14.610 So we kind of allowed all comers

NOTE Confidence: 0.48689485

00:45:14.610 --> 00:45:17.700 to come in and in that sample 202,

NOTE Confidence: 0.48689485

00:45:17.700 --> 00:45:18.860 we're in our highest group.

NOTE Confidence: 0.48689485

00:45:18.860 --> 00:45:21.359 And we measure not only their self

NOTE Confidence: 0.48689485

00:45:21.359 --> 00:45:23.300 report of executive functioning,

NOTE Confidence: 0.48689485

00:45:23.300 --> 00:45:26.142 but we also measured 2 aspects of

NOTE Confidence: 0.48689485

00:45:26.142 --> 00:45:28.618 executive functioning in an objective way,

NOTE Confidence: 0.48689485

00:45:28.620 --> 00:45:31.700 working memory using the N back and

NOTE Confidence: 0.48689485

00:45:31.700 --> 00:45:33.700 then a continuous performance task,

NOTE Confidence: 0.48689485

00:45:33.700 --> 00:45:35.896 which is really boring, you know.

NOTE Confidence: 0.48689485

00:45:35.900 --> 00:45:38.259 So you want to test people under

NOTE Confidence: 0.48689485

00:45:38.259 --> 00:45:40.119 conditions that are really hard,

NOTE Confidence: 0.48689485

00:45:40.120 --> 00:45:41.786 and you want to test people under

NOTE Confidence: 0.48689485

00:45:41.786 --> 00:45:43.214 conditions where there's not going to be

NOTE Confidence: 0.48689485

00:45:43.214 --> 00:45:44.839 a lot of salience to what they're doing.

NOTE Confidence: 0.48689485

00:45:44.840 --> 00:45:47.304 And it can be kind of boring because

NOTE Confidence: 0.48689485

00:45:47.304 --> 00:45:49.917 that's when our attention wants to go off.

NOTE Confidence: 0.48689485

00:45:49.920 --> 00:45:51.635 And we looked at the ACE effect.

NOTE Confidence: 0.48689485

00:45:51.640 --> 00:45:53.488 And if you look over here for

NOTE Confidence: 0.48689485

00:45:53.488 --> 00:45:54.280 the total score,

NOTE Confidence: 0.48689485

00:45:54.280 --> 00:45:56.436 the green bars are the highest group.

NOTE Confidence: 0.48689485

00:45:56.440 --> 00:45:57.802 And you can see that across

NOTE Confidence: 0.48689485

00:45:57.802 --> 00:45:59.160 not only the whole measure,

NOTE Confidence: 0.48689485

00:45:59.160 --> 00:46:02.142 but across every domain except for

NOTE Confidence: 0.48689485

00:46:02.142 --> 00:46:03.633 managing affective interference,

NOTE Confidence: 0.48689485

00:46:03.640 --> 00:46:05.865 that the highest group reported

NOTE Confidence: 0.48689485

00:46:05.865 --> 00:46:06.755 more symptoms,

NOTE Confidence: 0.48689485

00:46:06.760 --> 00:46:09.550 more problems and those particular

NOTE Confidence: 0.48689485

00:46:09.550 --> 00:46:11.782 areas of executive functioning.

NOTE Confidence: 0.48689485

00:46:11.790 --> 00:46:14.429 And then when we looked at objectively,

NOTE Confidence: 0.48689485

00:46:14.430 --> 00:46:17.268 we saw that they performed worse

NOTE Confidence: 0.48689485

00:46:17.270 --> 00:46:18.544 if they were in the highest group.

NOTE Confidence: 0.48689485

00:46:18.550 --> 00:46:19.174 So they had.

NOTE Confidence: 0.48689485

00:46:19.174 --> 00:46:21.390 And again, we control for everything BMI,

NOTE Confidence: 0.48689485

00:46:21.390 --> 00:46:22.323 you know, education,

NOTE Confidence: 0.48689485

00:46:22.323 --> 00:46:24.902 all of the kind of things that you

NOTE Confidence: 0.48689485

00:46:24.902 --> 00:46:27.350 should control for in a study like this,

NOTE Confidence: 0.48689485

00:46:27.350 --> 00:46:28.582 race, ethnicity.

NOTE Confidence: 0.48689485

00:46:28.582 --> 00:46:30.430 And so again,

NOTE Confidence: 0.48689485

00:46:30.430 --> 00:46:32.332 we can see not only subjectively

NOTE Confidence: 0.48689485

00:46:32.332 --> 00:46:34.310 they were having more complaints,

NOTE Confidence: 0.48689485

00:46:34.310 --> 00:46:36.686 but we also saw that on these two

NOTE Confidence: 0.48689485

00:46:36.686 --> 00:46:38.639 tests that they perform worse.

NOTE Confidence: 0.48689485

00:46:38.640 --> 00:46:41.279 Now you can say, well that doesn't.

NOTE Confidence: 0.48689485

00:46:41.280 --> 00:46:42.132 So what?

NOTE Confidence: 0.48689485

00:46:42.132 --> 00:46:45.114 I mean, you measure depression and anxiety.

NOTE Confidence: 0.48689485

00:46:45.120 --> 00:46:48.000 So maybe Aces are contributing to

NOTE Confidence: 0.48689485

00:46:48.000 --> 00:46:51.280 depression and anxiety and that depression,

NOTE Confidence: 0.48689485

00:46:51.280 --> 00:46:53.320 anxiety is having a negative effect

NOTE Confidence: 0.48689485

00:46:53.320 --> 00:46:54.680 on these cognitive measures.

NOTE Confidence: 0.48689485

00:46:54.680 --> 00:46:56.598 And so we did a mediation analysis.

NOTE Confidence: 0.48689485

00:46:56.600 --> 00:46:57.588 And yes,

NOTE Confidence: 0.48689485

00:46:57.588 --> 00:47:00.552 it is true that depression and

NOTE Confidence: 0.48689485

00:47:00.552 --> 00:47:03.280 anxiety mediated A portion of the

NOTE Confidence: 0.48689485

00:47:03.280 --> 00:47:06.104 ACE effect on self report as well

NOTE Confidence: 0.48689485

00:47:06.104 --> 00:47:08.014 as the continuous performance test,

NOTE Confidence: 0.48689485

00:47:08.020 --> 00:47:10.564 but it did not mediate relationship

NOTE Confidence: 0.48689485

00:47:10.564 --> 00:47:13.700 with the working memory.

NOTE Confidence: 0.48689485

00:47:13.700 --> 00:47:17.095 So we also had funding for the

NOTE Confidence: 0.48689485

00:47:17.095 --> 00:47:19.420 National Cancer Institute to study.

NOTE Confidence: 0.48689485

00:47:19.420 --> 00:47:21.976 Well, this was during the pandemic.

NOTE Confidence: 0.48689485

00:47:21.980 --> 00:47:23.716 So during the pandemic,

NOTE Confidence: 0.48689485

00:47:23.716 --> 00:47:25.977 we focused on doing an online

NOTE Confidence: 0.48689485

00:47:25.977 --> 00:47:28.210 study because we wanted to see how

NOTE Confidence: 0.48689485

00:47:28.275 --> 00:47:30.657 many women that are not treatment

NOTE Confidence: 0.48689485

00:47:30.657 --> 00:47:32.504 seeking are developing these kinds

NOTE Confidence: 0.48689485

00:47:32.504 --> 00:47:33.812 of executive functioning issues

NOTE Confidence: 0.48689485

00:47:33.812 --> 00:47:36.090 and how much does mood play a role.

NOTE Confidence: 0.48689485

00:47:36.090 --> 00:47:38.820 And you can see here this

NOTE Confidence: 0.48689485

00:47:38.820 --> 00:47:39.730 premenopause baseline.

NOTE Confidence: 0.48689485

00:47:39.730 --> 00:47:42.257 You can see the perimenopause has worse

NOTE Confidence: 0.48689485

00:47:42.257 --> 00:47:44.090 complaints of executive functioning.

NOTE Confidence: 0.48689485

00:47:44.090 --> 00:47:46.204 These are attenuated a little bit once

NOTE Confidence: 0.48689485

00:47:46.204 --> 00:47:48.449 people are in the natural menopause.

NOTE Confidence: 0.48689485

00:47:48.450 --> 00:47:49.728 But you can see here again,

NOTE Confidence: 0.48689485

00:47:49.730 --> 00:47:51.530 the surgical menopausal group

NOTE Confidence: 0.48689485

00:47:51.530 --> 00:47:53.780 is having the greatest problems

NOTE Confidence: 0.48689485

00:47:53.780 --> 00:47:55.809 with executive functioning.

NOTE Confidence: 0.48689485

00:47:55.810 --> 00:47:57.808 And if you control for depression,

NOTE Confidence: 0.48689485

00:47:57.810 --> 00:48:00.090 ADHD diagnosis, sleep problems,

NOTE Confidence: 0.48689485

00:48:00.090 --> 00:48:02.940 you see the same pattern,

NOTE Confidence: 0.48689485

00:48:02.940 --> 00:48:04.524 although it's somewhat dampened.

NOTE Confidence: 0.48689485

00:48:04.524 --> 00:48:07.739 So what this tells me is that again,

NOTE Confidence: 0.48689485

00:48:07.740 --> 00:48:10.266 menopause has an impact and that

NOTE Confidence: 0.48689485

00:48:10.266 --> 00:48:12.453 surgically menopausal women are going

NOTE Confidence: 0.48689485

00:48:12.453 --> 00:48:15.021 to have a more sustained worsening

NOTE Confidence: 0.48689485

00:48:15.021 --> 00:48:17.099 of executive functioning on average,

NOTE Confidence: 0.48689485

00:48:17.100 --> 00:48:19.256 but that if we can manage depression,

NOTE Confidence: 0.48689485

00:48:19.260 --> 00:48:19.810 anxiety,

NOTE Confidence: 0.48689485

00:48:19.810 --> 00:48:20.910 sleep problems,

NOTE Confidence: 0.48689485

00:48:20.910 --> 00:48:23.660 we can dampen those effects.

NOTE Confidence: 0.45813844

00:48:23.660 --> 00:48:26.222 And in women who've undergone uferectomy

NOTE Confidence: 0.45813844

00:48:26.222 --> 00:48:29.205 that are complaining of new onset

NOTE Confidence: 0.45813844

00:48:29.205 --> 00:48:31.008 executive functioning difficulties,

NOTE Confidence: 0.45813844

00:48:31.010 --> 00:48:33.150 we've also used Lisdexamphetamine,

NOTE Confidence: 0.45813844

00:48:33.150 --> 00:48:36.360 which is a psychostimulant Vyvanse and

NOTE Confidence: 0.45813844

00:48:36.433 --> 00:48:39.537 shown that these women do have a better

NOTE Confidence: 0.45813844

00:48:39.537 --> 00:48:41.927 response than they do with placebo.

NOTE Confidence: 0.45813844

00:48:41.930 --> 00:48:43.960 And it basically this was a crossover

NOTE Confidence: 0.45813844

00:48:43.960 --> 00:48:46.402 study with a good sample size and we

NOTE Confidence: 0.45813844

00:48:46.402 --> 00:48:48.643 saw this effect within three weeks of

NOTE Confidence: 0.45813844

00:48:48.643 --> 00:48:50.323 treating them with a psychostimulant

NOTE Confidence: 0.45813844

00:48:50.323 --> 00:48:53.332 and they had very few adverse

NOTE Confidence: 0.45813844

00:48:53.332 --> 00:48:56.464 symptoms or dropouts in the study.

NOTE Confidence: 0.45813844

00:48:56.464 --> 00:48:59.170 So it's again psychostimulants can sometimes

NOTE Confidence: 0.45813844

00:48:59.244 --> 00:49:01.939 be a stigmatized medication so to speak,

NOTE Confidence: 0.45813844

00:49:01.940 --> 00:49:04.820 but we should be feeling free to use

00:49:04.820 --> 00:49:08.300 them in our folks if they need them.

00:49:08.300 --> 00:49:10.456 This I'm going to run through really

00:49:10.456 --> 00:49:12.408 quickly because I think that we're

00:49:12.408 --> 00:49:14.703 going to probably about 5 minutes.

00:49:14.703 --> 00:49:18.298 Again, we were very interested in the impact

00:49:18.298 --> 00:49:21.706 of of ACE history actually on the brain.

00:49:21.710 --> 00:49:24.134 So we recruited a group of

00:49:24.134 --> 00:49:25.346 naturally menopausal women.

00:49:25.350 --> 00:49:27.947 They were within 10 years of their

00:49:27.947 --> 00:49:29.842 final menstrual period and they

00:49:29.842 --> 00:49:31.990 underwent brain imaging as well as,

00:49:31.990 --> 00:49:35.239 yes, tryptophan depletion.

00:49:35.240 --> 00:49:37.680 For those of you that were here in the 1990s,

00:49:37.680 --> 00:49:40.055 you know that we tryptophan

00:49:40.055 --> 00:49:41.480 depleted many people.

00:49:41.480 --> 00:49:41.706 Well,

NOTE Confidence: 0.45813844

00:49:41.706 --> 00:49:43.514 this was a study that I did at

NOTE Confidence: 0.45813844

00:49:43.514 --> 00:49:45.239 Penn with tryptophan depletion.

NOTE Confidence: 0.45813844

00:49:45.240 --> 00:49:47.389 Again a number of colleagues that you

NOTE Confidence: 0.45813844

00:49:47.389 --> 00:49:49.916 can see here and this is the paradigm,

NOTE Confidence: 0.45813844

00:49:49.920 --> 00:49:51.824 women came in hypogonadal,

NOTE Confidence: 0.45813844

00:49:51.824 --> 00:49:53.728 meaning they were postmenopausal

NOTE Confidence: 0.45813844

00:49:53.728 --> 00:49:54.680 low estrogen.

NOTE Confidence: 0.45813844

00:49:54.680 --> 00:49:56.816 They either got an active tryptophan

NOTE Confidence: 0.45813844

00:49:56.816 --> 00:49:59.290 depletion or a sham depletion and

NOTE Confidence: 0.45813844

00:49:59.290 --> 00:50:01.340 then underwent brain imaging using

NOTE Confidence: 0.45813844

00:50:01.340 --> 00:50:03.844 the N back task and then they crossed

NOTE Confidence: 0.45813844

00:50:03.844 --> 00:50:05.420 over a week later and came back.

NOTE Confidence: 0.45813844

00:50:05.420 --> 00:50:06.640 So it was counterbalanced.

NOTE Confidence: 0.45813844

00:50:06.640 --> 00:50:07.860 So that's phase one.

NOTE Confidence: 0.45813844

00:50:07.860 --> 00:50:08.596 Everybody's hypogonadal,

NOTE Confidence: 0.45813844

00:50:08.596 --> 00:50:10.804 they go through a sham depletion

NOTE Confidence: 0.45813844

00:50:10.804 --> 00:50:12.579 and an active depletion.

NOTE Confidence: 0.45813844

00:50:12.580 --> 00:50:13.252 And again,

NOTE Confidence: 0.45813844

00:50:13.252 --> 00:50:16.461 the reason to do this is that we're very

NOTE Confidence: 0.45813844

00:50:16.461 --> 00:50:19.560 curious about if the estrogen effects,

NOTE Confidence: 0.45813844

00:50:19.560 --> 00:50:22.890 but also the estrogen serotonin interactions,

NOTE Confidence: 0.45813844

00:50:22.890 --> 00:50:25.130 they all got either estrogen or placebo.

NOTE Confidence: 0.45813844

00:50:25.130 --> 00:50:27.330 So they were randomized 8 weeks of estrogen,

NOTE Confidence: 0.45813844

00:50:27.330 --> 00:50:30.090 8 weeks of placebo and came back for

NOTE Confidence: 0.45813844

00:50:30.090 --> 00:50:32.755 phase two where they again underwent

NOTE Confidence: 0.45813844

00:50:32.755 --> 00:50:35.130 the active and sham depletion.

NOTE Confidence: 0.45813844

00:50:35.130 --> 00:50:37.803 So this is the working memory task we used.

NOTE Confidence: 0.45813844

00:50:37.810 --> 00:50:38.404 So basically,

NOTE Confidence: 0.45813844

00:50:38.404 --> 00:50:39.889 this is the hardest version.

NOTE Confidence: 0.45813844

00:50:39.890 --> 00:50:42.275 You're lying in the magnet and you see this

NOTE Confidence: 0.45813844

00:50:42.275 --> 00:50:44.642 image and you have to press the button when

NOTE Confidence: 0.45813844

00:50:44.642 --> 00:50:47.138 the image you're seeing there is the same

NOTE Confidence: 0.45813844

00:50:47.138 --> 00:50:49.436 image that you saw three times before.

NOTE Confidence: 0.45813844

00:50:49.440 --> 00:50:51.358 So it's not easy and it comes

NOTE Confidence: 0.45813844

00:50:51.358 --> 00:50:53.039 at you quick and furious.

NOTE Confidence: 0.45813844

00:50:53.040 --> 00:50:54.115 People do better than they

NOTE Confidence: 0.45813844

00:50:54.115 --> 00:50:55.520 think they do by and large.

NOTE Confidence: 0.45813844

00:50:55.520 --> 00:50:57.104 But we know that this particular

NOTE Confidence: 0.45813844

00:50:57.104 --> 00:50:58.160 area of the brain,

NOTE Confidence: 0.45813844

00:50:58.160 --> 00:51:00.836 the DLPFC and middle frontal gyrus,

NOTE Confidence: 0.45813844

00:51:00.840 --> 00:51:03.280 are very important or robustly

NOTE Confidence: 0.45813844

00:51:03.280 --> 00:51:05.232 activated with this task.

NOTE Confidence: 0.45813844

00:51:05.240 --> 00:51:07.064 And So what we did is we took

NOTE Confidence: 0.45813844

00:51:07.064 --> 00:51:09.231 then a whole brain analysis and we

NOTE Confidence: 0.45813844

00:51:09.231 --> 00:51:11.307 looked at the effects of tryptophan

NOTE Confidence: 0.45813844

00:51:11.307 --> 00:51:13.473 depletion and how it might differ

NOTE Confidence: 0.45813844

00:51:13.473 --> 00:51:15.308 on the whole brain analysis,

NOTE Confidence: 0.45813844

00:51:15.308 --> 00:51:17.552 whether the woman has high levels

NOTE Confidence: 0.45813844

00:51:17.552 --> 00:51:20.210 aces in her childhood or low levels.

NOTE Confidence: 0.45813844

00:51:20.210 --> 00:51:22.640 And what we found is that this is a

NOTE Confidence: 0.45813844

00:51:22.640 --> 00:51:25.070 brain region where we saw the biggest

NOTE Confidence: 0.45813844

00:51:25.070 --> 00:51:27.850 contrast that held up to multiple compare,

NOTE Confidence: 0.8534209

00:51:27.850 --> 00:51:29.274 you know, comparisons and

NOTE Confidence: 0.8534209

00:51:29.274 --> 00:51:31.410 analysis that you have to do.

NOTE Confidence: 0.8534209

00:51:31.410 --> 00:51:33.769 So we took the BOLD signal from

NOTE Confidence: 0.8534209

00:51:33.769 --> 00:51:35.538 this particular brain region and

NOTE Confidence: 0.8534209

00:51:35.538 --> 00:51:37.602 I'm going to go through really

NOTE Confidence: 0.8534209

00:51:37.602 --> 00:51:39.820 quickly here and show you down here.

NOTE Confidence: 0.8534209

00:51:39.820 --> 00:51:41.152 So this is the lowest group

NOTE Confidence: 0.8534209

00:51:41.152 --> 00:51:42.820 and this is the highest group.

NOTE Confidence: 0.8534209

00:51:42.820 --> 00:51:44.108 I hope that you can look at

NOTE Confidence: 0.8534209

00:51:44.108 --> 00:51:45.554 those two even if you don't know

NOTE Confidence: 0.8534209

00:51:45.554 --> 00:51:46.820 which is the act of depletion,

NOTE Confidence: 0.8534209

00:51:46.820 --> 00:51:48.410 which is the sham depletion that

NOTE Confidence: 0.8534209

00:51:48.410 --> 00:51:50.452 they don't look the same, right?

NOTE Confidence: 0.8534209

00:51:50.452 --> 00:51:51.796 They don't.

NOTE Confidence: 0.8534209

00:51:51.796 --> 00:51:54.244 The depletion did something very

NOTE Confidence: 0.8534209

00:51:54.244 --> 00:51:56.452 different in the highest versus low,

NOTE Confidence: 0.8534209

00:51:56.460 --> 00:51:58.360 but there were baseline differences

NOTE Confidence: 0.8534209

00:51:58.360 --> 00:52:00.260 even during the sham condition,

NOTE Confidence: 0.8534209

00:52:00.260 --> 00:52:02.507 the women in the highest group had

NOTE Confidence: 0.8534209

00:52:02.507 --> 00:52:04.630 to activate the brain region more

NOTE Confidence: 0.8534209

00:52:04.630 --> 00:52:07.150 in order to get the to get the the

NOTE Confidence: 0.8534209

00:52:07.150 --> 00:52:10.825 the to do get correct number of

NOTE Confidence: 0.8534209

00:52:10.825 --> 00:52:12.706 choices and so they had to work

NOTE Confidence: 0.8534209

00:52:12.706 --> 00:52:14.309 harder if you want to say that.

NOTE Confidence: 0.8534209

00:52:14.310 --> 00:52:14.904 All right,

NOTE Confidence: 0.8534209

00:52:14.904 --> 00:52:16.983 so then they go through the randomization.

NOTE Confidence: 0.8534209

00:52:16.990 --> 00:52:17.754 This is phase two.

NOTE Confidence: 0.8534209

00:52:17.754 --> 00:52:19.469 So this is what I just showed you.

NOTE Confidence: 0.8534209

00:52:19.470 --> 00:52:22.350 Pre randomization, again low estrogen,

NOTE Confidence: 0.8534209

00:52:22.350 --> 00:52:25.014 the highest women had to activate

NOTE Confidence: 0.8534209

00:52:25.014 --> 00:52:26.790 far more at baseline.

NOTE Confidence: 0.8534209

00:52:26.790 --> 00:52:28.309 And then when they got tryptophan depleted,

NOTE Confidence: 0.8534209

00:52:28.310 --> 00:52:30.344 they did just the opposite to

NOTE Confidence: 0.8534209

00:52:30.344 --> 00:52:32.040 what the lowest women did.

NOTE Confidence: 0.8534209

00:52:32.040 --> 00:52:34.440 Placebo, There's not a significant

NOTE Confidence: 0.8534209

00:52:34.440 --> 00:52:36.840 difference between here and here.

NOTE Confidence: 0.8534209

00:52:36.840 --> 00:52:38.982 But then let's just focus on what

NOTE Confidence: 0.8534209

00:52:38.982 --> 00:52:40.800 happens when they got estradiol.

NOTE Confidence: 0.8534209

00:52:40.800 --> 00:52:43.158 Do they look the same now?

NOTE Confidence: 0.8534209

00:52:43.160 --> 00:52:44.168 It is remarkable.

NOTE Confidence: 0.8534209

00:52:44.168 --> 00:52:46.120 I mean, it's almost like the

NOTE Confidence: 0.8534209

00:52:46.120 --> 00:52:47.720 estradiol and the highest women.

NOTE Confidence: 0.8534209

00:52:47.720 --> 00:52:49.664 So the estradiol and the lowest

NOTE Confidence: 0.8534209

00:52:49.664 --> 00:52:51.660 women didn't do very much so,

NOTE Confidence: 0.8534209

00:52:51.660 --> 00:52:53.560 but in the highest women,

NOTE Confidence: 0.8534209

00:52:53.560 --> 00:52:55.045 they performed different,

NOTE Confidence: 0.8534209

00:52:55.045 --> 00:52:57.025 the brain acted different

NOTE Confidence: 0.8534209

00:52:57.030 --> 00:52:58.350 and they had to work harder,

NOTE Confidence: 0.8534209

00:52:58.350 --> 00:52:58.998 so to speak,

NOTE Confidence: 0.8534209

00:52:58.998 --> 00:52:59.430 you know,

NOTE Confidence: 0.8534209

00:52:59.430 --> 00:53:00.945 activate more area,

NOTE Confidence: 0.8534209

00:53:00.945 --> 00:53:03.883 more of the prefrontal cortex and

NOTE Confidence: 0.8534209

00:53:03.883 --> 00:53:05.948 then basically giving them estrogen,

NOTE Confidence: 0.8534209

00:53:05.950 --> 00:53:07.822 help them to look like they

NOTE Confidence: 0.8534209

00:53:07.822 --> 00:53:09.070 didn't have aces anymore.

NOTE Confidence: 0.8534209

00:53:09.070 --> 00:53:09.835 So to me,

00:53:09.835 --> 00:53:11.365 that's suggesting that if we want

00:53:11.365 --> 00:53:13.225 to say is there a brain reason,

00:53:13.230 --> 00:53:16.830 reason to give women estradiol,

00:53:16.830 --> 00:53:18.314 perhaps it's because they

00:53:18.314 --> 00:53:19.427 have childhood diversity.

00:53:19.430 --> 00:53:19.654 Again,

00:53:19.654 --> 00:53:22.039 I think it's going to be a long time before

00:53:22.039 --> 00:53:24.188 our OBGYN colleagues will agree to this,

00:53:24.190 --> 00:53:26.512 but that's OK All right,

00:53:26.512 --> 00:53:27.400 So in summary,

00:53:27.400 --> 00:53:30.514 I just took you through a very long lifespan.

00:53:30.520 --> 00:53:33.720 The lifespan of the female and

00:53:33.720 --> 00:53:35.880 doctor HS truisms have played a

00:53:35.880 --> 00:53:38.000 critical role in this research,

00:53:38.000 --> 00:53:40.436 encouraging us to focus on mechanism.

00:53:40.440 --> 00:53:42.420 Don't get too comfortable with

NOTE Confidence: 0.8534209

00:53:42.420 --> 00:53:44.400 one particular area of research.

NOTE Confidence: 0.8534209

00:53:44.400 --> 00:53:46.310 Psycho neuroendocrinology is pretty broad

NOTE Confidence: 0.8534209

00:53:46.310 --> 00:53:48.720 range of research topics and methods.

NOTE Confidence: 0.8534209

00:53:48.720 --> 00:53:50.400 And then collaborate with basic

NOTE Confidence: 0.8534209

00:53:50.400 --> 00:53:52.626 scientists that can help you become

NOTE Confidence: 0.8534209

00:53:52.626 --> 00:53:55.356 more molecular in your focus.

NOTE Confidence: 0.8534209

00:53:55.360 --> 00:53:56.704 And then you should go where

NOTE Confidence: 0.8534209

00:53:56.704 --> 00:53:57.960 you have the greatest impact.

NOTE Confidence: 0.8534209

00:53:57.960 --> 00:54:00.480 Move to Penn and then to the

NOTE Confidence: 0.8534209

00:54:00.480 --> 00:54:02.053 University of Colorado predominantly

NOTE Confidence: 0.8534209

00:54:02.053 --> 00:54:04.518 to pursue my career mission,

NOTE Confidence: 0.8534209

00:54:04.520 --> 00:54:06.752 promote the centrality of the brain

NOTE Confidence: 0.8534209

00:54:06.752 --> 00:54:09.399 with respect to all areas of health,

NOTE Confidence: 0.8534209

00:54:09.400 --> 00:54:10.891 understanding hormonal and

NOTE Confidence: 0.8534209

00:54:10.891 --> 00:54:12.879 not just gonadal steroid,

NOTE Confidence: 0.8534209

00:54:12.880 --> 00:54:14.204 but stress hormone impact

NOTE Confidence: 0.8534209

00:54:14.204 --> 00:54:15.792 on the brain and function.

NOTE Confidence: 0.8534209

00:54:15.792 --> 00:54:17.568 And I really believe that this

NOTE Confidence: 0.8534209

00:54:17.568 --> 00:54:19.754 helps us to bridge the brain and

NOTE Confidence: 0.8534209

00:54:19.754 --> 00:54:21.289 other organ systems and ideally

NOTE Confidence: 0.8534209

00:54:21.349 --> 00:54:23.059 I'd like to think that this

NOTE Confidence: 0.8534209

00:54:23.059 --> 00:54:24.199 helps to reduce stigma.

NOTE Confidence: 0.581706805714286

00:54:24.200 --> 00:54:27.346 So, and I want to thank you Doctor Henniger,

NOTE Confidence: 0.581706805714286

00:54:27.346 --> 00:54:29.761 for this wonderful career that

NOTE Confidence: 0.581706805714286

00:54:29.761 --> 00:54:32.736 and I'll let you did to sort of

NOTE Confidence: 0.581706805714286

00:54:32.740 --> 00:54:34.456 really support me along the way.

NOTE Confidence: 0.581706805714286

00:54:34.460 --> 00:54:36.020 Thank you very much and.