WEBVTT

00:00:00.000 --> 00:00:00.828 Honor the life.

00:00:03.730 --> 00:00:05.428 To honor the life and work

00:00:05.428 --> 00:00:06.560 of Doctor Steven Southwick,

00:00:06.560 --> 00:00:08.138 my name is Robert Peter Zack.

00:00:08.140 --> 00:00:09.780 I'm one of Steves mentees,

00:00:09.780 --> 00:00:11.380 a professor in the department,

00:00:11.380 --> 00:00:13.756 and I've had the privilege of knowing and

00:00:13.756 --> 00:00:16.000 working with Steve for 15 wonderful years.

00:00:16.000 --> 00:00:17.920 Steve was more than a mentor to me.

00:00:17.920 --> 00:00:19.390 He was the 2nd father,

00:00:19.390 --> 00:00:21.100 one of my biggest supporters,

00:00:21.100 --> 00:00:23.270 and dearest friend and colleague.

00:00:23.270 --> 00:00:24.920 We are joined today by several

00:00:24.920 --> 00:00:26.020 of Steve's family members,

NOTE Confidence: 0.869086786

00:00:26.020 --> 00:00:27.140 including his wife Bernadette,

NOTE Confidence: 0.869086786

00:00:27.140 --> 00:00:29.300 as well as many of his friends,

NOTE Confidence: 0.869086786

00:00:29.300 --> 00:00:30.227 colleagues, and mentees.

NOTE Confidence: 0.869086786

00:00:30.227 --> 00:00:32.390 I'm going to begin today with a

NOTE Confidence: 0.869086786

00:00:32.454 --> 00:00:34.278 brief review of Steve's life and.

NOTE Confidence: 0.869086786

00:00:34.280 --> 00:00:36.380 Academic work and we will then

NOTE Confidence: 0.869086786

00:00:36.380 --> 00:00:37.780 have three separate presentations

NOTE Confidence: 0.869086786

00:00:37.834 --> 00:00:39.418 from doctors Crystal Charney,

NOTE Confidence: 0.869086786

00:00:39.420 --> 00:00:41.120 Montalbo, Ortiz, and me.

NOTE Confidence: 0.53967637

00:00:44.740 --> 00:00:47.656 Steve was born on April 24th,

NOTE Confidence: 0.53967637

00:00:47.656 --> 00:00:49.480 1948 in Boston, MA.

NOTE Confidence: 0.53967637

00:00:49.480 --> 00:00:50.695 Here's a picture of Steve

NOTE Confidence: 0.53967637

00:00:50.695 --> 00:00:52.254 as a child sitting on his

NOTE Confidence: 0.53967637

00:00:52.254 --> 00:00:53.679 father's lap with his family.

NOTE Confidence: 0.855115025

00:00:56.140 --> 00:00:57.810 Steve's family showed a clear

00:00:57.810 --> 00:00:59.480 commitment to service and education.

00:00:59.480 --> 00:01:01.430 His father, doctor Wayne Southwick,

00:01:01.430 --> 00:01:03.512 was the founding chair of orthopedic

00:01:03.512 --> 00:01:06.080 surgery at Yale and a gifted sculptor.

00:01:06.080 --> 00:01:08.120 His mother, Jesse Ann Southwick,

00:01:08.120 --> 00:01:09.592 helped organize the Fellowship,

00:01:09.592 --> 00:01:11.800 Place a supportive community to help

00:01:11.862 --> 00:01:13.758 promote mental health in New Haven,

00:01:13.760 --> 00:01:15.885 and actively supported the Connecticut

00:01:15.885 --> 00:01:18.620 Hospice and Old Lyme Art Academy.

00:01:18.620 --> 00:01:20.780 Steve, Sister Marsha was a creative

00:01:20.780 --> 00:01:22.188 writing professor, now retired,

00:01:22.188 --> 00:01:24.596 and his brother Frederick is a highly

00:01:24.596 --> 00:01:26.039 accomplished infectious disease.

00:01:26.040 --> 00:01:28.340 Position and professor at

00:01:28.340 --> 00:01:30.640 the University of Florida.

NOTE Confidence: 0.855115025

00:01:30.640 --> 00:01:31.772 During the Vietnam War,

NOTE Confidence: 0.855115025

00:01:31.772 --> 00:01:33.470 Steve served in the US Army

NOTE Confidence: 0.855115025

00:01:33.529 --> 00:01:35.139 and was stationed in Germany.

NOTE Confidence: 0.855115025

00:01:35.140 --> 00:01:36.268 After his service,

NOTE Confidence: 0.855115025

00:01:36.268 --> 00:01:37.396 he attended Yale,

NOTE Confidence: 0.855115025

00:01:37.400 --> 00:01:39.685 graduating in 1974 with a

NOTE Confidence: 0.855115025

00:01:39.685 --> 00:01:41.056 degree in psychology.

NOTE Confidence: 0.855115025

00:01:41.060 --> 00:01:43.356 Here's a picture of him playing football.

NOTE Confidence: 0.855115025

00:01:43.360 --> 00:01:45.830 He liked to joke that this was one of his

NOTE Confidence: 0.855115025

00:01:45.890 --> 00:01:48.540 earliest experiments and stress inoculation.

NOTE Confidence: 0.855115025

00:01:48.540 --> 00:01:51.378 He then attended medical school at

NOTE Confidence: 0.855115025

00:01:51.378 --> 00:01:53.270 George Washington University and

NOTE Confidence: 0.855115025

00:01:53.343 --> 00:01:56.379 completed his psychiatry residency at Yale.

NOTE Confidence: 0.855115025

00:01:56.380 --> 00:01:57.572 Steve then remained at

NOTE Confidence: 0.855115025

00:01:57.572 --> 00:01:58.764 Yale throughout his career,

NOTE Confidence: 0.855115025

00:01:58.770 --> 00:02:00.875 where he forged rich collaborations

NOTE Confidence: 0.855115025

00:02:00.875 --> 00:02:02.559 and decades long friendships.

NOTE Confidence: 0.855115025

00:02:02.560 --> 00:02:04.884 He was beloved by his friends and

NOTE Confidence: 0.855115025

00:02:04.884 --> 00:02:06.280 colleagues and mentored hundreds

NOTE Confidence: 0.855115025

00:02:06.280 --> 00:02:07.980 of trainees at all levels.

NOTE Confidence: 0.855115025

00:02:07.980 --> 00:02:10.212 Here are some pictures from Steve's

NOTE Confidence: 0.855115025

00:02:10.212 --> 00:02:12.168 inauguration as the Greenberg endowed

NOTE Confidence: 0.855115025

00:02:12.168 --> 00:02:14.218 professor giving a keynote address,

NOTE Confidence: 0.855115025

00:02:14.220 --> 00:02:16.628 and with his longtime colleague Andy Morgan.

NOTE Confidence: 0.87535250875

00:02:18.760 --> 00:02:20.936 Here's one of my favorite pictures of Steve.

NOTE Confidence: 0.87535250875

00:02:20.940 --> 00:02:23.376 I remember how proud he was to

NOTE Confidence: 0.87535250875

00:02:23.376 --> 00:02:25.281 have organized his desk thanks

NOTE Confidence: 0.87535250875

00:02:25.281 --> 00:02:27.627 to this large green garbage bin.

NOTE Confidence: 0.87535250875

00:02:27.630 --> 00:02:29.410 And here is Stephen Action,

NOTE Confidence: 0.87535250875

00:02:29.410 --> 00:02:32.690 reading and revising papers four at a time.

NOTE Confidence: 0.87535250875

00:02:32.690 --> 00:02:34.587 I think the one with the most

NOTE Confidence: 0.87535250875

00:02:34.587 --> 00:02:35.730 extensive editing is mine.

NOTE Confidence: 0.858091714

00:02:38.050 --> 00:02:39.330 On a more personal note,

NOTE Confidence: 0.858091714

00:02:39.330 --> 00:02:41.268 Steve was a loving family man.

NOTE Confidence: 0.858091714

00:02:41.270 --> 00:02:42.378 Here are some pictures

NOTE Confidence: 0.858091714

00:02:42.378 --> 00:02:43.486 of him with Bernadette,

NOTE Confidence: 0.858091714

00:02:43.490 --> 00:02:45.430 his daughter and son-in-law,

NOTE Confidence: 0.858091714

00:02:45.430 --> 00:02:46.885 with his grandchildren,

NOTE Confidence: 0.858091714

00:02:46.890 --> 00:02:48.060 and from his wedding day.

NOTE Confidence: 0.831360424

00:02:51.410 --> 00:02:53.240 Our dear colleague and friend

NOTE Confidence: 0.831360424

00:02:53.240 --> 00:02:55.467 Steve passed away on April 20th,

NOTE Confidence: 0.831360424

00:02:55.467 --> 00:02:57.849 2022 at the age of 73,

NOTE Confidence: 0.831360424

00:02:57.850 --> 00:03:00.866 just four days shy of his 74th birthday,

NOTE Confidence: 0.831360424

00:03:00.870 --> 00:03:03.474 after a courageous 5 year battle

NOTE Confidence: 0.831360424

00:03:03.474 --> 00:03:05.210 with metastatic prostate cancer.

NOTE Confidence: 0.831360424

00:03:05.210 --> 00:03:06.530 At the time of his death,

NOTE Confidence: 0.831360424

00:03:06.530 --> 00:03:08.654 Steve was the Glen H Greenberg

NOTE Confidence: 0.831360424

00:03:08.654 --> 00:03:10.070 professor emeritus of psychiatry,

NOTE Confidence: 0.831360424

00:03:10.070 --> 00:03:12.656 PTSD and resilience at Yale and

NOTE Confidence: 0.831360424

00:03:12.656 --> 00:03:14.916 Medical Director emeritus of the

NOTE Confidence: 0.831360424

00:03:14.916 --> 00:03:16.756 Clinical Neuroscience division of

NOTE Confidence: 0.831360424

00:03:16.756 --> 00:03:19.490 the VA National Center for PTSD.

NOTE Confidence: 0.831360424

00:03:19.490 --> 00:03:22.218 There is no question as to Steve's impact.

NOTE Confidence: 0.831360424

00:03:22.220 --> 00:03:23.830 On the field of psychiatry,

NOTE Confidence: 0.831360424

00:03:23.830 --> 00:03:25.950 with over 400 published papers,

NOTE Confidence: 0.831360424

00:03:25.950 --> 00:03:28.425 books and chapters focused on

NOTE Confidence: 0.831360424

00:03:28.425 --> 00:03:30.405 understanding PTSD and resilience,

NOTE Confidence: 0.831360424

00:03:30.410 --> 00:03:32.095 he has received numerous awards

NOTE Confidence: 0.831360424

00:03:32.095 --> 00:03:33.630 for his research, teaching,

NOTE Confidence: 0.831360424

00:03:33.630 --> 00:03:35.710 mentorship and clinical work.

NOTE Confidence: 0.831360424

00:03:35.710 --> 00:03:37.560 His published work has been

NOTE Confidence: 0.831360424

00:03:37.560 --> 00:03:39.322 cited more than 62,000 times,

NOTE Confidence: 0.831360424

00:03:39.322 --> 00:03:41.930 and he has been recognized as among the

NOTE Confidence: 0.831360424

00:03:42.000 --> 00:03:44.586 most highly cited researchers by Thompson,

NOTE Confidence: 0.831360424

00:03:44.590 --> 00:03:45.062 ISIL.

NOTE Confidence: 0.831360424

00:03:45.062 --> 00:03:46.950 But more than that,

NOTE Confidence: 0.831360424

00:03:46.950 --> 00:03:48.840 Steve practiced what he preached

NOTE Confidence: 0.831360424

00:03:48.840 --> 00:03:50.730 and embodied and lived the

NOTE Confidence: 0.831360424

00:03:50.801 --> 00:03:52.596 resilience factors that he studied

NOTE Confidence: 0.831360424

00:03:52.596 --> 00:03:55.230 and that we will hear about today.

NOTE Confidence: 0.831360424

00:03:55.230 --> 00:03:57.312 Steve came into this world and

NOTE Confidence: 0.831360424

00:03:57.312 --> 00:03:59.510 changed our lives for the better.

NOTE Confidence: 0.831360424

00:03:59.510 --> 00:04:00.566 His kindness, compassion,

NOTE Confidence: 0.831360424

00:04:00.566 --> 00:04:00.954 love,

NOTE Confidence: 0.831360424

00:04:00.954 --> 00:04:03.282 and sense of humor touched all

NOTE Confidence: 0.831360424

00:04:03.282 --> 00:04:04.757 of us who knew him.

NOTE Confidence: 0.831360424

00:04:04.760 --> 00:04:07.154 In her eulogy and prayer of Thanksgiving

NOTE Confidence: 0.831360424

00:04:07.154 --> 00:04:08.700 at Steve's memorial service,

NOTE Confidence: 0.831360424

00:04:08.700 --> 00:04:10.140 the Reverend Shelley Emery

NOTE Confidence: 0.831360424

00:04:10.140 --> 00:04:12.300 Holness described him as a man

NOTE Confidence: 0.831360424

00:04:12.369 --> 00:04:14.451 of great faith and integrity who

NOTE Confidence: 0.831360424

00:04:14.451 --> 00:04:16.480 felt compelled to help veterans,

NOTE Confidence: 0.831360424

00:04:16.480 --> 00:04:18.172 especially Vietnam Veterans who

NOTE Confidence: 0.831360424

00:04:18.172 --> 00:04:20.710 did not return home to accolades

NOTE Confidence: 0.831360424

00:04:20.785 --> 00:04:22.640 of thanks for their service.

NOTE Confidence: 0.831360424

00:04:22.640 --> 00:04:24.860 She further noted that Steve brought

NOTE Confidence: 0.831360424

00:04:24.860 --> 00:04:27.669 light to the cracks in those he served.

NOTE Confidence: 0.731594968333333

00:04:29.940 --> 00:04:31.896 The presentations you will hear today,

NOTE Confidence: 0.731594968333333

00:04:31.900 --> 00:04:33.525 we will review the incredible

NOTE Confidence: 0.731594968333333

00:04:33.525 --> 00:04:35.490 breadth and depth of Steve's work.

NOTE Confidence: 0.731594968333333

00:04:35.490 --> 00:04:37.296 I would like to now introduce our

NOTE Confidence: 0.731594968333333

00:04:37.296 --> 00:04:38.900 first presenter, Doctor John Crystal.

NOTE Confidence: 0.731594968333333

00:04:38.900 --> 00:04:39.980 John, of course,

NOTE Confidence: 0.731594968333333

00:04:39.980 --> 00:04:42.580 does not need an introduction to this group,

NOTE Confidence: 0.731594968333333

00:04:42.580 --> 00:04:43.980 but I'll say that he has known,

NOTE Confidence: 0.731594968333333

00:04:43.980 --> 00:04:45.620 trained with and worked with

NOTE Confidence: 0.731594968333333

00:04:45.620 --> 00:04:47.260 Steve for nearly 40 years,

NOTE Confidence: 0.731594968333333

00:04:47.260 --> 00:04:49.768 beginning from being a resident under

NOTE Confidence: 0.731594968333333

00:04:49.768 --> 00:04:52.079 Steve to eventually becoming his boss.

NOTE Confidence: 0.731594968333333

00:04:52.080 --> 00:04:53.904 Together they have done some of

NOTE Confidence: 0.731594968333333

00:04:53.904 --> 00:04:55.622 the earliest and most pioneering

NOTE Confidence: 0.731594968333333

00:04:55.622 --> 00:04:57.832 studies on the neurobiology and

NOTE Confidence: 0.731594968333333

00:04:57.832 --> 00:04:59.600 pharmacological treatment of PTSD,

NOTE Confidence: 0.731594968333333

00:04:59.600 --> 00:05:01.526 which we will hear about today.

NOTE Confidence: 0.731594968333333

00:05:01.530 --> 00:05:02.040 John?

NOTE Confidence: 0.831458101818182

00:05:03.980 --> 00:05:06.612 Thank you, rob. And and it's wonderful

NOTE Confidence: 0.831458101818182

00:05:06.612 --> 00:05:09.939 to be with all of you to celebrate the

NOTE Confidence: 0.831458101818182

00:05:09.939 --> 00:05:12.659 life and career of Steve Southwick.

NOTE Confidence: 0.831458101818182

00:05:12.660 --> 00:05:16.097 I think we can all say that.

NOTE Confidence: 0.831458101818182

00:05:16.100 --> 00:05:19.117 That, Steve, was one of the most

NOTE Confidence: 0.831458101818182

00:05:19.117 --> 00:05:21.639 unique people that we ever met

NOTE Confidence: 0.831458101818182

00:05:21.639 --> 00:05:23.919 and someone who we anyone who

NOTE Confidence: 0.831458101818182

00:05:23.919 --> 00:05:26.756 who came into contact with them.

NOTE Confidence: 0.831458101818182

00:05:26.760 --> 00:05:29.040 Was better off for that contact,

NOTE Confidence: 0.831458101818182

00:05:29.040 --> 00:05:32.136 I I also wanted to acknowledge.

NOTE Confidence: 0.831458101818182

00:05:32.140 --> 00:05:34.600 That special to have Bernadette here

NOTE Confidence: 0.831458101818182

00:05:34.600 --> 00:05:37.505 with us and and to be presenting

NOTE Confidence: 0.831458101818182

00:05:37.505 --> 00:05:40.280 with Rob and Dennis is, is great.

NOTE Confidence: 0.831458101818182

00:05:40.280 --> 00:05:42.680 It's great to have the the

NOTE Confidence: 0.831458101818182

00:05:42.680 --> 00:05:44.820 old team back together.

NOTE Confidence: 0.831458101818182

00:05:44.820 --> 00:05:47.333 So I'm going to be talking about

NOTE Confidence: 0.831458101818182

00:05:47.333 --> 00:05:49.760 about the start of Steve's kind

NOTE Confidence: 0.831458101818182

00:05:49.760 --> 00:05:53.906 of neurobiology work and how his.

NOTE Confidence: 0.831458101818182

00:05:53.906 --> 00:05:58.838 Um, contributions to PTSD research really

NOTE Confidence: 0.831458101818182

00:05:58.840 --> 00:06:01.402 helped to begin the modern neuroscience

NOTE Confidence: 0.831458101818182

00:06:01.402 --> 00:06:03.780 of post traumatic stress disorder.

NOTE Confidence: 0.831458101818182

00:06:03.780 --> 00:06:05.556 You saw pictures already

NOTE Confidence: 0.831458101818182

00:06:05.556 --> 00:06:07.383 of Steve's early life.

NOTE Confidence: 0.831458101818182

00:06:07.383 --> 00:06:10.149 This is a picture that Bernadette

NOTE Confidence: 0.831458101818182

00:06:10.149 --> 00:06:13.156 shared from Steve's days at at Hopkins,

NOTE Confidence: 0.831458101818182

00:06:13.160 --> 00:06:15.264 the local high school.

NOTE Confidence: 0.831458101818182

00:06:15.264 --> 00:06:18.420 Here's a picture from the 1980s.

NOTE Confidence: 0.831458101818182

00:06:18.420 --> 00:06:20.280 Where, uh, where, uh,

NOTE Confidence: 0.831458101818182

00:06:20.280 --> 00:06:23.070 the very beginning of the work

NOTE Confidence: 0.831458101818182

00:06:23.163 --> 00:06:25.398 on PTSD was taking place.

NOTE Confidence: 0.831458101818182

00:06:25.400 --> 00:06:27.560 And here is Rachel Yehuda,

NOTE Confidence: 0.831458101818182

00:06:27.560 --> 00:06:30.035 who was with us at the VA Earl Giller,

NOTE Confidence: 0.831458101818182

00:06:30.040 --> 00:06:32.791 a former chief of psychiatry at the

NOTE Confidence: 0.831458101818182

00:06:32.791 --> 00:06:36.020 VA and and and Steve in the 1980s.

00:06:36.020 --> 00:06:40.936 Here we are, Steve, Dennis and I in Moscow.

00:06:40.936 --> 00:06:45.690 And this was late, Gorbachev.

00:06:45.690 --> 00:06:46.672 The uh,

00:06:46.672 --> 00:06:47.163 uh.

00:06:47.163 --> 00:06:49.618 This was after the terrible

00:06:49.618 --> 00:06:52.908 crisis in Chernobyl and also the

00:06:52.910 --> 00:06:55.510 Soviet invasion of Afghanistan.

00:06:55.510 --> 00:07:00.010 And this was one of the more

00:07:00.010 --> 00:07:01.698 extraordinary adventures that the

00:07:01.698 --> 00:07:04.422 three of us had the good fortune

00:07:04.422 --> 00:07:07.729 to share to to to be talking about

00:07:07.729 --> 00:07:10.849 PTSD with people in that context.

00:07:10.850 --> 00:07:11.582 So.

00:07:11.582 --> 00:07:16.706 What was PTSD like before Steve Southwick?

00:07:16.710 --> 00:07:19.710 Here's a review paper from the

13

00:07:19.710 --> 00:07:22.554 early 1980s which summarized the

NOTE Confidence: 0.831458101818182

00:07:22.554 --> 00:07:24.898 state-of-the-art at the time.

NOTE Confidence: 0.831458101818182

00:07:24.900 --> 00:07:28.728 Which was that there was evidence

NOTE Confidence: 0.831458101818182

00:07:28.728 --> 00:07:31.853 of hyperactivity of the autonomic,

NOTE Confidence: 0.831458101818182

00:07:31.853 --> 00:07:35.291 or sympathetic nervous system that was

NOTE Confidence: 0.831458101818182

00:07:35.291 --> 00:07:38.709 increased by exposure to trauma reminders.

NOTE Confidence: 0.831458101818182

00:07:38.710 --> 00:07:42.933 And that there were elevated 24

NOTE Confidence: 0.831458101818182

00:07:42.933 --> 00:07:46.648 hour urine levels of norepinephrine.

NOTE Confidence: 0.831458101818182

00:07:46.650 --> 00:07:48.622 In people with PTSD,

NOTE Confidence: 0.831458101818182

00:07:48.622 --> 00:07:52.198 and that this relative increase in our

NOTE Confidence: 0.831458101818182

00:07:52.198 --> 00:07:55.838 predefine was greater than the levels of

NOTE Confidence: 0.831458101818182

00:07:55.838 --> 00:07:59.127 cortisol that one might have expected,

NOTE Confidence: 0.831458101818182

00:07:59.130 --> 00:08:02.262 and that animal models suggested this

NOTE Confidence: 0.831458101818182

00:08:02.262 --> 00:08:04.350 regulation and conditioned activation

NOTE Confidence: 0.831458101818182

00:08:04.424 --> 00:08:06.474 of the noradrenergic system based

NOTE Confidence: 0.831458101818182

00:08:06.474 --> 00:08:09.229 in the locusts release in the brain

00:08:09.230 --> 00:08:11.634 and providing noradrenergic input

00:08:11.634 --> 00:08:15.920 to the higher centers of the brain.

00:08:15.920 --> 00:08:20.085 So there had been some general ideas.

00:08:20.090 --> 00:08:26.078 About that PTSD had a neurobiology,

00:08:26.080 --> 00:08:28.922 but actually at that time the idea

00:08:28.922 --> 00:08:31.741 that there was a biological component

00:08:31.741 --> 00:08:34.777 to PTSD was still hotly debated,

00:08:34.780 --> 00:08:37.580 and in fact some people felt that

00:08:37.580 --> 00:08:40.090 PTSD shouldn't even be studied

00:08:40.090 --> 00:08:42.098 from a biological perspective,

00:08:42.100 --> 00:08:46.935 given the the interpersonal nature of a

00:08:46.935 --> 00:08:51.259 lot of the trauma that people experience.

00:08:51.260 --> 00:08:54.146 But how could we study the

00:08:54.146 --> 00:08:55.589 neurobiology of PTSD?

00:08:55.590 --> 00:08:59.027 The the tool that we initially stumbled

00:08:59.027 --> 00:09:03.430 on came from the work of of Dennis and

NOTE Confidence: 0.831458101818182

00:09:03.430 --> 00:09:06.454 his collaborators in the early 1980s,

NOTE Confidence: 0.831458101818182

00:09:06.454 --> 00:09:07.582 Alan Breyer,

NOTE Confidence: 0.831458101818182

00:09:07.582 --> 00:09:08.710 George Henninger.

NOTE Confidence: 0.831458101818182

00:09:08.710 --> 00:09:10.936 Which was the idea to probe.

NOTE Confidence: 0.892295989565218

00:09:13.470 --> 00:09:16.641 To probe the integrity of a particular

NOTE Confidence: 0.892295989565218

00:09:16.641 --> 00:09:19.602 neural signaling mechanism by giving a drug

NOTE Confidence: 0.892295989565218

00:09:19.602 --> 00:09:21.900 that would stimulate a specific target

NOTE Confidence: 0.892295989565218

00:09:21.974 --> 00:09:25.482 in the brain and then measuring outcomes,

NOTE Confidence: 0.892295989565218

00:09:25.482 --> 00:09:27.486 behavioral and biological,

NOTE Confidence: 0.892295989565218

00:09:27.490 --> 00:09:30.258 that could end index or provide a measure

NOTE Confidence: 0.892295989565218

00:09:30.258 --> 00:09:32.822 of the sensitivity of that signaling

NOTE Confidence: 0.892295989565218

00:09:32.822 --> 00:09:35.510 mechanism in the brain and body.

NOTE Confidence: 0.892295989565218

00:09:35.510 --> 00:09:38.402 So for the case of trying to

NOTE Confidence: 0.892295989565218

00:09:38.402 --> 00:09:40.506 understand noradrenergic systems that

NOTE Confidence: 0.892295989565218

00:09:40.506 --> 00:09:43.743 had been implicated by the animal

NOTE Confidence: 0.892295989565218

00:09:43.743 --> 00:09:45.847 models and sympathetic arousal.

NOTE Confidence: 0.892295989565218

00:09:45.850 --> 00:09:47.905 Doctor Charney developed a technique

NOTE Confidence: 0.892295989565218

00:09:47.905 --> 00:09:51.127 of giving a drug that blocked feedback

NOTE Confidence: 0.892295989565218

00:09:51.127 --> 00:09:53.857 inhibition via blocking the Alfred

NOTE Confidence: 0.892295989565218

00:09:53.857 --> 00:09:56.609 to noradrenergic receptor and then

NOTE Confidence: 0.892295989565218

00:09:56.609 --> 00:09:58.689 measuring the behavioral responses.

NOTE Confidence: 0.892295989565218

00:09:58.690 --> 00:10:02.015 And you can see that this approach

NOTE Confidence: 0.892295989565218

00:10:02.015 --> 00:10:05.091 produces very little response in terms

NOTE Confidence: 0.892295989565218

00:10:05.091 --> 00:10:08.205 of changes in anxiety and healthy

NOTE Confidence: 0.892295989565218

00:10:08.205 --> 00:10:10.796 subjects and of limited span of.

NOTE Confidence: 0.892295989565218

00:10:10.800 --> 00:10:13.480 Increases in a metabolite of

NOTE Confidence: 0.892295989565218

00:10:13.480 --> 00:10:16.160 neuropil nepheline called MHB G,

NOTE Confidence: 0.892295989565218

00:10:16.160 --> 00:10:18.596 which can be measured in the blood.

NOTE Confidence: 0.892295989565218

00:10:18.600 --> 00:10:20.504 But when he gave the same drug

NOTE Confidence: 0.892295989565218

00:10:20.504 --> 00:10:22.249 to patients with panic disorder,

NOTE Confidence: 0.892295989565218

00:10:22.250 --> 00:10:26.051 he got much bigger increases in anxiety

NOTE Confidence: 0.892295989565218

00:10:26.051 --> 00:10:29.458 and much bigger increases in MHG,

NOTE Confidence: 0.892295989565218

00:10:29.460 --> 00:10:31.275 in other words,

NOTE Confidence: 0.892295989565218

00:10:31.275 --> 00:10:34.300 indicative of a greater norepinephrine

NOTE Confidence: 0.892295989565218

00:10:34.300 --> 00:10:36.502 response associated with the

NOTE Confidence: 0.892295989565218

00:10:36.502 --> 00:10:38.777 symptoms of of panic disorder.

NOTE Confidence: 0.892295989565218

00:10:38.780 --> 00:10:41.072 This was a sign that the

NOTE Confidence: 0.892295989565218

00:10:41.072 --> 00:10:42.218 feedback inhibition mechanism,

NOTE Confidence: 0.892295989565218

00:10:42.220 --> 00:10:45.796 the A2 adrenergic receptor,

NOTE Confidence: 0.892295989565218

00:10:45.796 --> 00:10:46.690 was.

NOTE Confidence: 0.892295989565218

00:10:46.690 --> 00:10:48.625 Functioning in a deficient way

NOTE Confidence: 0.892295989565218

00:10:48.625 --> 00:10:49.786 in panic disorder,

NOTE Confidence: 0.892295989565218

00:10:49.790 --> 00:10:52.787 and this was in some ways one of the

NOTE Confidence: 0.892295989565218

00:10:52.787 --> 00:10:55.662 first specific mechanism a signaling

NOTE Confidence: 0.892295989565218

00:10:55.662 --> 00:10:57.726 mechanisms identified as contributing

NOTE Confidence: 0.892295989565218

00:10:57.726 --> 00:11:01.029 to the biology of panic disorder.

NOTE Confidence: 0.892295989565218

00:11:01.030 --> 00:11:04.390 When Steve and I just to

NOTE Confidence: 0.892295989565218

00:11:04.390 --> 00:11:06.630 illustrate this idea graphically,

NOTE Confidence: 0.892295989565218

00:11:06.630 --> 00:11:08.342 normally when the norepinephrine

NOTE Confidence: 0.892295989565218

00:11:08.342 --> 00:11:09.626 neurons are activated,

NOTE Confidence: 0.892295989565218

00:11:09.630 --> 00:11:12.150 you get a little bit of norepinephrine

NOTE Confidence: 0.892295989565218

00:11:12.150 --> 00:11:14.606 release and and that's because

NOTE Confidence: 0.892295989565218

00:11:14.606 --> 00:11:16.459 when norepinephrine is released

NOTE Confidence: 0.892295989565218

00:11:16.459 --> 00:11:17.788 by neighboring neurons,

NOTE Confidence: 0.892295989565218

00:11:17.790 --> 00:11:20.622 it shuts shuts down the norepinephrine

NOTE Confidence: 0.892295989565218

00:11:20.622 --> 00:11:24.259 neurons via the A2 adrenergic receptor.

NOTE Confidence: 0.892295989565218

00:11:24.260 --> 00:11:25.613 In panic disorder,

NOTE Confidence: 0.892295989565218

00:11:25.613 --> 00:11:28.774 when you get the same degree of

NOTE Confidence: 0.892295989565218

00:11:28.774 --> 00:11:31.029 neural activation because the A2

NOTE Confidence: 0.892295989565218

00:11:31.029 --> 00:11:33.039 receptors are less functional,

NOTE Confidence: 0.892295989565218

00:11:33.040 --> 00:11:37.028 you get much bigger norepinephrine releases.

NOTE Confidence: 0.892295989565218

00:11:37.028 --> 00:11:39.716 And one consequence which I'm going

NOTE Confidence: 0.892295989565218

00:11:39.716 --> 00:11:43.410 to come back to in a little bit is a

NOTE Confidence: 0.892295989565218

00:11:43.410 --> 00:11:45.755 down regulation of the postsynaptic

NOTE Confidence: 0.892295989565218

00:11:45.755 --> 00:11:48.374 response to norepinephrine overtime

NOTE Confidence: 0.892295989565218

00:11:48.374 --> 00:11:51.664 via the beta adrenergic receptor.

NOTE Confidence: 0.892295989565218

00:11:51.670 --> 00:11:52.298 So.

NOTE Confidence: 0.892295989565218

00:11:52.298 --> 00:11:55.990 Steve and Dennis and I conducted

NOTE Confidence: 0.892295989565218

00:11:55.990 --> 00:11:59.290 this first study trying to identify

NOTE Confidence: 0.892295989565218

00:11:59.290 --> 00:12:02.288 a neural signaling mechanism in

NOTE Confidence: 0.892295989565218

00:12:02.288 --> 00:12:04.808 post traumatic stress disorder.

NOTE Confidence: 0.892295989565218

00:12:04.810 --> 00:12:07.988 And we did this by giving yohimbine.

NOTE Confidence: 0.892295989565218

00:12:07.990 --> 00:12:09.750 And showing that there was,

NOTE Confidence: 0.892295989565218

00:12:09.750 --> 00:12:12.342 for the first time,

NOTE Confidence: 0.892295989565218

00:12:12.342 --> 00:12:15.805 an increase in PTSD symptoms severity

NOTE Confidence: 0.892295989565218

00:12:15.805 --> 00:12:18.835 that could be attributed to a

NOTE Confidence: 0.892295989565218

00:12:18.835 --> 00:12:21.837 manipulation of a specific neural mechanism.

NOTE Confidence: 0.892295989565218

00:12:21.840 --> 00:12:22.474 Also,

NOTE Confidence: 0.892295989565218

00:12:22.474 --> 00:12:26.912 that this increase in PTSD symptoms was

NOTE Confidence: 0.892295989565218

00:12:26.912 --> 00:12:31.297 associated with a greater increase in in MHG,

NOTE Confidence: 0.892295989565218

00:12:31.300 --> 00:12:33.592 meaning a greater activation

NOTE Confidence: 0.892295989565218

00:12:33.592 --> 00:12:34.738 of norepinephrine,

NOTE Confidence: 0.892295989565218

00:12:34.740 --> 00:12:37.176 meaning that this mechanism,

NOTE Confidence: 0.892295989565218

00:12:37.176 --> 00:12:39.612 the A2 noradrenergic inhibition

NOTE Confidence: 0.892295989565218

00:12:39.612 --> 00:12:41.540 of norepinephrine neurons,

NOTE Confidence: 0.892295989565218

00:12:41.540 --> 00:12:43.520 was deficient in PTSD.

NOTE Confidence: 0.90098257

00:12:45.620 --> 00:12:48.108 This work was followed by a study led

NOTE Confidence: 0.90098257

00:12:48.108 --> 00:12:50.840 by Doug Bremner, who was with the

NOTE Confidence: 0.90098257

00:12:50.840 --> 00:12:53.530 National Center for PTSD at the time.

NOTE Confidence: 0.90098257

00:12:53.530 --> 00:12:56.986 And he gave he did the same study,

NOTE Confidence: 0.90098257

00:12:56.990 --> 00:12:59.478 giving yohimbine to healthy

NOTE Confidence: 0.90098257

00:12:59.478 --> 00:13:02.588 people and people with PTSD.

NOTE Confidence: 0.90098257

00:13:02.590 --> 00:13:05.174 And measuring brain activity,

NOTE Confidence: 0.90098257

00:13:05.174 --> 00:13:08.378 this time using positron emission

NOTE Confidence: 0.90098257

00:13:08.378 --> 00:13:11.558 tomography to measure cortical metabolism.

NOTE Confidence: 0.90098257

00:13:11.560 --> 00:13:14.052 And what Doug showed was that when

NOTE Confidence: 0.90098257

00:13:14.052 --> 00:13:15.860 you give yohimbine to people,

NOTE Confidence: 0.90098257

00:13:15.860 --> 00:13:20.100 you activate prefrontal cortical metabolism.

NOTE Confidence: 0.90098257

00:13:20.100 --> 00:13:23.328 However, when you give.

NOTE Confidence: 0.90098257

00:13:23.330 --> 00:13:26.040 Yohimbine to people with PTSD,

NOTE Confidence: 0.90098257

00:13:26.040 --> 00:13:28.680 you don't produce the same degree

NOTE Confidence: 0.90098257

00:13:28.680 --> 00:13:30.440 of prefrontal cortical metabolism,

NOTE Confidence: 0.90098257

00:13:30.440 --> 00:13:33.158 and this was a sign that

NOTE Confidence: 0.90098257

00:13:33.158 --> 00:13:34.517 the postsynaptic response.

NOTE Confidence: 0.90098257

00:13:34.520 --> 00:13:35.726 In other words,

NOTE Confidence: 0.90098257

00:13:35.726 --> 00:13:37.334 the response to norepinephrine

NOTE Confidence: 0.90098257

00:13:37.334 --> 00:13:39.823 by neurons by cells in the

NOTE Confidence: 0.90098257

00:13:39.823 --> 00:13:41.833 prefrontal cortex was also blunted.

NOTE Confidence: 0.90098257

00:13:41.840 --> 00:13:44.450 So both the presynaptic inhibition

NOTE Confidence: 0.90098257

00:13:44.450 --> 00:13:46.538 feedback inhibition of the

NOTE Confidence: 0.90098257

00:13:46.538 --> 00:13:48.638 norepinephrine neurons was deficient,

NOTE Confidence: 0.90098257

00:13:48.640 --> 00:13:51.255 as well as the postsynaptic

NOTE Confidence: 0.90098257

00:13:51.255 --> 00:13:52.824 reactivity to norepinephrine.

NOTE Confidence: 0.923412685

00:13:55.050 --> 00:13:57.726 One of the most striking things

NOTE Confidence: 0.923412685

00:13:57.730 --> 00:14:00.550 about this study that Steve LED.

NOTE Confidence: 0.923412685

00:14:00.550 --> 00:14:03.720 Was the experience that people

NOTE Confidence: 0.923412685

00:14:03.720 --> 00:14:06.256 participating in this study.

NOTE Confidence: 0.923412685

00:14:06.260 --> 00:14:09.380 Had when they received yohimbine.

NOTE Confidence: 0.923412685

00:14:09.380 --> 00:14:12.663 And so Steve and I would would

NOTE Confidence: 0.923412685

00:14:12.663 --> 00:14:15.949 sit with the patients and record

NOTE Confidence: 0.923412685

00:14:15.949 --> 00:14:19.483 aspects of of the sessions and

NOTE Confidence: 0.923412685

00:14:19.483 --> 00:14:23.349 and and and what we saw was that.

NOTE Confidence: 0.923412685

00:14:23.350 --> 00:14:28.758 For the first time that we could bring on

NOTE Confidence: 0.923412685

00:14:28.758 --> 00:14:31.528 symptoms of dissociation and flashbacks

NOTE Confidence: 0.923412685

00:14:31.528 --> 00:14:34.294 and intrusive memories in people

NOTE Confidence: 0.923412685

00:14:34.294 --> 00:14:36.854 with post traumatic stress disorder.

NOTE Confidence: 0.923412685

00:14:36.860 --> 00:14:37.865 In this case,

NOTE Confidence: 0.923412685

00:14:37.865 --> 00:14:40.980 a veteran with PTSD who is getting yohimbine,

NOTE Confidence: 0.923412685

00:14:40.980 --> 00:14:43.612 who then has a flashback to a scene

NOTE Confidence: 0.923412685

00:14:43.612 --> 00:14:46.477 from his combat exposure where he not

NOTE Confidence: 0.923412685

00:14:46.477 --> 00:14:49.060 only sees a helicopter going down,

NOTE Confidence: 0.923412685

00:14:49.060 --> 00:14:52.210 he can hear it and he can smell it.

NOTE Confidence: 0.923412685

00:14:52.210 --> 00:14:55.990 And this was really a powerful message

NOTE Confidence: 0.923412685

00:14:55.990 --> 00:14:59.299 about the link between the biology

NOTE Confidence: 0.923412685

00:14:59.299 --> 00:15:03.578 of PTSD and the symptoms of PTSD and

NOTE Confidence: 0.923412685

00:15:03.578 --> 00:15:06.418 help to stimulate further research.

NOTE Confidence: 0.923412685

00:15:06.420 --> 00:15:09.558 Trying to understand the the neural

NOTE Confidence: 0.923412685

00:15:09.558 --> 00:15:12.380 contributions to the symptoms of PTSD.

NOTE Confidence: 0.923412685

00:15:12.380 --> 00:15:14.431 This work also led to the testing

NOTE Confidence: 0.923412685

00:15:14.431 --> 00:15:16.880 of a number of treatments for PTSD,

NOTE Confidence: 0.923412685

00:15:16.880 --> 00:15:19.750 including PRAZOSIN.

NOTE Confidence: 0.923412685

00:15:19.750 --> 00:15:20.572 And desipramine,

NOTE Confidence: 0.923412685

00:15:20.572 --> 00:15:24.650 which is a study here led by Esmini Petrakis,

NOTE Confidence: 0.923412685

00:15:24.650 --> 00:15:27.322 which was one of the first to show

NOTE Confidence: 0.923412685

00:15:27.322 --> 00:15:30.389 evidence of efficacy of desipramine as a

NOTE Confidence: 0.923412685

00:15:30.389 --> 00:15:33.440 treatment for post traumatic stress disorder.

NOTE Confidence: 0.923412685

00:15:33.440 --> 00:15:35.010 So.

NOTE Confidence: 0.923412685

00:15:35.010 --> 00:15:37.330 That is really the the,

NOTE Confidence: 0.923412685

00:15:37.330 --> 00:15:39.904 the kind of the first generation

NOTE Confidence: 0.923412685

00:15:39.904 --> 00:15:42.065 of research that was done

NOTE Confidence: 0.923412685

00:15:42.065 --> 00:15:44.278 here and and as you can see.

NOTE Confidence: 0.76780954

00:15:46.760 --> 00:15:49.480 There was a we were.

NOTE Confidence: 0.76780954

00:15:49.480 --> 00:15:52.504 Really striking new ground.

NOTE Confidence: 0.76780954

00:15:52.504 --> 00:15:56.876 Steve was leading studies that that

NOTE Confidence: 0.76780954

00:15:56.876 --> 00:16:01.320 really put PTSD on the map from the

NOTE Confidence: 0.76780954

00:16:01.320 --> 00:16:03.160 perspective of neurobiological research.

NOTE Confidence: 0.76780954

00:16:03.160 --> 00:16:05.673 Um, and So what I thought I

NOTE Confidence: 0.76780954

00:16:05.673 --> 00:16:08.728 would do in the in the next two

NOTE Confidence: 0.76780954

00:16:08.728 --> 00:16:11.630 minutes or so is just highlight.

NOTE Confidence: 0.76780954

00:16:11.630 --> 00:16:14.400 How far some of this work has come in the

NOTE Confidence: 0.76780954

00:16:14.469 --> 00:16:17.234 effort to understand the biology of PTSD?

NOTE Confidence: 0.76780954

00:16:17.240 --> 00:16:20.768 First in the effort to map circuits

NOTE Confidence: 0.76780954

00:16:20.768 --> 00:16:24.281 involved in PTSD and and to link

NOTE Confidence: 0.76780954

00:16:24.281 --> 00:16:27.131 them potentially to deep brain or

NOTE Confidence: 0.76780954

00:16:27.231 --> 00:16:30.816 other innovative treatments for PTSD.

NOTE Confidence: 0.76780954

00:16:30.820 --> 00:16:33.329 So in this regard,

NOTE Confidence: 0.76780954

00:16:33.329 --> 00:16:35.531 I want to highlight the work of Al

NOTE Confidence: 0.76780954

00:16:35.531 --> 00:16:37.343 Qaeda in the Department of Psychiatry

NOTE Confidence: 0.76780954

00:16:37.343 --> 00:16:39.607 and Yemi Dami saw in the Department

NOTE Confidence: 0.76780954

00:16:39.607 --> 00:16:41.227 of Neurosurgery who are conducting

26

00:16:41.227 --> 00:16:43.660 a study involving Intracortical

00:16:43.660 --> 00:16:47.160 recording of brain activity in

00:16:47.160 --> 00:16:50.130 epilepsy patients prior to epilepsy

00:16:50.130 --> 00:16:53.581 surgery in order to map the circuitry

00:16:53.677 --> 00:16:56.187 of fear and fear regulation.

00:16:56.190 --> 00:16:59.310 And so in this work,

00:16:59.310 --> 00:17:02.040 people are playing a video game that

00:17:02.040 --> 00:17:04.710 little bit like the game asteroids,

00:17:04.710 --> 00:17:08.418 where they're sometimes evading.

00:17:08.420 --> 00:17:10.705 Crashing into the asteroid and

00:17:10.705 --> 00:17:14.157 sometimes they crash and so we can look

00:17:14.157 --> 00:17:16.691 at the neural activity as they are

00:17:16.775 --> 00:17:19.295 actively avoiding crashing but also

00:17:19.295 --> 00:17:22.127 anticipating a crash and and where

00:17:22.127 --> 00:17:24.276 we can look at that fear response.

00:17:27.720 --> 00:17:30.422 One of the elegant parts of this

NOTE Confidence: 0.901833949

00:17:30.422 --> 00:17:34.065 work is that AL is an expert in

NOTE Confidence: 0.901833949

00:17:34.065 --> 00:17:37.880 computational modeling, and so we can.

NOTE Confidence: 0.901833949

00:17:37.880 --> 00:17:41.036 Very elegantly mapped the pattern of

NOTE Confidence: 0.901833949

00:17:41.036 --> 00:17:44.262 behavior across trials as we study

NOTE Confidence: 0.901833949

00:17:44.262 --> 00:17:46.847 the acquisition of the anticipatory

NOTE Confidence: 0.901833949

00:17:46.847 --> 00:17:50.190 fear of crashing during these trials.

NOTE Confidence: 0.920732864444445

00:17:52.680 --> 00:17:55.010 And because we're recording from

NOTE Confidence: 0.920732864444445

00:17:55.010 --> 00:17:58.359 electrodes that are placed in the brain

NOTE Confidence: 0.920732864444445

00:17:58.359 --> 00:18:01.179 as part of the neurosurgical evaluation,

NOTE Confidence: 0.920732864444445

00:18:01.180 --> 00:18:03.889 we can get a unique window into

NOTE Confidence: 0.920732864444445

00:18:03.889 --> 00:18:06.064 the neural circuitry and neural

NOTE Confidence: 0.920732864444445

00:18:06.064 --> 00:18:08.860 mechanisms of fear and fear regulation,

NOTE Confidence: 0.920732864444445

00:18:08.860 --> 00:18:12.268 which we can then use to inform the

NOTE Confidence: 0.920732864444445

00:18:12.268 --> 00:18:14.996 development of brain stimulation treatments

NOTE Confidence: 0.920732864444445

00:18:14.996 --> 00:18:18.572 aimed at helping people to regulate

00:18:18.572 --> 00:18:21.986 these circuits in a more adaptive way.

00:18:21.990 --> 00:18:24.558 A second new area of exploration

00:18:24.558 --> 00:18:27.999 has to do with molecular biology.

00:18:28.000 --> 00:18:28.846 We've long known,

00:18:28.846 --> 00:18:31.360 and this is a quote from Linus Pauling,

00:18:31.360 --> 00:18:34.550 the Nobel laureate from 1952.

00:18:34.550 --> 00:18:37.819 That someday we'll have a a understand

00:18:37.819 --> 00:18:40.599 the molecular basis of our diseases,

00:18:40.600 --> 00:18:44.552 and then in the process discover why certain

00:18:44.552 --> 00:18:47.669 molecules are effective as treatments.

00:18:47.670 --> 00:18:50.360 And the identification of molecular

00:18:50.360 --> 00:18:54.015 targets in PTSD research in some ways

00:18:54.015 --> 00:18:57.067 begins with a pet study conducted or

00:18:57.067 --> 00:19:00.070 spec study conducted here at Yale,

00:19:00.070 --> 00:19:02.040 also led by Doug Bremner,

00:19:02.040 --> 00:19:05.659 in which Steve and Dennis were collaborators,

NOTE Confidence: 0.920732864444445

00:19:05.660 --> 00:19:08.402 which identified a change in in

NOTE Confidence: 0.920732864444445

00:19:08.402 --> 00:19:11.527 the binding of a particular ligand

NOTE Confidence: 0.920732864444445

00:19:11.527 --> 00:19:14.240 in Vivo 2 receptors in the brain.

NOTE Confidence: 0.920732864444445

00:19:14.240 --> 00:19:18.050 This is a GABA a receptor.

NOTE Confidence: 0.920732864444445

00:19:18.050 --> 00:19:20.866 Now for the first time we have the

NOTE Confidence: 0.920732864444445

00:19:20.866 --> 00:19:24.191 ability of studying in a deep way in

NOTE Confidence: 0.920732864444445

00:19:24.191 --> 00:19:26.577 postmortem tissue the actual molecular

NOTE Confidence: 0.920732864444445

00:19:26.577 --> 00:19:30.267 signatures of post traumatic stress disorder,

NOTE Confidence: 0.920732864444445

00:19:30.270 --> 00:19:33.384 the actual molecular pathology of the

NOTE Confidence: 0.920732864444445

00:19:33.384 --> 00:19:36.590 disorder and the first well powered

NOTE Confidence: 0.920732864444445

00:19:36.590 --> 00:19:40.176 study led by the late Ron Duman and

NOTE Confidence: 0.920732864444445

00:19:40.176 --> 00:19:43.169 and and conducted by Matt Girgenti,

NOTE Confidence: 0.920732864444445

00:19:43.170 --> 00:19:45.726 a faculty member now in our

NOTE Confidence: 0.920732864444445

00:19:45.726 --> 00:19:48.130 department provided some of the 1st.

NOTE Confidence: 0.920732864444445

00:19:48.130 --> 00:19:50.402 And profoundly interesting molecular

00:19:50.402 --> 00:19:53.810 insights into the biology of PTSD.

00:19:53.810 --> 00:19:56.912 Where we can look across the entire genome

00:19:56.912 --> 00:19:59.866 and look at the levels of expression

00:19:59.866 --> 00:20:03.205 of the individual genes and identify

00:20:03.205 --> 00:20:06.210 many changes associated with PTSD.

00:20:06.210 --> 00:20:11.638 I'm just going to mention 21A change in a

00:20:11.638 --> 00:20:15.070 molecules expressed by Gabba nerve cells.

00:20:15.070 --> 00:20:16.312 In other words,

00:20:16.312 --> 00:20:18.796 a signature related to the earlier

00:20:18.796 --> 00:20:21.931 pet study whose biology we couldn't

00:20:21.931 --> 00:20:24.043 possibly understand in detail.

00:20:24.050 --> 00:20:25.436 At that time,

00:20:25.436 --> 00:20:27.746 and another interesting and exciting

00:20:27.746 --> 00:20:30.624 area was pathology in a group

00:20:30.624 --> 00:20:32.969 of cells called microglia that

00:20:32.969 --> 00:20:35.560 regulate inflammation in the brain.

NOTE Confidence: 0.920732864444445

00:20:35.560 --> 00:20:36.894 Unlike depression,

NOTE Confidence: 0.920732864444445

00:20:36.894 --> 00:20:40.229 which is associated with immunologic

NOTE Confidence: 0.920732864444445

00:20:40.229 --> 00:20:40.896 activation,

NOTE Confidence: 0.920732864444445

00:20:40.900 --> 00:20:43.540 PTSD seems to be associated

NOTE Confidence: 0.920732864444445

00:20:43.540 --> 00:20:47.096 with suppression of the of the

NOTE Confidence: 0.920732864444445

00:20:47.096 --> 00:20:49.968 genes associated with microglia.

NOTE Confidence: 0.920732864444445

00:20:49.970 --> 00:20:51.578 Another profound insight to

NOTE Confidence: 0.920732864444445

00:20:51.578 --> 00:20:53.186 emerge from this work,

NOTE Confidence: 0.920732864444445

00:20:53.190 --> 00:20:55.890 and this is the last neurobiological

NOTE Confidence: 0.920732864444445

00:20:55.890 --> 00:20:57.690 finding that I'll share,

NOTE Confidence: 0.920732864444445

00:20:57.690 --> 00:21:01.170 is that PTSD and major depression?

NOTE Confidence: 0.920732864444445

00:21:01.170 --> 00:21:02.802 Do have limited,

NOTE Confidence: 0.920732864444445

00:21:02.802 --> 00:21:04.978 very limited areas of

NOTE Confidence: 0.920732864444445

00:21:04.978 --> 00:21:07.510 overlap in their biology.

NOTE Confidence: 0.920732864444445

00:21:07.510 --> 00:21:08.143 But.

NOTE Confidence: 0.920732864444445

00:21:08.143 --> 00:21:11.308 They are profoundly different or

NOTE Confidence: 0.920732864444445

00:21:11.310 --> 00:21:14.178 disorders from the perspective

NOTE Confidence: 0.920732864444445

00:21:14.178 --> 00:21:17.046 of their molecular fingerprints.

NOTE Confidence: 0.920732864444445

00:21:17.050 --> 00:21:19.283 This is really a profound idea for

NOTE Confidence: 0.920732864444445

00:21:19.283 --> 00:21:21.885 us as all of the treatments that

NOTE Confidence: 0.920732864444445

00:21:21.885 --> 00:21:24.237 we have for PTSD were developed

NOTE Confidence: 0.920732864444445

00:21:24.311 --> 00:21:26.666 initially as treatments for major

NOTE Confidence: 0.920732864444445

00:21:26.666 --> 00:21:29.537 depression and then adapted for PTSD,

NOTE Confidence: 0.920732864444445

00:21:29.537 --> 00:21:32.072 and it highlights how important

NOTE Confidence: 0.920732864444445

00:21:32.072 --> 00:21:34.100 it is to characterize.

NOTE Confidence: 0.920732864444445

00:21:34.100 --> 00:21:35.745 You need the unique pathology

NOTE Confidence: 0.920732864444445

00:21:35.745 --> 00:21:38.370 of PTSD if we hope to develop

NOTE Confidence: 0.920732864444445

00:21:38.370 --> 00:21:40.625 treatments that are more effective.

NOTE Confidence: 0.920732864444445

00:21:40.630 --> 00:21:42.970 For helping people be resilient

NOTE Confidence: 0.920732864444445

00:21:42.970 --> 00:21:45.310 and recover from the impact

NOTE Confidence: 0.920732864444445

00:21:45.393 --> 00:21:47.137 of their life traumas.

NOTE Confidence: 0.920732864444445

00:21:47.140 --> 00:21:51.036 All of this legacy builds from the first

NOTE Confidence: 0.920732864444445

00:21:51.036 --> 00:21:53.719 profound insight from Steve Studies,

NOTE Confidence: 0.920732864444445

00:21:53.720 --> 00:21:56.000 which is that there are

NOTE Confidence: 0.920732864444445

00:21:56.000 --> 00:21:58.280 is a knowable biology of

NOTE Confidence: 0.865356048636364

00:21:58.375 --> 00:22:01.630 PTSD and that the symptoms of PTSD

NOTE Confidence: 0.865356048636364

00:22:01.630 --> 00:22:04.956 are related to this biology. So.

NOTE Confidence: 0.865356048636364

00:22:04.956 --> 00:22:09.128 In some ways, today we both celebrate

NOTE Confidence: 0.865356048636364

00:22:09.130 --> 00:22:12.856 and mourn the end of the beginning of the

NOTE Confidence: 0.865356048636364

00:22:12.856 --> 00:22:16.269 field of PTSD neurobiological research.

NOTE Confidence: 0.865356048636364

00:22:16.270 --> 00:22:18.880 Steve Southwick, a beloved and

NOTE Confidence: 0.865356048636364

00:22:18.880 --> 00:22:21.646 respected pioneer, is sorely missed.

NOTE Confidence: 0.865356048636364

00:22:21.646 --> 00:22:24.506 He identified the first signalling

NOTE Confidence: 0.865356048636364

00:22:24.506 --> 00:22:27.430 mechanism altered in PTSD and influenced

NOTE Confidence: 0.865356048636364

00:22:27.430 --> 00:22:30.790 the development of treatments for PTSD.

NOTE Confidence: 0.865356048636364

00:22:30.790 --> 00:22:33.724 He helped foster a more mature

NOTE Confidence: 0.865356048636364

00:22:33.724 --> 00:22:36.430 understanding of the biology of PTSD,

NOTE Confidence: 0.865356048636364

00:22:36.430 --> 00:22:39.898 which is emerging from this bleeding

NOTE Confidence: 0.865356048636364

00:22:39.898 --> 00:22:42.210 edge of neuroscience research.

NOTE Confidence: 0.865356048636364

00:22:42.210 --> 00:22:45.540 Their PTSD is not simply depression.

NOTE Confidence: 0.865356048636364

00:22:45.540 --> 00:22:48.235 And it's enormously it's biology

NOTE Confidence: 0.865356048636364

00:22:48.235 --> 00:22:50.930 is enormously more complex than

NOTE Confidence: 0.865356048636364

00:22:51.024 --> 00:22:53.469 we ever could have predicted.

NOTE Confidence: 0.865356048636364

00:22:53.470 --> 00:22:55.222 We acknowledge our loss.

NOTE Confidence: 0.865356048636364

00:22:55.222 --> 00:22:57.850 And thank Steve as he cared

NOTE Confidence: 0.865356048636364

00:22:57.940 --> 00:22:59.878 for countless patients,

NOTE Confidence: 0.865356048636364

00:22:59.880 --> 00:23:01.928 mentored the next generations

NOTE Confidence: 0.865356048636364

00:23:01.928 --> 00:23:03.464 of clinician researchers.

NOTE Confidence: 0.865356048636364

00:23:03.470 --> 00:23:06.319 And his the legacy of his research

NOTE Confidence: 0.865356048636364

00:23:06.319 --> 00:23:10.330 lives on with us. And those.

NOTE Confidence: 0.865356048636364

00:23:10.330 --> 00:23:13.490 Stimulated by his research contribution.

NOTE Confidence: 0.865356048636364

00:23:13.490 --> 00:23:16.598 So I'll stop there. And and.

NOTE Confidence: 0.865356048636364

00:23:16.600 --> 00:23:18.184 We can move on.

NOTE Confidence: 0.865356048636364

00:23:18.184 --> 00:23:18.580 Thanks.

NOTE Confidence: 0.870067440833333

00:23:18.590 --> 00:23:20.816 Thank you, John, for such a wonderful

NOTE Confidence: 0.870067440833333

00:23:20.816 --> 00:23:22.440 overview of Steve's early work.

NOTE Confidence: 0.870067440833333

00:23:22.440 --> 00:23:24.560 Truly groundbreaking and setting the

NOTE Confidence: 0.870067440833333

00:23:24.560 --> 00:23:27.320 foundation for where the field is today.

NOTE Confidence: 0.870067440833333

00:23:27.320 --> 00:23:29.868 It's my honor to now introduce our

NOTE Confidence: 0.870067440833333

00:23:29.868 --> 00:23:31.641 second presenter, Dr Dennis Charney.

NOTE Confidence: 0.870067440833333

00:23:31.641 --> 00:23:34.070 Dr Charney is a world renowned expert

NOTE Confidence: 0.870067440833333

00:23:34.133 --> 00:23:36.113 in the neurobiology and treatment

NOTE Confidence: 0.870067440833333

00:23:36.113 --> 00:23:38.093 of mood and anxiety disorders.

NOTE Confidence: 0.870067440833333

00:23:38.100 --> 00:23:40.515 Dr Charney began his career at Yale

NOTE Confidence: 0.870067440833333

00:23:40.515 --> 00:23:43.380 in 1981 or within nine years he rose

NOTE Confidence: 0.870067440833333

00:23:43.380 --> 00:23:45.459 to tenured professor of Psychiatry.

NOTE Confidence: 0.870067440833333

00:23:45.460 --> 00:23:46.573 He then remained.

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NOTE Confidence: 0.870067440833333

00:23:46.573 --> 00:23:49.170 Deal for a decade before being recruited

NOTE Confidence: 0.870067440833333

00:23:49.240 --> 00:23:51.886 to lead the NIMH mood and anxiety

NOTE Confidence: 0.870067440833333

00:23:51.886 --> 00:23:53.658 disorder research program in 2004,

NOTE Confidence: 0.870067440833333

00:23:53.658 --> 00:23:55.572 Doctor Charney was recruited to Mount

NOTE Confidence: 0.870067440833333

00:23:55.572 --> 00:23:57.744 Sinai as Dean of research and is

NOTE Confidence: 0.870067440833333

00:23:57.744 --> 00:24:00.040 currently the Anne and Joel Aaron Krantz,

NOTE Confidence: 0.870067440833333

00:24:00.040 --> 00:24:02.424 Dean of the Icon School of Medicine at

NOTE Confidence: 0.870067440833333

00:24:02.424 --> 00:24:04.539 Mount Sinai and president for academic

NOTE Confidence: 0.870067440833333

00:24:04.539 --> 00:24:07.200 affairs for the Mount Sinai Health System.

NOTE Confidence: 0.870067440833333

00:24:07.200 --> 00:24:08.720 Doctor Charney has known Steve

NOTE Confidence: 0.870067440833333

00:24:08.720 --> 00:24:10.240 for more than 40 years,

NOTE Confidence: 0.870067440833333

00:24:10.240 --> 00:24:12.150 and together they have co-authored

NOTE Confidence: 0.870067440833333

00:24:12.150 --> 00:24:15.163 more than 100 papers as well as two

NOTE Confidence: 0.870067440833333

00:24:15.163 --> 00:24:17.227 of the leading books on resilience.

NOTE Confidence: 0.870067440833333

00:24:17.230 --> 00:24:17.510 Today,

NOTE Confidence: 0.870067440833333

00:24:17.510 --> 00:24:19.190 we will hear about their groundbreaking

NOTE Confidence: 0.870067440833333

00:24:19.190 --> 00:24:21.150 work on the science of resilience.

NOTE Confidence: 0.870067440833333

00:24:21.150 --> 00:24:21.442 Dennis,

NOTE Confidence: 0.870067440833333

00:24:21.442 --> 00:24:23.486 we're delighted to have you here today,

NOTE Confidence: 0.870067440833333

00:24:23.490 --> 00:24:25.470 and thank you for joining us to honor Steve.

NOTE Confidence: 0.80689068375

00:24:26.530 --> 00:24:28.021 Thank you, Rob,

NOTE Confidence: 0.80689068375

00:24:28.021 --> 00:24:31.443 and it's it's a pleasure to be here.

NOTE Confidence: 0.80689068375

00:24:31.443 --> 00:24:33.309 Maybe that's not the right word.

NOTE Confidence: 0.80689068375

00:24:33.310 --> 00:24:35.548 Steve and I, as you mentioned,

NOTE Confidence: 0.80689068375

00:24:35.550 --> 00:24:38.046 Rob, you know, we were friends

NOTE Confidence: 0.80689068375

00:24:38.050 --> 00:24:41.650 and colleagues for 40 years.

NOTE Confidence: 0.80689068375

00:24:41.650 --> 00:24:46.696 We kept in contact, constant contact.

NOTE Confidence: 0.80689068375

00:24:46.700 --> 00:24:49.640 Every week talked every week

NOTE Confidence: 0.80689068375

00:24:49.640 --> 00:24:52.340 as friends and and colleagues.

NOTE Confidence: 0.80689068375

00:24:52.340 --> 00:24:54.806 So I want to talk a little bit about

NOTE Confidence: 0.80689068375

00:24:54.806 --> 00:24:56.919 Steve the scientist and I will touch

NOTE Confidence: 0.80689068375

00:24:56.919 --> 00:24:59.812 on our work it and resilience and also

NOTE Confidence: 0.80689068375

00:24:59.812 --> 00:25:04.136 Steve as a as a friend and a person,

NOTE Confidence: 0.80689068375

00:25:04.140 --> 00:25:06.678 so as colleagues.

NOTE Confidence: 0.80689068375

00:25:06.680 --> 00:25:08.892 John and I, little history here for

NOTE Confidence: 0.80689068375

00:25:08.892 --> 00:25:11.430 those of you who may not know the

NOTE Confidence: 0.80689068375

00:25:11.430 --> 00:25:14.132 history but you know John and I were

NOTE Confidence: 0.80689068375

00:25:14.132 --> 00:25:15.987 at the clinical neuroscience unit.

NOTE Confidence: 0.80689068375

00:25:15.990 --> 00:25:16.756 At CMHC.

NOTE Confidence: 0.80689068375

00:25:16.756 --> 00:25:18.288 And then, you know,

NOTE Confidence: 0.80689068375

00:25:18.290 --> 00:25:20.586 we decided to move over to the VA.

NOTE Confidence: 0.80689068375

00:25:20.590 --> 00:25:22.680 And that that happened around

NOTE Confidence: 0.799266484117647

00:25:24.830 --> 00:25:28.709 198087 or so and we changed what the VA

NOTE Confidence: 0.799266484117647

00:25:28.709 --> 00:25:32.574 was like at that time to make it more

NOTE Confidence: 0.799266484117647

00:25:32.574 --> 00:25:36.242 scientifically based to affect I would say

NOTE Confidence: 0.799266484117647

00:25:36.242 --> 00:25:39.660 more evident evidence based treatments.

NOTE Confidence: 0.799266484117647

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00:25:39.660 --> 00:25:42.828 And and Steve was there and personally

NOTE Confidence: 0.799266484117647

00:25:42.828 --> 00:25:45.430 when we went, John and I and some

NOTE Confidence: 0.799266484117647

00:25:45.430 --> 00:25:47.020 others when we went to the VA,

NOTE Confidence: 0.799266484117647

00:25:47.020 --> 00:25:49.639 Steve had been there for a couple of years.

NOTE Confidence: 0.799266484117647

00:25:49.640 --> 00:25:51.520 And I must admit,

NOTE Confidence: 0.799266484117647

00:25:51.520 --> 00:25:54.880 I didn't know hardly anything about PTSD.

NOTE Confidence: 0.799266484117647

00:25:54.880 --> 00:25:56.880 Steve was in the military.

NOTE Confidence: 0.799266484117647

00:25:56.880 --> 00:25:58.746 I knew a lot about veterans,

NOTE Confidence: 0.799266484117647

00:25:58.750 --> 00:26:00.410 knew a lot about war.

NOTE Confidence: 0.799266484117647

00:26:00.410 --> 00:26:03.188 I was Vietnam era, you know,

NOTE Confidence: 0.799266484117647

00:26:03.190 --> 00:26:05.694 which means I did not go to Vietnam.

NOTE Confidence: 0.799266484117647

00:26:05.700 --> 00:26:09.292 I I got deferments from going into the

NOTE Confidence: 0.799266484117647

00:26:09.292 --> 00:26:12.022 military because at that time I was in

NOTE Confidence: 0.799266484117647

00:26:12.022 --> 00:26:14.340 college and then I was in Med school.

NOTE Confidence: 0.799266484117647

00:26:14.340 --> 00:26:16.044 That's another story why people who

NOTE Confidence: 0.799266484117647

00:26:16.044 --> 00:26:18.111 are in college don't go to war as

00:26:18.111 --> 00:26:19.680 opposed to if you're if you're not,

00:26:19.680 --> 00:26:21.108 you get drafted.

00:26:21.108 --> 00:26:22.060 But actually,

00:26:22.060 --> 00:26:25.226 I didn't know much about PTSD or veterans.

00:26:25.226 --> 00:26:27.890 And so we we go to the VA.

00:26:27.890 --> 00:26:29.418 And Steve taught me.

00:26:29.418 --> 00:26:32.228 He taught me a lot about PTSD

00:26:32.228 --> 00:26:34.778 as a as a clinical phenomenon.

00:26:34.780 --> 00:26:36.852 You know what what it meant to come

00:26:36.852 --> 00:26:39.038 back from Vietnam and not be welcomed,

00:26:39.040 --> 00:26:43.980 and how serious PTSD was as a as an illness.

00:26:43.980 --> 00:26:47.300 So I really was a student of Steve's

00:26:47.300 --> 00:26:50.520 in terms of understanding PTSD.

00:26:50.520 --> 00:26:53.904 And I and I became fascinated by PTSD.

00:26:53.910 --> 00:26:55.630 I've been doing mainly work,

00:26:55.630 --> 00:26:57.460 as John mentioned in depression

NOTE Confidence: 0.799266484117647

00:26:57.460 --> 00:26:58.924 and and panic disorder.

NOTE Confidence: 0.799266484117647

00:26:58.930 --> 00:27:02.642 And I saw understanding PTSD biologically

NOTE Confidence: 0.799266484117647

00:27:02.642 --> 00:27:05.002 could really help understanding the

NOTE Confidence: 0.799266484117647

00:27:05.002 --> 00:27:07.650 disease and developing new treatments.

NOTE Confidence: 0.799266484117647

00:27:07.650 --> 00:27:10.194 So Steve and I and John you know,

NOTE Confidence: 0.799266484117647

00:27:10.200 --> 00:27:12.951 we we became partners in that adventure

NOTE Confidence: 0.799266484117647

00:27:12.951 --> 00:27:15.706 and Andy Morgan and and Rasmussen and

NOTE Confidence: 0.799266484117647

00:27:15.706 --> 00:27:20.039 others got you know, got involved and.

NOTE Confidence: 0.799266484117647

00:27:20.040 --> 00:27:21.856 I hope a lot of you experience this.

NOTE Confidence: 0.799266484117647

00:27:21.860 --> 00:27:25.328 It was fun, you know, to do the work.

NOTE Confidence: 0.799266484117647

00:27:25.328 --> 00:27:26.776 You know we would.

NOTE Confidence: 0.799266484117647

00:27:26.780 --> 00:27:28.460 At 5:00 or 6:00 o'clock at night,

NOTE Confidence: 0.799266484117647

00:27:28.460 --> 00:27:31.078 we would all get together and and

NOTE Confidence: 0.799266484117647

00:27:31.078 --> 00:27:33.858 talk about what we're learning a new

NOTE Confidence: 0.799266484117647

00:27:33.858 --> 00:27:37.788 studies that we we crafted it was.

NOTE Confidence: 0.799266484117647

00:27:37.790 --> 00:27:40.658 It was just great.

NOTE Confidence: 0.799266484117647

00:27:40.660 --> 00:27:42.500 And working with Steve and John and others,

NOTE Confidence: 0.799266484117647

00:27:42.500 --> 00:27:44.795 it was, yeah, it was just so much fun.

NOTE Confidence: 0.799266484117647

00:27:44.800 --> 00:27:47.054 And and so we started conducting the

NOTE Confidence: 0.799266484117647

00:27:47.054 --> 00:27:49.159 studies that John reviewed with you.

NOTE Confidence: 0.799266484117647

00:27:49.160 --> 00:27:51.507 That gave us a lot of insight into

NOTE Confidence: 0.799266484117647

00:27:51.507 --> 00:27:53.469 what might be what stress does

NOTE Confidence: 0.799266484117647

00:27:53.469 --> 00:27:55.677 to the brain and and the body.

NOTE Confidence: 0.799266484117647

00:27:55.680 --> 00:27:58.816 It it was really a new field that,

NOTE Confidence: 0.799266484117647

00:27:58.820 --> 00:28:00.146 you know, almost every couple of

NOTE Confidence: 0.799266484117647

00:28:00.146 --> 00:28:01.220 weeks we learned something new.

NOTE Confidence: 0.799266484117647

00:28:01.220 --> 00:28:01.862 It was just,

NOTE Confidence: 0.799266484117647

00:28:01.862 --> 00:28:02.876 you know, fantastic.

NOTE Confidence: 0.799266484117647

00:28:02.876 --> 00:28:05.220 And also, you know,

NOTE Confidence: 0.799266484117647

00:28:05.220 --> 00:28:06.320 other things started to happen.

NOTE Confidence: 0.799266484117647

00:28:06.320 --> 00:28:07.892 Andy Morgan you know,

NOTE Confidence: 0.799266484117647

00:28:07.892 --> 00:28:10.250 got involved and he he had

NOTE Confidence: 0.799266484117647

00:28:10.338 --> 00:28:11.722 connections you know,

NOTE Confidence: 0.799266484117647

00:28:11.722 --> 00:28:14.040 with the military and and we did a study,

NOTE Confidence: 0.799266484117647

00:28:14.040 --> 00:28:17.638 Steve I and Andy John was involved

NOTE Confidence: 0.799266484117647

00:28:17.640 --> 00:28:20.070 where we we studied veterans

NOTE Confidence: 0.799266484117647

00:28:20.070 --> 00:28:22.500 actually active duty military who

NOTE Confidence: 0.799266484117647

00:28:22.581 --> 00:28:26.188 were involved in active training and

NOTE Confidence: 0.799266484117647

00:28:26.188 --> 00:28:29.112 these were mainly special forces.

NOTE Confidence: 0.799266484117647

00:28:29.112 --> 00:28:32.058 They were in their seer course

NOTE Confidence: 0.799266484117647

00:28:32.058 --> 00:28:34.284 called Survival, Evasion, resistance.

NOTE Confidence: 0.799266484117647

00:28:34.284 --> 00:28:38.016 Escape a very serious training exercise.

NOTE Confidence: 0.799266484117647

00:28:38.020 --> 00:28:40.870 Andy connected us and what we

NOTE Confidence: 0.799266484117647

00:28:40.870 --> 00:28:42.770 found under the very

NOTE Confidence: 0.835141646875

00:28:42.865 --> 00:28:46.759 significant stress of a training exercise

NOTE Confidence: 0.835141646875

00:28:46.760 --> 00:28:50.320 that we characterize the biologic

NOTE Confidence: 0.835141646875

00:28:50.320 --> 00:28:53.168 neuroendocrine responses to stress.

NOTE Confidence: 0.835141646875

00:28:53.170 --> 00:28:55.750 And how it might even relate

NOTE Confidence: 0.835141646875

00:28:55.750 --> 00:28:57.470 to resilience to stress.

NOTE Confidence: 0.835141646875

00:28:57.470 --> 00:28:59.110 And one of the things we we found,

NOTE Confidence: 0.835141646875

00:28:59.110 --> 00:28:59.956 norepinephrine,

NOTE Confidence: 0.835141646875

00:28:59.956 --> 00:29:04.186 obviously was involved cortisol ACTH,

NOTE Confidence: 0.835141646875

00:29:04.190 --> 00:29:06.350 and also neuropeptide Y,

NOTE Confidence: 0.835141646875

00:29:06.350 --> 00:29:10.072 which is a naturally occurring neuropeptide

NOTE Confidence: 0.835141646875

00:29:10.072 --> 00:29:14.160 that has anxiolytic properties.

NOTE Confidence: 0.835141646875

00:29:14.160 --> 00:29:16.896 And so you know that was you know a

NOTE Confidence: 0.835141646875

00:29:16.896 --> 00:29:19.824 real eye opener to study in a sense

NOTE Confidence: 0.835141646875

00:29:19.824 --> 00:29:22.556 normal stress and related to resilience.

NOTE Confidence: 0.835141646875

00:29:22.556 --> 00:29:26.366 Ultimately down years later with with

NOTE Confidence: 0.835141646875

00:29:26.366 --> 00:29:28.557 Steve was very involved in this too.

NOTE Confidence: 0.835141646875

00:29:28.560 --> 00:29:31.768 We made neuropeptide Y and we began to

NOTE Confidence: 0.835141646875

00:29:31.768 --> 00:29:35.087 study it as a treatment for PTSD and

NOTE Confidence: 0.835141646875

00:29:35.087 --> 00:29:37.950 we're still involved in that work and

NOTE Confidence: 0.835141646875

00:29:38.035 --> 00:29:41.332 it started with the work with Andy and

NOTE Confidence: 0.835141646875

00:29:41.332 --> 00:29:45.330 Steve and John with that CPR course.

NOTE Confidence: 0.835141646875

00:29:45.330 --> 00:29:49.830 At some point in the 1990s.

NOTE Confidence: 0.835141646875

00:29:49.830 --> 00:29:50.850 Stephen, I thought, you know,

NOTE Confidence: 0.835141646875

00:29:50.850 --> 00:29:53.258 maybe we could learn.

NOTE Confidence: 0.835141646875

00:29:53.260 --> 00:29:55.878 A lot more about PTSD and maybe

NOTE Confidence: 0.835141646875

00:29:55.878 --> 00:29:58.908 come up with new treatments if

NOTE Confidence: 0.835141646875

00:29:58.908 --> 00:30:01.420 we learned about resilience.

NOTE Confidence: 0.835141646875

00:30:01.420 --> 00:30:04.090 And so we started studies

NOTE Confidence: 0.835141646875

00:30:04.090 --> 00:30:06.226 and resilience that lasted.

NOTE Confidence: 0.835141646875

00:30:06.230 --> 00:30:10.270 Up till the day Steve died that we

NOTE Confidence: 0.835141646875

00:30:10.270 --> 00:30:13.390 ended up studying hundreds of people,

NOTE Confidence: 0.835141646875

00:30:13.390 --> 00:30:15.890 interviewed them.

NOTE Confidence: 0.835141646875

00:30:15.890 --> 00:30:17.864 To learn about resilience and as Steve

NOTE Confidence: 0.835141646875

00:30:17.864 --> 00:30:20.128 and I would say and Steve would say,

NOTE Confidence: 0.835141646875

00:30:20.130 --> 00:30:21.870 we started with a blank slate.

NOTE Confidence: 0.835141646875

00:30:21.870 --> 00:30:22.406 We,

NOTE Confidence: 0.835141646875

00:30:22.406 --> 00:30:25.622 we did not know what characterized

NOTE Confidence: 0.835141646875

00:30:25.622 --> 00:30:28.958 resilient people who who faced very

NOTE Confidence: 0.835141646875

00:30:28.958 --> 00:30:32.532 significant stress and in some cases

NOTE Confidence: 0.835141646875

00:30:32.532 --> 00:30:34.988 experience post traumatic growth.

NOTE Confidence: 0.835141646875

00:30:34.990 --> 00:30:37.970 Didn't develop depression or PTSD,

NOTE Confidence: 0.835141646875

00:30:37.970 --> 00:30:39.298 or if they did,

NOTE Confidence: 0.835141646875

00:30:39.298 --> 00:30:42.529 they were able to deal with it and recover.

NOTE Confidence: 0.835141646875

00:30:42.530 --> 00:30:47.350 And so we studied POW's from Vietnam.

NOTE Confidence: 0.835141646875

00:30:47.350 --> 00:30:51.809 People who had to face natural disasters,

NOTE Confidence: 0.835141646875

00:30:51.810 --> 00:30:53.902 congenital disease,

NOTE Confidence: 0.835141646875

00:30:53.902 --> 00:30:58.086 studied every socioeconomic group

NOTE Confidence: 0.835141646875

00:30:58.090 --> 00:31:01.258 you could think of, and so it was a.

NOTE Confidence: 0.835141646875

00:31:01.260 --> 00:31:03.006 It it was an amazing experience,

NOTE Confidence: 0.835141646875

00:31:03.010 --> 00:31:03.714 you know,

NOTE Confidence: 0.835141646875

00:31:03.714 --> 00:31:06.530 Steve and I and others doing that together.

NOTE Confidence: 0.835141646875

00:31:06.530 --> 00:31:09.274 We studied the POW's when I was

NOTE Confidence: 0.835141646875

00:31:09.274 --> 00:31:12.508 at NIH and Steve would fly down,

NOTE Confidence: 0.835141646875

00:31:12.510 --> 00:31:13.689 stay with me,

NOTE Confidence: 0.835141646875

00:31:13.689 --> 00:31:16.047 and we would interview the the

NOTE Confidence: 0.835141646875

00:31:16.047 --> 00:31:17.589 POW from Vietnam.

NOTE Confidence: 0.835141646875

00:31:17.590 --> 00:31:19.726 We interviewed about 40 of them.

NOTE Confidence: 0.835141646875

00:31:19.730 --> 00:31:21.428 John McCain is the most famous,

NOTE Confidence: 0.835141646875

00:31:21.430 --> 00:31:23.104 but there are many others who

NOTE Confidence: 0.835141646875

00:31:23.104 --> 00:31:24.590 did very well in life,

NOTE Confidence: 0.835141646875

00:31:24.590 --> 00:31:26.890 despite being held in prison

NOTE Confidence: 0.835141646875

00:31:26.890 --> 00:31:29.292 for six 7-8 years,

NOTE Confidence: 0.835141646875

00:31:29.292 --> 00:31:32.256 heavily tortured solitary confinement.

NOTE Confidence: 0.835141646875

00:31:32.260 --> 00:31:34.714 It was an amazing personal experience

00:31:34.714 --> 00:31:38.129 for Steve and I and the way we did it.

00:31:38.130 --> 00:31:40.410 Steve was an amazing clinician,

00:31:40.410 --> 00:31:42.552 you know, one of the best clinicians

00:31:42.552 --> 00:31:44.490 I've ever come in contact with.

00:31:44.490 --> 00:31:45.000 You know,

00:31:45.000 --> 00:31:46.530 when you were interviewed by Steve,

00:31:46.530 --> 00:31:49.603 you just felt you had to tell

00:31:49.603 --> 00:31:50.920 things about yourself.

00:31:50.920 --> 00:31:52.999 And and in an environment that felt

00:31:52.999 --> 00:31:55.438 safe and and Steve was so insightful.

00:31:55.440 --> 00:31:59.076 So when we interviewed the POW,

00:31:59.080 --> 00:32:00.705 Steve mainly interviewed and I

00:32:00.705 --> 00:32:03.237 would pop in now and then ask me

00:32:03.237 --> 00:32:05.390 a question and we learned so much

00:32:05.390 --> 00:32:07.218 from the POW's about resilience.

00:32:07.218 --> 00:32:10.716 We we go home at night to my house

00:32:10.716 --> 00:32:13.416 and recount what we just learned to

00:32:13.416 --> 00:32:16.640 my wife and it changed our lives.

00:32:16.640 --> 00:32:21.085 Those POW's and others became role models.

00:32:21.090 --> 00:32:21.790 To us.

00:32:21.790 --> 00:32:25.530 And so when we faced the stress in our lives,

00:32:25.530 --> 00:32:28.392 we would think back about all

00:32:28.392 --> 00:32:30.300 the resilient people we

00:32:30.399 --> 00:32:32.284 met and. Trying to learn

00:32:32.284 --> 00:32:33.448 from that experience.

00:32:33.450 --> 00:32:36.330 So, you know, I want to leave everybody,

00:32:36.330 --> 00:32:37.646 you know, with a couple of things.

00:32:37.650 --> 00:32:40.878 One, Steve was an amazing clinician.

00:32:40.880 --> 00:32:43.610 In addition to being an amazing

00:32:43.610 --> 00:32:45.430 person but unbelievable clinician,

00:32:45.430 --> 00:32:48.986 he had unbelievable insight into the nature

00:32:48.990 --> 00:32:53.898 of disease from a psychological perspective.

00:32:53.900 --> 00:32:55.475 And from a biologic point of view,

00:32:55.480 --> 00:32:56.749 we became partners.

00:32:56.749 --> 00:32:59.860 John and I kind of brought the biology.

00:32:59.860 --> 00:33:02.896 Steve, you know, became an expert,

00:33:02.900 --> 00:33:06.224 learned from it and the combination

00:33:06.224 --> 00:33:07.886 of psychological insight.

00:33:07.890 --> 00:33:12.790 And biologic insight was so very powerful.

00:33:12.790 --> 00:33:16.726 So in terms of resilience and foul stuff,

00:33:16.726 --> 00:33:18.814 we can show the first slide.

00:33:18.820 --> 00:33:23.046 The. So Steve and I.

00:33:23.046 --> 00:33:25.560 Went in with a blank slate.

00:33:25.560 --> 00:33:27.636 And as I you know mentioned,

00:33:27.640 --> 00:33:30.142 we learned from these hundreds and

00:33:30.142 --> 00:33:33.150 hundreds of of people of all different.

00:33:33.150 --> 00:33:34.850 So different groups of people,

NOTE Confidence: 0.8641684825

00:33:34.850 --> 00:33:39.290 every ethnic group, every type of trauma and.

NOTE Confidence: 0.8641684825

00:33:39.290 --> 00:33:42.370 Eventually we found that there were these.

NOTE Confidence: 0.8641684825

00:33:42.370 --> 00:33:45.906 These factors that characterized

NOTE Confidence: 0.8641684825

00:33:45.906 --> 00:33:48.670 resilience and and these are listed.

NOTE Confidence: 0.8641684825

00:33:48.670 --> 00:33:51.124 We started calling it the resilience

NOTE Confidence: 0.8641684825

00:33:51.124 --> 00:33:53.798 prescription and these are listed on this.

NOTE Confidence: 0.8641684825

00:33:53.800 --> 00:33:55.700 Slide and they they became

NOTE Confidence: 0.8641684825

00:33:55.700 --> 00:33:58.388 the basis of a book we wrote,

NOTE Confidence: 0.8641684825

00:33:58.388 --> 00:34:01.540 but that's now in the 3rd edition.

NOTE Confidence: 0.8641684825

00:34:01.540 --> 00:34:04.324 It it also became you know

NOTE Confidence: 0.8641684825

00:34:04.324 --> 00:34:06.740 the basis for developing.

NOTE Confidence: 0.8641684825

00:34:06.740 --> 00:34:08.780 Clinical approaches.

NOTE Confidence: 0.8641684825

00:34:08.780 --> 00:34:11.840 To enhancing resilience.

NOTE Confidence: 0.8641684825

00:34:11.840 --> 00:34:15.104 We we used this at at Sinai during

NOTE Confidence: 0.8641684825

00:34:15.104 --> 00:34:18.239 the pandemic where you know when we

NOTE Confidence: 0.8641684825

00:34:18.239 --> 00:34:20.696 were the epicenter of the epicenter.

NOTE Confidence: 0.8641684825

00:34:20.696 --> 00:34:23.300 At one point we had over 2000

NOTE Confidence: 0.8641684825

00:34:23.386 --> 00:34:26.330 patients with COVID in our hospitals.

NOTE Confidence: 0.843794647142857

00:34:28.430 --> 00:34:30.404 A lot of that was pre vaccine,

NOTE Confidence: 0.843794647142857

00:34:30.410 --> 00:34:33.168 pre understanding how to treat the disease

NOTE Confidence: 0.843794647142857

00:34:33.168 --> 00:34:36.440 and and so we had to develop means to.

NOTE Confidence: 0.843794647142857

00:34:36.440 --> 00:34:38.020 Help our frontline healthcare

NOTE Confidence: 0.843794647142857

00:34:38.020 --> 00:34:39.995 workers get through the stress.

NOTE Confidence: 0.843794647142857

00:34:40.000 --> 00:34:40.860 I know you did that.

NOTE Confidence: 0.843794647142857

00:34:40.860 --> 00:34:42.756 You've been doing this at Yale.

NOTE Confidence: 0.843794647142857

00:34:42.760 --> 00:34:45.048 And Steve and I and others at Sinai

NOTE Confidence: 0.843794647142857

00:34:45.048 --> 00:34:47.438 used what we had learned from our

NOTE Confidence: 0.843794647142857

00:34:47.438 --> 00:34:49.583 studies and resilience to develop

NOTE Confidence: 0.843794647142857

00:34:49.583 --> 00:34:52.383 a Center for stress resilience and

NOTE Confidence: 0.843794647142857

00:34:52.383 --> 00:34:55.715 personal growth and use what we learned

NOTE Confidence: 0.843794647142857

53

00:34:55.720 --> 00:34:58.384 from our resilient studies to help

NOTE Confidence: 0.843794647142857

00:34:58.384 --> 00:35:00.160 our frontline healthcare workers.

NOTE Confidence: 0.843794647142857

00:35:00.160 --> 00:35:03.905 So these are the factors that we.

NOTE Confidence: 0.843794647142857

00:35:03.910 --> 00:35:06.360 We identified and and personally

NOTE Confidence: 0.843794647142857

00:35:06.360 --> 00:35:09.396 Steve and I both. That help.

NOTE Confidence: 0.843794647142857

00:35:09.396 --> 00:35:11.548 It helped us personally.

NOTE Confidence: 0.843794647142857

00:35:11.550 --> 00:35:12.990 As some of you may know,

NOTE Confidence: 0.843794647142857

00:35:12.990 --> 00:35:16.206 I was the victim of a violent crime.

NOTE Confidence: 0.843794647142857

00:35:16.210 --> 00:35:20.571 Six years ago I was shot with a shotgun

NOTE Confidence: 0.843794647142857

00:35:20.571 --> 00:35:23.253 by a disgruntled former faculty member.

NOTE Confidence: 0.843794647142857

00:35:23.260 --> 00:35:25.556 And I didn't know if I was

NOTE Confidence: 0.843794647142857

00:35:25.556 --> 00:35:27.701 resilient or whether how valid the

NOTE Confidence: 0.843794647142857

00:35:27.701 --> 00:35:29.636 factors we came up with,

NOTE Confidence: 0.843794647142857

00:35:29.640 --> 00:35:32.524 and I found that they were very

NOTE Confidence: 0.843794647142857

00:35:32.524 --> 00:35:34.709 valid because it helped me.

NOTE Confidence: 0.843794647142857

00:35:34.710 --> 00:35:38.665 Recover a fully recover from that trauma

NOTE Confidence: 0.843794647142857

00:35:38.665 --> 00:35:42.841 in my life and Steve was unbelievable

NOTE Confidence: 0.843794647142857

00:35:42.841 --> 00:35:46.258 in how he dealt with. Cancer.

NOTE Confidence: 0.843794647142857

00:35:46.258 --> 00:35:49.464 You know, he died from prostate cancer.

NOTE Confidence: 0.843794647142857

00:35:49.470 --> 00:35:53.310 He was incredibly courageous and,

NOTE Confidence: 0.843794647142857

00:35:53.310 --> 00:35:55.022 you know, with Bernadette.

NOTE Confidence: 0.843794647142857

00:35:55.022 --> 00:35:56.610 Yeah, right by his side.

NOTE Confidence: 0.843794647142857

00:35:56.610 --> 00:35:57.480 The whole time.

NOTE Confidence: 0.843794647142857

00:35:57.480 --> 00:36:00.684 He got most of his treatment at Mount Sinai,

NOTE Confidence: 0.843794647142857

00:36:00.690 --> 00:36:03.150 and he.

NOTE Confidence: 0.843794647142857

00:36:03.150 --> 00:36:07.154 He became a role model for the doctors that

NOTE Confidence: 0.843794647142857

00:36:07.154 --> 00:36:11.529 treated him in the 3rd edition of the book.

NOTE Confidence: 0.843794647142857

00:36:11.530 --> 00:36:12.858 You know which is.

NOTE Confidence: 0.843794647142857

00:36:12.858 --> 00:36:14.850 And I'll show you in a

NOTE Confidence: 0.843794647142857

00:36:14.933 --> 00:36:17.118 moment which is coming out.

NOTE Confidence: 0.843794647142857

00:36:17.120 --> 00:36:21.019 Next next fall, but it's already written.

NOTE Confidence: 0.843794647142857

00:36:21.020 --> 00:36:24.620 In the epilogue, which we devoted to Steve.

NOTE Confidence: 0.843794647142857

00:36:24.620 --> 00:36:28.463 It it puts all the doctors that treated him.

NOTE Confidence: 0.843794647142857

00:36:28.470 --> 00:36:30.800 It also quotes how Steve.

NOTE Confidence: 0.843794647142857

00:36:30.800 --> 00:36:34.055 Was so resilient in fighting this disease,

NOTE Confidence: 0.843794647142857

00:36:34.060 --> 00:36:36.340 it was.

NOTE Confidence: 0.843794647142857

00:36:36.340 --> 00:36:39.448 It was amazing and for me as.

NOTE Confidence: 0.843794647142857

00:36:39.450 --> 00:36:40.776 His closest friend,

NOTE Confidence: 0.843794647142857

00:36:40.776 --> 00:36:41.660 it was.

NOTE Confidence: 0.801561356666667

00:36:44.550 --> 00:36:47.040 It was something I'll never forget.

NOTE Confidence: 0.801561356666667

00:36:47.040 --> 00:36:50.820 So I want you to all remember Steve as.

NOTE Confidence: 0.801561356666667

00:36:50.820 --> 00:36:53.252 In a very full way, you know,

NOTE Confidence: 0.801561356666667

00:36:53.252 --> 00:36:57.074 not not just as a fantastic clinician,

NOTE Confidence: 0.801561356666667

00:36:57.080 --> 00:36:59.630 a wonderful science that has impacted

NOTE Confidence: 0.801561356666667

00:36:59.630 --> 00:37:01.803 the field, as John mentioned,

NOTE Confidence: 0.801561356666667

00:37:01.803 --> 00:37:04.449 but as an amazing person that

NOTE Confidence: 0.801561356666667

00:37:04.449 --> 00:37:07.009 can be a role model for you.

NOTE Confidence: 0.801561356666667

00:37:07.010 --> 00:37:08.010 Even though he's gone.

NOTE Confidence: 0.807683007714286

00:37:10.180 --> 00:37:11.524 We can go to the next slide.

NOTE Confidence: 0.844568306666667

00:37:14.520 --> 00:37:16.176 So you know, as I mentioned,

NOTE Confidence: 0.844568306666667

00:37:16.180 --> 00:37:18.140 Steve and I were buddies.

NOTE Confidence: 0.844568306666667

00:37:18.140 --> 00:37:21.726 That's that's the 1st edition of our

NOTE Confidence: 0.844568306666667

00:37:21.726 --> 00:37:25.515 book and this was at a book signing.

NOTE Confidence: 0.844568306666667

00:37:25.520 --> 00:37:29.748 Yeah, amazing. Next slide.

NOTE Confidence: 0.844568306666667

00:37:29.750 --> 00:37:32.454 Now, we did a lot of things together,

NOTE Confidence: 0.844568306666667

00:37:32.460 --> 00:37:33.780 you know, outside of work.

NOTE Confidence: 0.844568306666667

00:37:33.780 --> 00:37:35.348 We actually another thing

NOTE Confidence: 0.844568306666667

00:37:35.348 --> 00:37:38.640 that Steve taught me. I I.

NOTE Confidence: 0.844568306666667

00:37:38.640 --> 00:37:41.166 I was a rower, you know,

NOTE Confidence: 0.844568306666667

00:37:41.170 --> 00:37:43.039 a scholar, and Steve said to me,

NOTE Confidence: 0.844568306666667

00:37:43.040 --> 00:37:45.175 you know, you would have a lot

NOTE Confidence: 0.844568306666667

00:37:45.175 --> 00:37:47.019 of fun learning how to kayak.

NOTE Confidence: 0.844568306666667

00:37:47.020 --> 00:37:49.270 And for the next 30 years,

NOTE Confidence: 0.844568306666667

00:37:49.270 --> 00:37:52.276 Steve and I kayak together and.

NOTE Confidence: 0.844568306666667

00:37:52.280 --> 00:37:55.716 We we did many races, you know,

NOTE Confidence: 0.844568306666667

00:37:55.716 --> 00:37:56.948 around the Northeast and

NOTE Confidence: 0.844568306666667

00:37:56.948 --> 00:37:58.990 this was a race that we did.

NOTE Confidence: 0.844568306666667

00:37:58.990 --> 00:38:04.430 In night in 2005 and just, you know.

NOTE Confidence: 0.844568306666667

00:38:04.430 --> 00:38:05.446 For a crazy reason,

NOTE Confidence: 0.844568306666667

00:38:05.446 --> 00:38:07.938 we got on the cover of the Newton tab,

NOTE Confidence: 0.844568306666667

00:38:07.940 --> 00:38:11.276 which is a a newspaper outside of Boston.

NOTE Confidence: 0.844568306666667

00:38:11.280 --> 00:38:14.024 This was the run of the Charles Race

NOTE Confidence: 0.844568306666667

00:38:14.024 --> 00:38:17.000 and this is Steve and I coming out of.

NOTE Confidence: 0.844568306666667

00:38:17.000 --> 00:38:19.000 Of the water doing what's called a Portage,

NOTE Confidence: 0.844568306666667

00:38:19.000 --> 00:38:20.728 you know, taking the boat from

NOTE Confidence: 0.844568306666667

00:38:20.728 --> 00:38:23.196 one part of the river to another.

NOTE Confidence: 0.844568306666667

00:38:23.196 --> 00:38:26.740 This is the Charles River.

NOTE Confidence: 0.844568306666667

00:38:26.740 --> 00:38:27.736 Never forget that.

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NOTE Confidence: 0.844568306666667

00:38:27.736 --> 00:38:28.400 That race.

NOTE Confidence: 0.844568306666667

00:38:28.400 --> 00:38:28.970 Next slide.

NOTE Confidence: 0.18271744

00:38:31.910 --> 00:38:36.055 And. This is the last time we kayaked

NOTE Confidence: 0.18271744

00:38:36.055 --> 00:38:42.360 together and this was in the fall of 2021.

NOTE Confidence: 0.18271744

00:38:42.360 --> 00:38:44.136 And and Bernadette took this picture.

NOTE Confidence: 0.18271744

00:38:44.140 --> 00:38:46.410 We went kayaking with Bernadette.

NOTE Confidence: 0.18271744

00:38:46.410 --> 00:38:48.674 That's, that's my son on the right, Alex,

NOTE Confidence: 0.18271744

00:38:48.674 --> 00:38:52.546 who's now a faculty member at Mount Sinai.

NOTE Confidence: 0.18271744

00:38:52.550 --> 00:38:53.670 That's Steve in the front,

NOTE Confidence: 0.18271744

00:38:53.670 --> 00:38:57.064 and here he is, kayaking. You know,

NOTE Confidence: 0.18271744

00:38:57.064 --> 00:38:59.999 he's got metastatic prostate cancer.

NOTE Confidence: 0.18271744

00:39:00.000 --> 00:39:01.520 But that was Steve.

NOTE Confidence: 0.18271744

00:39:01.520 --> 00:39:02.280 And actually,

NOTE Confidence: 0.18271744

00:39:02.280 --> 00:39:03.300 he was great in the water.

NOTE Confidence: 0.18271744

00:39:03.300 --> 00:39:06.628 He was great athlete.

NOTE Confidence: 0.18271744

00:39:06.630 --> 00:39:07.760 And then the next slide.

00:39:10.070 --> 00:39:13.080 So Steve died and then?

00:39:13.080 --> 00:39:14.500 A few days after Alex.

00:39:20.740 --> 00:39:22.220 Went to the same spot.

00:39:24.270 --> 00:39:27.458 Just to remember, Steve.

00:39:27.460 --> 00:39:30.583 So that was a couple days after he died.

00:39:30.590 --> 00:39:32.086 And you can cut down the slides then.

00:39:36.720 --> 00:39:39.904 So. Steve is somebody that I'll never forget.

00:39:39.910 --> 00:39:42.934 He's inside me and he's inside so

00:39:42.934 --> 00:39:45.530 many of you that have got to know him.

00:39:45.530 --> 00:39:47.218 It was a privilege.

00:39:47.218 --> 00:39:49.250 A privilege to, you know,

00:39:49.250 --> 00:39:51.150 Bernadette, who we still are,

00:39:51.150 --> 00:39:54.460 still stay in contact with.

00:39:54.460 --> 00:39:56.120 I'm a Bruce Springsteen fan.

00:39:56.120 --> 00:39:57.820 As many of you know,

NOTE Confidence: 0.70377085

00:39:57.820 --> 00:40:01.676 he wrote a song called Terry Song about

NOTE Confidence: 0.70377085

00:40:01.676 --> 00:40:04.919 somebody he lost and aligning that.

NOTE Confidence: 0.70377085

00:40:04.920 --> 00:40:09.600 Song that is gives me.

NOTE Confidence: 0.70377085

00:40:09.600 --> 00:40:11.704 It makes me feel a little bit better

NOTE Confidence: 0.70377085

00:40:11.704 --> 00:40:14.195 and to remember Steve, and that is

NOTE Confidence: 0.70377085

00:40:14.195 --> 00:40:16.470 love is a power greater than death.

NOTE Confidence: 0.70377085

00:40:16.470 --> 00:40:20.495 And that's why we'll never forget Steve.

NOTE Confidence: 0.70377085

00:40:20.500 --> 00:40:22.828 So thank you for the privilege

NOTE Confidence: 0.70377085

00:40:22.828 --> 00:40:23.992 of talking about.

NOTE Confidence: 0.70377085

00:40:24.000 --> 00:40:25.080 Have mean, Steve.

NOTE Confidence: 0.70377085

00:40:25.080 --> 00:40:26.120 Thank you, rob.

NOTE Confidence: 0.919611772

00:40:26.930 --> 00:40:28.240 Thank you so much, Dennis.

NOTE Confidence: 0.810386881666667

00:40:36.320 --> 00:40:38.438 OK, so far our last presentation,

NOTE Confidence: 0.810386881666667

00:40:38.440 --> 00:40:40.904 I'm going to talk about some of

NOTE Confidence: 0.810386881666667

00:40:40.904 --> 00:40:41.960 the quantitative epidemiologic,

NOTE Confidence: 0.810386881666667

00:40:41.960 --> 00:40:44.978 genetic and epigenetic work that Steve,

NOTE Confidence: 0.810386881666667

00:40:44.980 --> 00:40:46.965 our colleagues and I have

NOTE Confidence: 0.810386881666667

00:40:46.965 --> 00:40:48.553 done specifically in U.S.

NOTE Confidence: 0.810386881666667

00:40:48.560 --> 00:40:50.935 military veterans and this will

NOTE Confidence: 0.810386881666667

00:40:50.935 --> 00:40:53.310 feature mostly my presenting on

NOTE Confidence: 0.810386881666667

00:40:53.392 --> 00:40:55.924 the work and then Janicza Montalvo

NOTE Confidence: 0.810386881666667

00:40:55.924 --> 00:40:58.675 Ortiz will present on some of

NOTE Confidence: 0.810386881666667

00:40:58.675 --> 00:41:00.635 the genetic epigenetic studies.

NOTE Confidence: 0.810386881666667

00:41:00.640 --> 00:41:03.152 So today Steve and I and our colleagues

NOTE Confidence: 0.810386881666667

00:41:03.152 --> 00:41:05.130 have published over 150 papers together.

NOTE Confidence: 0.810386881666667

00:41:05.130 --> 00:41:07.230 I went back and calculated this

NOTE Confidence: 0.810386881666667

00:41:07.230 --> 00:41:09.279 works out to about one per month.

NOTE Confidence: 0.810386881666667

00:41:09.280 --> 00:41:11.818 We were an incredible dynamic duo

NOTE Confidence: 0.810386881666667

00:41:11.820 --> 00:41:13.563 where Steve would often conjure up all

NOTE Confidence: 0.810386881666667

00:41:13.563 --> 00:41:15.431 kinds of ideas and I was the one who

NOTE Confidence: 0.810386881666667

00:41:15.431 --> 00:41:17.330 went to the data and and looked to see

NOTE Confidence: 0.810386881666667

00:41:17.330 --> 00:41:19.627 if we could resurrect some of those findings.

NOTE Confidence: 0.810386881666667

00:41:19.627 --> 00:41:21.961 Our work primarily centered on the

NOTE Confidence: 0.810386881666667

00:41:21.961 --> 00:41:23.751 psychosocial and genetic epidemiology

NOTE Confidence: 0.810386881666667

00:41:23.751 --> 00:41:25.535 of trauma related disorders,

NOTE Confidence: 0.810386881666667

00:41:25.540 --> 00:41:27.556 but also on resilience and and

NOTE Confidence: 0.810386881666667

00:41:27.556 --> 00:41:28.564 salutogenesis outcomes related

NOTE Confidence: 0.810386881666667

00:41:28.564 --> 00:41:30.368 to resilience like successful.

NOTE Confidence: 0.810386881666667

00:41:30.370 --> 00:41:31.846 Aging we intentionally,

NOTE Confidence: 0.810386881666667

00:41:31.846 --> 00:41:34.306 as Dennis mentioned with Steve's

NOTE Confidence: 0.810386881666667

00:41:34.306 --> 00:41:36.769 background in clinical psychiatry,

NOTE Confidence: 0.810386881666667

00:41:36.770 --> 00:41:38.828 took out translational approach in this work.

NOTE Confidence: 0.810386881666667

00:41:38.830 --> 00:41:40.285 So we were interested both

NOTE Confidence: 0.810386881666667

00:41:40.285 --> 00:41:41.449 in the backward translation,

NOTE Confidence: 0.810386881666667

00:41:41.450 --> 00:41:42.240 for example,

NOTE Confidence: 0.810386881666667

00:41:42.240 --> 00:41:44.610 looking at genetic and and neural

NOTE Confidence: 0.810386881666667

00:41:44.610 --> 00:41:47.050 biomarkers of PTSD symptom dimensions,

NOTE Confidence: 0.810386881666667

00:41:47.050 --> 00:41:48.302 but also forward translation.

NOTE Confidence: 0.810386881666667

00:41:48.302 --> 00:41:50.238 You know, we don't do epidemiology

NOTE Confidence: 0.810386881666667

00:41:50.238 --> 00:41:51.546 strictly for bean counting.

NOTE Confidence: 0.810386881666667

00:41:51.550 --> 00:41:52.308 You know,

NOTE Confidence: 0.810386881666667

00:41:52.308 --> 00:41:54.961 we want to identify modifiable risk and

NOTE Confidence: 0.810386881666667

00:41:54.961 --> 00:41:57.520 resilience factors that could be targeted

NOTE Confidence: 0.810386881666667

00:41:57.520 --> 00:41:59.635 in prevention and treatment efforts.

NOTE Confidence: 0.810386881666667

00:41:59.640 --> 00:42:01.344 As is often the case in trauma research,

NOTE Confidence: 0.810386881666667

00:42:01.350 --> 00:42:03.558 we've studied a number of different

NOTE Confidence: 0.810386881666667

00:42:03.558 --> 00:42:05.030 trauma affected populations of

NOTE Confidence: 0.810386881666667

00:42:05.090 --> 00:42:06.818 most notably military veterans,

NOTE Confidence: 0.810386881666667

00:42:06.820 --> 00:42:09.316 but also World Trade Center first

NOTE Confidence: 0.810386881666667

00:42:09.316 --> 00:42:10.980 responders and most recently,

NOTE Confidence: 0.810386881666667

00:42:10.980 --> 00:42:12.608 COVID-19 frontline healthcare workers.

NOTE Confidence: 0.810386881666667

00:42:12.608 --> 00:42:15.428 These are two mottos that are pervaded

00:42:15.428 --> 00:42:17.964 the work that Steve and I and our

00:42:17.964 --> 00:42:19.778 colleagues did over the years that,

00:42:19.780 --> 00:42:20.180 you know,

00:42:20.180 --> 00:42:21.780 we wanted to to focus not only on

00:42:21.833 --> 00:42:23.699 fixing what's wrong in trauma survivors,

00:42:23.700 --> 00:42:25.940 but also building what's strong and and as,

00:42:25.940 --> 00:42:26.940 as Dennis shared, you know,

00:42:26.940 --> 00:42:28.556 character traits and resilience

00:42:28.556 --> 00:42:30.980 factors and people affected by trauma.

00:42:30.980 --> 00:42:32.540 And then also on phasing,

00:42:32.540 --> 00:42:33.371 on growing through,

00:42:33.371 --> 00:42:34.756 what one goes through this

00:42:34.756 --> 00:42:36.489 idea of post traumatic growth,

00:42:36.490 --> 00:42:39.238 which I'll describe in a moment.

00:42:39.240 --> 00:42:41.718 So when one does a literature research,

00:42:41.720 --> 00:42:42.258 literature search,

NOTE Confidence: 0.810386881666667

00:42:42.258 --> 00:42:43.872 just even thinks about the words

NOTE Confidence: 0.810386881666667

00:42:43.872 --> 00:42:45.756 that come to mind when we think

NOTE Confidence: 0.810386881666667

00:42:45.756 --> 00:42:47.056 about post traumatic stress disorder,

NOTE Confidence: 0.810386881666667

00:42:47.060 --> 00:42:49.508 we're we're highly, highly negatively biased.

NOTE Confidence: 0.810386881666667

00:42:49.510 --> 00:42:50.282 You know,

NOTE Confidence: 0.810386881666667

00:42:50.282 --> 00:42:52.598 things like fear and numbing flashbacks,

NOTE Confidence: 0.810386881666667

00:42:52.600 --> 00:42:54.180 helplessness. It's quite overwhelming.

NOTE Confidence: 0.810386881666667

00:42:54.180 --> 00:42:56.830 And it's actually surprising in a way,

NOTE Confidence: 0.810386881666667

00:42:56.830 --> 00:42:58.396 given that most people who are

NOTE Confidence: 0.810386881666667

00:42:58.396 --> 00:42:59.990 affected by trauma are resilient.

NOTE Confidence: 0.810386881666667

00:42:59.990 --> 00:43:02.321 And this includes even people who are

NOTE Confidence: 0.810386881666667

00:43:02.321 --> 00:43:04.548 very highly exposed to traumatic events,

NOTE Confidence: 0.810386881666667

00:43:04.550 --> 00:43:05.912 as Dennis mentioned,

NOTE Confidence: 0.810386881666667

00:43:05.912 --> 00:43:07.728 and special forces communities.

NOTE Confidence: 0.810386881666667

00:43:07.730 --> 00:43:09.330 But also in natural disasters.

NOTE Confidence: 0.810386881666667

00:43:09.330 --> 00:43:09.866 I mean,

NOTE Confidence: 0.810386881666667

00:43:09.866 --> 00:43:12.010 we have this natural tendency to bounce back.

NOTE Confidence: 0.810386881666667

00:43:12.010 --> 00:43:14.537 And what Steve was very interested in

NOTE Confidence: 0.810386881666667

00:43:14.537 --> 00:43:16.984 learning are what are those ingredients

NOTE Confidence: 0.810386881666667

00:43:16.984 --> 00:43:19.570 that go into making people resilient?

NOTE Confidence: 0.810386881666667

00:43:19.570 --> 00:43:21.957 So one approach that we took to

NOTE Confidence: 0.810386881666667

00:43:21.957 --> 00:43:23.649 trying to understand this was

NOTE Confidence: 0.810386881666667

00:43:23.649 --> 00:43:25.149 to study this in large,

NOTE Confidence: 0.810386881666667

00:43:25.150 --> 00:43:26.518 nationally representative

NOTE Confidence: 0.810386881666667

00:43:26.518 --> 00:43:28.570 prospective cohort studies.

NOTE Confidence: 0.810386881666667

00:43:28.570 --> 00:43:31.230 So we we design now more than 10 years ago,

NOTE Confidence: 0.810386881666667

00:43:31.230 --> 00:43:32.534 the National Health and

NOTE Confidence: 0.810386881666667

00:43:32.534 --> 00:43:33.838 resilience and Veteran study,

NOTE Confidence: 0.850157531538461

00:43:33.840 --> 00:43:36.856 which to date now has recruited 3 separate

NOTE Confidence: 0.850157531538461

00:43:36.856 --> 00:43:38.589 prospective cohorts of US veterans.

NOTE Confidence: 0.850157531538461

67

00:43:38.590 --> 00:43:40.216 And as is often the case

NOTE Confidence: 0.850157531538461

00:43:40.216 --> 00:43:41.029 in epidemiologic studies,

NOTE Confidence: 0.850157531538461

00:43:41.030 --> 00:43:43.118 we wanted to look at the prevalence and

NOTE Confidence: 0.850157531538461

00:43:43.118 --> 00:43:45.070 correlates of major psychiatric disorders,

NOTE Confidence: 0.850157531538461

00:43:45.070 --> 00:43:47.275 but also trying to quantify

NOTE Confidence: 0.850157531538461

00:43:47.275 --> 00:43:49.039 and operationalize these more.

NOTE Confidence: 0.850157531538461

00:43:49.040 --> 00:43:50.980 Nebulous constructs like resilience and

NOTE Confidence: 0.850157531538461

00:43:50.980 --> 00:43:53.970 healthy aging and even post traumatic growth.

NOTE Confidence: 0.850157531538461

00:43:53.970 --> 00:43:55.824 And then we had a number of secondary aims.

NOTE Confidence: 0.850157531538461

00:43:55.830 --> 00:43:58.206 As as Janicza will describe in a moment,

NOTE Confidence: 0.850157531538461

00:43:58.210 --> 00:44:00.920 I'm looking at genetics and

NOTE Confidence: 0.850157531538461

00:44:00.920 --> 00:44:03.088 epigenetics of common disorders.

NOTE Confidence: 0.850157531538461

00:44:03.090 --> 00:44:04.170 This is a busy slide.

NOTE Confidence: 0.850157531538461

00:44:04.170 --> 00:44:05.796 The the only thing that's most

NOTE Confidence: 0.850157531538461

00:44:05.796 --> 00:44:07.916 relevant here I think is to to say

NOTE Confidence: 0.850157531538461

00:44:07.916 --> 00:44:09.386 that we've now recruited more than

NOTE Confidence: 0.850157531538461

00:44:09.441 --> 00:44:11.108 8000 veterans into these studies.

NOTE Confidence: 0.850157531538461

00:44:11.108 --> 00:44:13.548 These are all prospective cohorts.

NOTE Confidence: 0.850157531538461

00:44:13.550 --> 00:44:15.590 Our most recent cohort was

NOTE Confidence: 0.850157531538461

00:44:15.590 --> 00:44:17.630 recruited before the COVID pandemic.

NOTE Confidence: 0.850157531538461

00:44:17.630 --> 00:44:19.196 So we had the rare opportunity

NOTE Confidence: 0.850157531538461

00:44:19.196 --> 00:44:21.041 to see how the pandemic affected

NOTE Confidence: 0.850157531538461

00:44:21.041 --> 00:44:23.267 mental health and we just recently

NOTE Confidence: 0.850157531538461

00:44:23.267 --> 00:44:24.727 completed a three-year follow-up

NOTE Confidence: 0.850157531538461

00:44:24.727 --> 00:44:27.023 of that cohort on 2 weeks ago.

NOTE Confidence: 0.850157531538461

00:44:27.030 --> 00:44:28.386 And so these samples are drawn

NOTE Confidence: 0.850157531538461

00:44:28.386 --> 00:44:30.013 from a very high quality survey

NOTE Confidence: 0.850157531538461

00:44:30.013 --> 00:44:31.345 research panel that's designed

NOTE Confidence: 0.850157531538461

00:44:31.345 --> 00:44:32.920 to be representative of the.

NOTE Confidence: 0.850157531538461

00:44:32.920 --> 00:44:37.400 The US Adult USA adult household population.

NOTE Confidence: 0.850157531538461

00:44:37.400 --> 00:44:39.824 And then we also apply post

NOTE Confidence: 0.850157531538461

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00:44:39.824 --> 00:44:41.940 stratification weights to ensure that

NOTE Confidence: 0.850157531538461

00:44:41.940 --> 00:44:44.065 our results are generalizable to

NOTE Confidence: 0.850157531538461

00:44:44.065 --> 00:44:46.439 the US veteran population at large.

NOTE Confidence: 0.850157531538461

00:44:46.440 --> 00:44:48.790 So this is just a sample of some of the

NOTE Confidence: 0.850157531538461

00:44:48.854 --> 00:44:50.804 the studies that we've published over

NOTE Confidence: 0.850157531538461

00:44:50.804 --> 00:44:53.379 the years on the topic of resilience.

NOTE Confidence: 0.850157531538461

00:44:53.380 --> 00:44:55.718 And when one gets into this literature,

NOTE Confidence: 0.850157531538461

00:44:55.720 --> 00:44:57.440 it's surprising just how complicated

NOTE Confidence: 0.850157531538461

00:44:57.440 --> 00:44:59.889 it is to define what one means

NOTE Confidence: 0.850157531538461

00:44:59.889 --> 00:45:01.217 when we say resilience.

NOTE Confidence: 0.850157531538461

00:45:01.220 --> 00:45:03.122 So these are the two definitions

NOTE Confidence: 0.850157531538461

00:45:03.122 --> 00:45:04.888 that Steve embraced, and one,

NOTE Confidence: 0.850157531538461

00:45:04.888 --> 00:45:07.312 the first, is from the American

NOTE Confidence: 0.850157531538461

00:45:07.312 --> 00:45:08.120 Psychological Association,

NOTE Confidence: 0.850157531538461

00:45:08.120 --> 00:45:10.619 which defines resilience as a process of

NOTE Confidence: 0.850157531538461

00:45:10.619 --> 00:45:13.140 adapting well in the face of adversity,

NOTE Confidence: 0.850157531538461

00:45:13.140 --> 00:45:15.675 trauma, tragedy, threats or even

NOTE Confidence: 0.850157531538461

00:45:15.675 --> 00:45:17.703 significant sources of stress.

NOTE Confidence: 0.850157531538461

00:45:17.710 --> 00:45:19.265 Steve also liked the definition

NOTE Confidence: 0.850157531538461

00:45:19.265 --> 00:45:20.198 from George Vallant,

NOTE Confidence: 0.850157531538461

00:45:20.200 --> 00:45:22.120 a psychiatrist at Harvard,

NOTE Confidence: 0.850157531538461

00:45:22.120 --> 00:45:25.000 who described resilient individuals as those

NOTE Confidence: 0.850157531538461

00:45:25.071 --> 00:45:27.710 who resemble a fresh green living twig.

NOTE Confidence: 0.850157531538461

00:45:27.710 --> 00:45:29.270 When twisted out of shape,

NOTE Confidence: 0.850157531538461

00:45:29.270 --> 00:45:31.670 such a twig bends but does not break.

NOTE Confidence: 0.850157531538461

00:45:31.670 --> 00:45:32.282 Instead,

NOTE Confidence: 0.850157531538461

00:45:32.282 --> 00:45:36.566 it springs back and continues to grow.

NOTE Confidence: 0.850157531538461

00:45:36.570 --> 00:45:37.371 So we took,

NOTE Confidence: 0.850157531538461

00:45:37.371 --> 00:45:39.240 and this was largely on Steve's urging,

NOTE Confidence: 0.850157531538461

00:45:39.240 --> 00:45:41.100 a bottom up data-driven approach.

NOTE Confidence: 0.850157531538461

00:45:41.100 --> 00:45:43.404 So we allowed the data to tell us how

NOTE Confidence: 0.850157531538461

00:45:43.404 --> 00:45:45.371 it's organized when we consider the

NOTE Confidence: 0.850157531538461

00:45:45.371 --> 00:45:47.939 role that trauma has on mental health.

NOTE Confidence: 0.850157531538461

00:45:47.940 --> 00:45:50.196 And so we took a number of these

NOTE Confidence: 0.850157531538461

00:45:50.196 --> 00:45:51.400 data-driven analytic approaches.

NOTE Confidence: 0.850157531538461

00:45:51.400 --> 00:45:53.591 Our cluster analysis is the one I'll

NOTE Confidence: 0.850157531538461

00:45:53.591 --> 00:45:55.864 show today where we simply submitted

NOTE Confidence: 0.850157531538461

00:45:55.864 --> 00:45:57.989 a count of lifetime cumulative

NOTE Confidence: 0.850157531538461

00:45:57.989 --> 00:45:59.997 traumatic adversities really across the

NOTE Confidence: 0.850157531538461

00:45:59.997 --> 00:46:02.193 entire lifespan and then a composite

NOTE Confidence: 0.850157531538461

00:46:02.193 --> 00:46:03.739 measure of psychological distress

NOTE Confidence: 0.850157531538461

00:46:03.739 --> 00:46:06.097 given that trauma does not simply.

NOTE Confidence: 0.850157531538461

00:46:06.100 --> 00:46:08.040 Yield on a potential increase

NOTE Confidence: 0.850157531538461

00:46:08.040 --> 00:46:09.204 in PTSD symptoms,

NOTE Confidence: 0.850157531538461

00:46:09.210 --> 00:46:11.700 but may also lead to an uptick in in major

NOTE Confidence: 0.850157531538461

00:46:11.760 --> 00:46:14.370 depressive and generalized anxiety symptoms.

NOTE Confidence: 0.850157531538461

00:46:14.370 --> 00:46:15.122 More recently,

NOTE Confidence: 0.850157531538461

00:46:15.122 --> 00:46:16.626 we've been employing these

NOTE Confidence: 0.850157531538461

00:46:16.626 --> 00:46:18.130 discrepancy based resilience scores,

NOTE Confidence: 0.850157531538461

00:46:18.130 --> 00:46:20.332 which computes at a population level

NOTE Confidence: 0.850157531538461

00:46:20.332 --> 00:46:22.591 ones expected score given their trauma

NOTE Confidence: 0.850157531538461

00:46:22.591 --> 00:46:25.125 burden and their actual or observed score.

NOTE Confidence: 0.850157531538461

00:46:25.130 --> 00:46:27.176 And you could compute relative resilience

NOTE Confidence: 0.850157531538461

00:46:27.176 --> 00:46:28.910 scores at an individual level.

NOTE Confidence: 0.850157531538461

00:46:28.910 --> 00:46:30.310 And for longitudinal data,

NOTE Confidence: 0.850157531538461

00:46:30.310 --> 00:46:32.410 we published several studies now using

NOTE Confidence: 0.806131986923077

00:46:32.473 --> 00:46:33.928 latent trajectory modeling,

NOTE Confidence: 0.806131986923077

00:46:33.930 --> 00:46:36.246 which allows us to characterize predominant.

NOTE Confidence: 0.806131986923077

00:46:36.250 --> 00:46:38.596 Trajectories of how one might respond

NOTE Confidence: 0.806131986923077

00:46:38.596 --> 00:46:40.988 to trauma, and then, in particular,

NOTE Confidence: 0.806131986923077

00:46:40.988 --> 00:46:42.596 given the translational emphasis,

NOTE Confidence: 0.806131986923077

00:46:42.600 --> 00:46:45.144 we were interested in comparing the

NOTE Confidence: 0.806131986923077

73

00:46:45.144 --> 00:46:46.840 resultant groups on demographic,

NOTE Confidence: 0.806131986923077

00:46:46.840 --> 00:46:48.316 military, trauma,

NOTE Confidence: 0.806131986923077

00:46:48.316 --> 00:46:51.268 health and psychosocial variables.

NOTE Confidence: 0.806131986923077

00:46:51.270 --> 00:46:53.045 This is from a longitudinal

NOTE Confidence: 0.806131986923077

00:46:53.045 --> 00:46:54.110 study of veterans,

NOTE Confidence: 0.806131986923077

00:46:54.110 --> 00:46:56.926 the first nerves cohort study first in 2011,

NOTE Confidence: 0.806131986923077

00:46:56.930 --> 00:46:58.883 where we did a cluster analysis and

NOTE Confidence: 0.806131986923077

00:46:58.883 --> 00:47:01.192 we found that the majority of veterans

NOTE Confidence: 0.806131986923077

00:47:01.192 --> 00:47:03.310 are minimally trauma exposed and have

NOTE Confidence: 0.806131986923077

00:47:03.370 --> 00:47:05.650 minimal psychological distress symptoms.

NOTE Confidence: 0.806131986923077

00:47:05.650 --> 00:47:07.720 But then there were these other

NOTE Confidence: 0.806131986923077

00:47:07.720 --> 00:47:09.596 two groups that emerged at 27.5%

NOTE Confidence: 0.806131986923077

00:47:09.596 --> 00:47:11.126 were in this resilient group,

NOTE Confidence: 0.806131986923077

00:47:11.130 --> 00:47:13.048 and they were matched with regard to

NOTE Confidence: 0.806131986923077

00:47:13.048 --> 00:47:14.834 how much trauma they have endured

NOTE Confidence: 0.806131986923077

00:47:14.834 --> 00:47:16.640 over the course of their lives

NOTE Confidence: 0.806131986923077

00:47:16.640 --> 00:47:18.157 relative to a distressed group,

NOTE Confidence: 0.806131986923077

00:47:18.160 --> 00:47:20.350 about 12% of the sample.

NOTE Confidence: 0.806131986923077

00:47:20.350 --> 00:47:20.752 Importantly.

NOTE Confidence: 0.806131986923077

00:47:20.752 --> 00:47:23.164 Steve would always emphasize this is

NOTE Confidence: 0.806131986923077

00:47:23.164 --> 00:47:25.937 resilience is not a marker of low exposure.

NOTE Confidence: 0.806131986923077

00:47:25.940 --> 00:47:27.590 There has to be a prerequisite

NOTE Confidence: 0.806131986923077

00:47:27.590 --> 00:47:29.406 of high level of trauma burden

NOTE Confidence: 0.806131986923077

00:47:29.406 --> 00:47:31.036 in order to be resilient.

NOTE Confidence: 0.806131986923077

00:47:31.040 --> 00:47:33.448 So this clearly shows both of these

NOTE Confidence: 0.806131986923077

00:47:33.448 --> 00:47:35.345 groups being significantly tested by

NOTE Confidence: 0.806131986923077

00:47:35.345 --> 00:47:37.370 cumulative trauma burden by having

NOTE Confidence: 0.806131986923077

00:47:37.370 --> 00:47:39.140 very different psychological outcomes.

NOTE Confidence: 0.806131986923077

00:47:39.140 --> 00:47:41.052 And if you look at the the average

NOTE Confidence: 0.806131986923077

00:47:41.052 --> 00:47:42.700 score in the resilient group,

NOTE Confidence: 0.806131986923077

00:47:42.700 --> 00:47:44.854 it's on par with our minimally

NOTE Confidence: 0.806131986923077

00:47:44.854 --> 00:47:47.014 exposed control group when we look

NOTE Confidence: 0.806131986923077

00:47:47.014 --> 00:47:48.994 at screen positive rates for PTSD,

NOTE Confidence: 0.806131986923077

00:47:49.000 --> 00:47:51.695 MDD and GAD, both 3/4 of our.

NOTE Confidence: 0.806131986923077

00:47:51.700 --> 00:47:53.614 The stress group is screening positive

NOTE Confidence: 0.806131986923077

00:47:53.614 --> 00:47:56.090 and not a single person in the

NOTE Confidence: 0.806131986923077

00:47:56.090 --> 00:47:57.980 resilient group is screening positive.

NOTE Confidence: 0.806131986923077

00:47:57.980 --> 00:48:00.045 And not all traumas are created equal.

NOTE Confidence: 0.806131986923077

00:48:00.050 --> 00:48:01.658 So when we look at the trauma profiles,

NOTE Confidence: 0.806131986923077

00:48:01.660 --> 00:48:02.740 they're strikingly similar.

NOTE Confidence: 0.806131986923077

00:48:02.740 --> 00:48:03.460 In fact,

NOTE Confidence: 0.806131986923077

00:48:03.460 --> 00:48:05.060 our resilient group was actually

NOTE Confidence: 0.806131986923077

00:48:05.060 --> 00:48:07.021 more likely to have reported in

NOTE Confidence: 0.806131986923077

00:48:07.021 --> 00:48:08.237 during a natural disaster.

NOTE Confidence: 0.806131986923077

00:48:08.240 --> 00:48:09.652 But other than that,

NOTE Confidence: 0.806131986923077

00:48:09.652 --> 00:48:12.225 we see a striking similarity in terms

NOTE Confidence: 0.806131986923077

00:48:12.225 --> 00:48:14.499 of the degree of trauma exposure.

NOTE Confidence: 0.806131986923077

00:48:14.500 --> 00:48:16.484 And then when we looked at wave one

NOTE Confidence: 0.806131986923077

00:48:16.484 --> 00:48:18.060 predictors of resilience over time

NOTE Confidence: 0.806131986923077

00:48:18.060 --> 00:48:19.770 relative to the distressed group,

NOTE Confidence: 0.806131986923077

00:48:19.770 --> 00:48:21.250 not surprisingly the resilient

NOTE Confidence: 0.806131986923077

00:48:21.250 --> 00:48:23.470 veterans had a lower likelihood of

NOTE Confidence: 0.806131986923077

00:48:23.528 --> 00:48:25.348 early life psychiatric disorder.

NOTE Confidence: 0.806131986923077

00:48:25.350 --> 00:48:26.250 So this is, if you will,

NOTE Confidence: 0.806131986923077

00:48:26.250 --> 00:48:28.590 the inverse of stress sensitization.

NOTE Confidence: 0.806131986923077

00:48:28.590 --> 00:48:30.470 They were also physically healthier.

NOTE Confidence: 0.806131986923077

00:48:30.470 --> 00:48:32.278 And then what was of most interest to

NOTE Confidence: 0.806131986923077

00:48:32.278 --> 00:48:34.530 us is these modifiable characteristics.

NOTE Confidence: 0.806131986923077

00:48:34.530 --> 00:48:36.288 So they scored higher on measures

NOTE Confidence: 0.806131986923077

00:48:36.288 --> 00:48:37.167 of emotional stability.

NOTE Confidence: 0.806131986923077

00:48:37.170 --> 00:48:38.766 So a personality characteristic

NOTE Confidence: 0.806131986923077

00:48:38.766 --> 00:48:41.160 characterized by a high degree of

NOTE Confidence: 0.806131986923077

00:48:41.225 --> 00:48:43.985 emotion regulation and also these protective.

NOTE Confidence: 0.806131986923077

00:48:43.990 --> 00:48:44.524 Psychosocial traits,

NOTE Confidence: 0.806131986923077

00:48:44.524 --> 00:48:45.859 some of which are Dennis,

NOTE Confidence: 0.806131986923077

00:48:45.860 --> 00:48:47.250 showed in the resilience factors,

NOTE Confidence: 0.806131986923077

00:48:47.250 --> 00:48:49.428 in particular having a strong sense

NOTE Confidence: 0.806131986923077

00:48:49.428 --> 00:48:51.106 of purpose, dispositional gratitude,

NOTE Confidence: 0.806131986923077

00:48:51.106 --> 00:48:54.417 and a high sense of Community integration.

NOTE Confidence: 0.806131986923077

00:48:54.420 --> 00:48:54.884 And finally,

NOTE Confidence: 0.806131986923077

00:48:54.884 --> 00:48:56.276 and this was a resounding theme

NOTE Confidence: 0.806131986923077

00:48:56.276 --> 00:48:57.975 in the work that Steve and I did,

NOTE Confidence: 0.806131986923077

00:48:57.980 --> 00:48:59.798 and we actually have a perspective

NOTE Confidence: 0.806131986923077

00:48:59.798 --> 00:49:01.762 piece that we finished before he

NOTE Confidence: 0.806131986923077

00:49:01.762 --> 00:49:03.838 passed away that's currently under review,

NOTE Confidence: 0.806131986923077

00:49:03.840 --> 00:49:06.615 underscoring the importance of social

NOTE Confidence: 0.806131986923077

00:49:06.615 --> 00:49:08.835 connection and social integration,

NOTE Confidence: 0.806131986923077

00:49:08.840 --> 00:49:10.690 and in particular having a

NOTE Confidence: 0.806131986923077

00:49:10.690 --> 00:49:11.800 secure attachment style,

NOTE Confidence: 0.806131986923077

00:49:11.800 --> 00:49:14.050 having a strong social support network.

NOTE Confidence: 0.806131986923077

00:49:14.050 --> 00:49:16.276 And and deriving a high sense of

NOTE Confidence: 0.806131986923077

00:49:16.276 --> 00:49:18.050 emotional support from that network.

NOTE Confidence: 0.7404257962

00:49:20.400 --> 00:49:22.788 And so now I'm going to

NOTE Confidence: 0.7404257962

00:49:22.788 --> 00:49:24.380 introduce Janissa Montalvo Ortiz,

NOTE Confidence: 0.7404257962

00:49:24.380 --> 00:49:27.230 who's been our collaborator with our

NOTE Confidence: 0.7404257962

00:49:27.230 --> 00:49:30.060 colleagues on genetic and epigenetic,

NOTE Confidence: 0.7404257962

00:49:30.060 --> 00:49:31.372 NHRS and nerve studies.

NOTE Confidence: 0.7404257962

00:49:31.372 --> 00:49:34.108 Joga Lerner is the the lead on the

NOTE Confidence: 0.7404257962

00:49:34.108 --> 00:49:36.196 the molecular studies that we've been

NOTE Confidence: 0.7404257962

00:49:36.196 --> 00:49:38.717 doing and we've also been collaborating

NOTE Confidence: 0.7404257962

00:49:38.717 --> 00:49:40.440 with Renado Pullmantur's group.

NOTE Confidence: 0.7404257962

00:49:40.440 --> 00:49:42.540 Janita is an assistant professor

NOTE Confidence: 0.7404257962

00:49:42.540 --> 00:49:45.106 in our department and also a

NOTE Confidence: 0.7404257962

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00:49:45.106 --> 00:49:47.176 research biologist with the Clinical

NOTE Confidence: 0.7404257962

00:49:47.176 --> 00:49:48.708 Neuroscience division of the

NOTE Confidence: 0.7404257962

00:49:48.708 --> 00:49:50.420 National Center for PTSD. Pizza.

NOTE Confidence: 0.814002757777778

00:49:51.420 --> 00:49:52.353 Thank you, Rob,

NOTE Confidence: 0.814002757777778

00:49:52.353 --> 00:49:54.219 and thank you for including me.

NOTE Confidence: 0.814002757777778

00:49:54.220 --> 00:49:57.775 It's an honor to be included in the grand

NOTE Confidence: 0.814002757777778

00:49:57.775 --> 00:50:00.638 rounds in honor of Doctor Southwick.

NOTE Confidence: 0.814002757777778

00:50:00.640 --> 00:50:02.760 So I'll be presenting data.

NOTE Confidence: 0.814002757777778

00:50:02.760 --> 00:50:06.040 All of this data is from the NIH RDS cohort,

NOTE Confidence: 0.814002757777778

00:50:06.040 --> 00:50:09.595 so it's tailored to understand

NOTE Confidence: 0.814002757777778

00:50:09.595 --> 00:50:12.439 better the veteran population.

NOTE Confidence: 0.814002757777778

00:50:12.440 --> 00:50:14.984 So we concentrated in looking at

NOTE Confidence: 0.814002757777778

00:50:14.984 --> 00:50:17.127 epigenetics to understand better the

NOTE Confidence: 0.814002757777778

00:50:17.127 --> 00:50:19.419 role of gene by environment interplay

NOTE Confidence: 0.814002757777778

00:50:19.420 --> 00:50:21.436 and for this we first conducted.

NOTE Confidence: 0.814002757777778

00:50:21.440 --> 00:50:23.045 And the pigeon?

NOTE Confidence: 0.814002757777778

00:50:23.045 --> 00:50:25.720 The pigeon of Wide Association

NOTE Confidence: 0.814002757777778

00:50:25.720 --> 00:50:29.026 study in 1135 made veterans of

NOTE Confidence: 0.814002757777778

00:50:29.026 --> 00:50:31.821 European ancestry and look at

NOTE Confidence: 0.814002757777778

00:50:31.821 --> 00:50:35.079 both current and lifetime PTSD.

NOTE Confidence: 0.814002757777778

00:50:35.080 --> 00:50:37.564 I'm showing their um Manhattan plots

NOTE Confidence: 0.814002757777778

00:50:37.564 --> 00:50:40.186 where you can see the different

NOTE Confidence: 0.814002757777778

00:50:40.186 --> 00:50:42.850 genes that were identified and from

NOTE Confidence: 0.814002757777778

00:50:42.850 --> 00:50:45.138 these we were able to replicate

NOTE Confidence: 0.814002757777778

00:50:45.138 --> 00:50:47.702 the gene SNP 7 in an independent

NOTE Confidence: 0.814002757777778

00:50:47.702 --> 00:50:51.194 cohort of 608 mile veterans from

NOTE Confidence: 0.814002757777778

00:50:51.194 --> 00:50:53.700 the backs biobank cohort.

NOTE Confidence: 0.814002757777778

00:50:53.700 --> 00:50:55.760 DNA methylation levels at this

NOTE Confidence: 0.814002757777778

00:50:55.760 --> 00:50:58.352 gene were found to be decreased

NOTE Confidence: 0.814002757777778

00:50:58.352 --> 00:51:01.064 in PTSD cases in both cohorts.

NOTE Confidence: 0.814002757777778

00:51:01.070 --> 00:51:02.622 To assess the functionality

NOTE Confidence: 0.814002757777778

00:51:02.622 --> 00:51:03.786 of these findings,

NOTE Confidence: 0.814002757777778

00:51:03.790 --> 00:51:06.220 we evaluated the patterns of gene

NOTE Confidence: 0.814002757777778

00:51:06.220 --> 00:51:08.718 expression of CE NP7 in human

NOTE Confidence: 0.814002757777778

00:51:08.718 --> 00:51:10.406 postmortem brain samples from

NOTE Confidence: 0.814002757777778

00:51:10.406 --> 00:51:12.489 the national PTSD Brain bank,

NOTE Confidence: 0.814002757777778

00:51:12.490 --> 00:51:15.017 and we found that this gene is

NOTE Confidence: 0.814002757777778

00:51:15.017 --> 00:51:16.626 differentially expressed in the

NOTE Confidence: 0.814002757777778

00:51:16.626 --> 00:51:18.470 medial orbital prefrontal cortex,

NOTE Confidence: 0.814002757777778

00:51:18.470 --> 00:51:22.610 showing a significant decrease in PTSD.

NOTE Confidence: 0.814002757777778

00:51:22.610 --> 00:51:24.724 This gene is known to be involved

NOTE Confidence: 0.814002757777778

00:51:24.724 --> 00:51:25.630 in transcription regulation,

NOTE Confidence: 0.814002757777778

00:51:25.630 --> 00:51:27.109 but more interestingly,

NOTE Confidence: 0.814002757777778

00:51:27.109 --> 00:51:28.588 genetic variants identified

NOTE Confidence: 0.814002757777778

00:51:28.588 --> 00:51:31.146 in Jewish studies have found

NOTE Confidence: 0.814002757777778

00:51:31.146 --> 00:51:33.190 associations with risk taking

NOTE Confidence: 0.814002757777778

00:51:33.190 --> 00:51:35.234 behavior and alcohol consumption.

NOTE Confidence: 0.811189926666667

00:51:38.000 --> 00:51:40.030 We also evaluated DNA methylation

NOTE Confidence: 0.811189926666667

00:51:40.030 --> 00:51:41.654 aging in this cohort.

NOTE Confidence: 0.811189926666667

00:51:41.660 --> 00:51:44.432 This work it's led was led by

NOTE Confidence: 0.811189926666667

00:51:44.432 --> 00:51:46.569 Amanda Teman and Peter now.

NOTE Confidence: 0.811189926666667

00:51:46.570 --> 00:51:49.174 Epigenetic clocks are known to be

NOTE Confidence: 0.811189926666667

00:51:49.174 --> 00:51:52.050 associated with disease and mortality risk,

NOTE Confidence: 0.811189926666667

00:51:52.050 --> 00:51:54.381 and in this cohort we found that

NOTE Confidence: 0.811189926666667

00:51:54.381 --> 00:51:57.700 nearly one in five male US veterans had

NOTE Confidence: 0.811189926666667

00:51:57.700 --> 00:51:59.945 accelerated DNA methylation age with

NOTE Confidence: 0.811189926666667

00:52:00.018 --> 00:52:03.056 an average of eight years older than

NOTE Confidence: 0.811189926666667

00:52:03.056 --> 00:52:05.796 chronological age by evaluating social,

NOTE Confidence: 0.811189926666667

00:52:05.796 --> 00:52:07.527 demographic, military, health,

NOTE Confidence: 0.811189926666667

00:52:07.527 --> 00:52:08.988 and psychosocial variables.

NOTE Confidence: 0.811189926666667

00:52:08.988 --> 00:52:11.910 We found diabetes and child sexual

NOTE Confidence: 0.811189926666667

00:52:11.983 --> 00:52:14.348 abuse as the strongest correlates,

NOTE Confidence: 0.811189926666667

00:52:14.350 --> 00:52:17.026 each explaining 1/3 of the variance.

NOTE Confidence: 0.811189926666667

00:52:17.030 --> 00:52:19.030 We also found associations with

NOTE Confidence: 0.811189926666667

00:52:19.030 --> 00:52:20.630 negative beliefs of aging,

NOTE Confidence: 0.811189926666667

00:52:20.630 --> 00:52:24.646 as well as hypertension and body mass index.

NOTE Confidence: 0.811189926666667

00:52:24.650 --> 00:52:26.226 By evaluating grim age,

NOTE Confidence: 0.811189926666667

00:52:26.226 --> 00:52:28.196 which is a recently developed

NOTE Confidence: 0.811189926666667

00:52:28.196 --> 00:52:30.304 epigenetic clocks that is known

NOTE Confidence: 0.811189926666667

00:52:30.304 --> 00:52:32.364 through outperforms other clocks in

NOTE Confidence: 0.811189926666667

00:52:32.364 --> 00:52:34.510 predicting mortality and disease risk,

NOTE Confidence: 0.811189926666667

00:52:34.510 --> 00:52:36.590 and evaluating PTSD symptoms

NOTE Confidence: 0.811189926666667

00:52:36.590 --> 00:52:39.190 and different types of trauma,

NOTE Confidence: 0.811189926666667

00:52:39.190 --> 00:52:41.938 we found that PTSD was associated

NOTE Confidence: 0.811189926666667

00:52:41.938 --> 00:52:44.360 with twofold greater odds of

NOTE Confidence: 0.811189926666667

00:52:44.360 --> 00:52:46.408 accelerated DNA methylation H,

NOTE Confidence: 0.811189926666667

00:52:46.410 --> 00:52:49.428 which aberration nearly a full decade.

NOTE Confidence: 0.811189926666667

00:52:49.430 --> 00:52:51.550 Associations were also observed with

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NOTE Confidence: 0.811189926666667

00:52:51.550 --> 00:52:53.670 greater severity of trauma related

NOTE Confidence: 0.811189926666667

00:52:53.730 --> 00:52:55.758 detachment and sleep disturbances.

NOTE Confidence: 0.887346343809524

00:52:58.000 --> 00:53:00.292 And lastly, we also asked the

NOTE Confidence: 0.887346343809524

00:53:00.292 --> 00:53:02.365 question of whether genetic variation

NOTE Confidence: 0.887346343809524

00:53:02.365 --> 00:53:05.185 associated with PTSD risk may be

NOTE Confidence: 0.887346343809524

00:53:05.185 --> 00:53:07.200 influenced by environmental factors.

NOTE Confidence: 0.887346343809524

00:53:07.200 --> 00:53:10.485 This work was led by Amanda Tamon and in

NOTE Confidence: 0.887346343809524

00:53:10.485 --> 00:53:12.124 collaboration with Renato's Polianthes

NOTE Confidence: 0.887346343809524

00:53:12.124 --> 00:53:14.926 Group for these polygenic risk course,

NOTE Confidence: 0.887346343809524

00:53:14.930 --> 00:53:17.877 which is a summary of the genetic

NOTE Confidence: 0.887346343809524

00:53:17.877 --> 00:53:19.740 associations calculated based on

NOTE Confidence: 0.887346343809524

00:53:19.740 --> 00:53:22.140 recent large scale genome wide

NOTE Confidence: 0.887346343809524

00:53:22.140 --> 00:53:23.808 association studies and evaluating

NOTE Confidence: 0.887346343809524

00:53:23.808 --> 00:53:25.578 the effects of attachment style.

NOTE Confidence: 0.887346343809524

00:53:25.580 --> 00:53:28.370 We found that attachment style moderates.

NOTE Confidence: 0.887346343809524

00:53:28.370 --> 00:53:30.700 The polygenic risk for both

NOTE Confidence: 0.887346343809524

00:53:30.700 --> 00:53:32.564 lifetime and current PTSD.

NOTE Confidence: 0.887346343809524

00:53:32.570 --> 00:53:34.330 When evaluating polygenic risk

NOTE Confidence: 0.887346343809524

00:53:34.330 --> 00:53:36.090 of different PTSD symptoms,

NOTE Confidence: 0.887346343809524

00:53:36.090 --> 00:53:38.735 we found that higher reexperiencing

NOTE Confidence: 0.887346343809524

00:53:38.735 --> 00:53:41.380 PRS is associated with greater

NOTE Confidence: 0.887346343809524

00:53:41.464 --> 00:53:43.548 severity of PTSD symptoms,

NOTE Confidence: 0.887346343809524

00:53:43.550 --> 00:53:46.556 and this was an effect of served only in

NOTE Confidence: 0.887346343809524

00:53:46.556 --> 00:53:49.287 veterans with an insecure attachment style.

NOTE Confidence: 0.887346343809524

00:53:49.290 --> 00:53:51.768 We also evaluated this using a Jeep

NOTE Confidence: 0.887346343809524

00:53:51.768 --> 00:53:54.856 IE model and found that PRS by

NOTE Confidence: 0.887346343809524

00:53:54.856 --> 00:53:56.804 attachment style interaction was

NOTE Confidence: 0.887346343809524

00:53:56.804 --> 00:53:59.109 associated with greater severity.

NOTE Confidence: 0.887346343809524

00:53:59.110 --> 00:54:02.704 Of PTSD symptoms to disentangle the

NOTE Confidence: 0.887346343809524

00:54:02.704 --> 00:54:04.501 relationship between attachment

NOTE Confidence: 0.887346343809524

00:54:04.501 --> 00:54:07.529 style and PTSD and investigate

NOTE Confidence: 0.887346343809524

00:54:07.529 --> 00:54:09.287 potential causal effects.

NOTE Confidence: 0.887346343809524

00:54:09.290 --> 00:54:11.446 We conducted middler randomization

NOTE Confidence: 0.887346343809524

00:54:11.446 --> 00:54:14.141 analysis and found that these

NOTE Confidence: 0.887346343809524

00:54:14.141 --> 00:54:16.650 relationship was actually bidirectional.

NOTE Confidence: 0.887346343809524

00:54:16.650 --> 00:54:17.370 In summary,

NOTE Confidence: 0.887346343809524

00:54:17.370 --> 00:54:19.170 the work described showed the

NOTE Confidence: 0.887346343809524

00:54:19.170 --> 00:54:21.244 contributions in the understanding of

NOTE Confidence: 0.887346343809524

00:54:21.244 --> 00:54:23.104 the biological underpinnings underlying

NOTE Confidence: 0.887346343809524

00:54:23.104 --> 00:54:26.129 the gene by environment influences on PTSD,

NOTE Confidence: 0.887346343809524

00:54:26.130 --> 00:54:28.848 specifically in a US veteran population.

NOTE Confidence: 0.81843266

00:54:30.580 --> 00:54:31.940 Thank you so much, Janice.

NOTE Confidence: 0.81843266

00:54:31.940 --> 00:54:34.250 And I'll also just comment when I

NOTE Confidence: 0.81843266

00:54:34.250 --> 00:54:36.200 first showed Steve these figures,

NOTE Confidence: 0.81843266

00:54:36.200 --> 00:54:37.916 how excited he was given just

NOTE Confidence: 0.81843266

00:54:37.916 --> 00:54:39.745 how powerful the effect of social

NOTE Confidence: 0.81843266

00:54:39.745 --> 00:54:41.623 connection and in this case attachment

NOTE Confidence: 0.81843266

00:54:41.623 --> 00:54:43.444 style has been in our studies and

NOTE Confidence: 0.81843266

00:54:43.444 --> 00:54:45.412 to to here to show basically that

NOTE Confidence: 0.81843266

00:54:45.412 --> 00:54:47.492 it's even under conditions of

NOTE Confidence: 0.81843266

00:54:47.492 --> 00:54:49.718 very high polygenic risk for PTSD,

NOTE Confidence: 0.81843266

00:54:49.720 --> 00:54:51.650 you basically don't see an

NOTE Confidence: 0.81843266

00:54:51.650 --> 00:54:53.700 elevation and risk for the disorder.

NOTE Confidence: 0.81843266

00:54:53.700 --> 00:54:56.110 So he was absolutely ecstatic

NOTE Confidence: 0.81843266

00:54:56.110 --> 00:54:57.556 about this finding.

NOTE Confidence: 0.81843266

00:54:57.560 --> 00:54:59.020 So in the next section,

NOTE Confidence: 0.81843266

00:54:59.020 --> 00:55:01.396 I'm going to go back to this negative

NOTE Confidence: 0.81843266

00:55:01.396 --> 00:55:03.957 bias that we've had in the the trauma

NOTE Confidence: 0.81843266

00:55:03.957 --> 00:55:06.290 literature and is this question that

NOTE Confidence: 0.81843266

00:55:06.290 --> 00:55:08.298 PTSD is it always doom and gloom?

NOTE Confidence: 0.81843266

00:55:08.300 --> 00:55:10.658 So as you saw when I started with the

NOTE Confidence: 0.81843266

00:55:10.658 --> 00:55:12.867 slide on all the negative concepts

NOTE Confidence: 0.81843266

00:55:12.867 --> 00:55:14.752 associated with people with PTSD,

NOTE Confidence: 0.81843266

00:55:14.760 --> 00:55:16.730 there's a preponderance of evidence

NOTE Confidence: 0.81843266

00:55:16.730 --> 00:55:18.700 negatively valenced in this literature

NOTE Confidence: 0.81843266

00:55:18.758 --> 00:55:20.568 linking PTSD to negative outcomes.

NOTE Confidence: 0.81843266

00:55:20.570 --> 00:55:23.066 So this includes psychiatric

NOTE Confidence: 0.81843266

00:55:23.066 --> 00:55:24.938 comorbidities and suicide,

NOTE Confidence: 0.81843266

00:55:24.940 --> 00:55:26.263 physical health problems

NOTE Confidence: 0.81843266

00:55:26.263 --> 00:55:27.586 such as cardiovascular.

NOTE Confidence: 0.81843266

00:55:27.590 --> 00:55:29.230 Disease and functional difficulties

NOTE Confidence: 0.81843266

00:55:29.230 --> 00:55:31.280 in various life domains and

NOTE Confidence: 0.81843266

00:55:31.280 --> 00:55:33.129 as janita just mentioned,

NOTE Confidence: 0.81843266

00:55:33.130 --> 00:55:35.440 also has been linked to a twofold

NOTE Confidence: 0.81843266

00:55:35.440 --> 00:55:37.480 increase in accelerated epigenetic aging.

NOTE Confidence: 0.81843266

00:55:37.480 --> 00:55:39.870 And there's also evidence linking

NOTE Confidence: 0.81843266

00:55:39.870 --> 00:55:41.304 PTSD early mortality.

NOTE Confidence: 0.81843266

00:55:41.310 --> 00:55:42.408 But one of the questions that

NOTE Confidence: 0.81843266

00:55:42.408 --> 00:55:43.790 Steve and I are very interested

NOTE Confidence: 0.81843266

00:55:43.790 --> 00:55:45.930 in is could there potentially be

NOTE Confidence: 0.81843266

00:55:45.930 --> 00:55:48.305 a silver lining to PTSD?

NOTE Confidence: 0.81843266

00:55:48.310 --> 00:55:51.222 Is it possible that living with PTSD

NOTE Confidence: 0.81843266

00:55:51.222 --> 00:55:53.920 may help foster positive psychological

NOTE Confidence: 0.81843266

00:55:53.920 --> 00:55:56.644 changes and potentially also

NOTE Confidence: 0.81843266

00:55:56.644 --> 00:55:59.368 resilience to subsequent traumas?

NOTE Confidence: 0.81843266

00:55:59.370 --> 00:56:00.924 So this is not a new idea.

NOTE Confidence: 0.81843266

00:56:00.930 --> 00:56:03.252 This notion that suffering can be

NOTE Confidence: 0.81843266

00:56:03.252 --> 00:56:04.413 potentially transformative has

NOTE Confidence: 0.81843266

00:56:04.413 --> 00:56:06.772 been embraced by ancient spiritual

NOTE Confidence: 0.81843266

00:56:06.772 --> 00:56:08.143 religious traditions, literature,

NOTE Confidence: 0.81843266

00:56:08.143 --> 00:56:08.556 philosophy,

NOTE Confidence: 0.81843266

00:56:08.556 --> 00:56:11.447 and ideas and writings of ancient Hebrews,

NOTE Confidence: 0.81843266

00:56:11.450 --> 00:56:12.701 Greeks, early Christians,

NOTE Confidence: 0.81843266

00:56:12.701 --> 00:56:15.203 as well as teachings of Hinduism,

NOTE Confidence: 0.81843266

00:56:15.210 --> 00:56:18.228 Buddhism and Islam.

NOTE Confidence: 0.81843266

00:56:18.230 --> 00:56:18.956 For example,

NOTE Confidence: 0.81843266

00:56:18.956 --> 00:56:20.408 the Greek philosopher Aristotle

NOTE Confidence: 0.81843266

00:56:20.408 --> 00:56:23.070 said that it is during our darkest,

NOTE Confidence: 0.81843266

00:56:23.070 --> 00:56:25.956 darkest moments that we must focus

NOTE Confidence: 0.81843266

00:56:25.956 --> 00:56:27.880 to see the light.

NOTE Confidence: 0.81843266

00:56:27.880 --> 00:56:29.920 The philosopher Charlie Brown has

NOTE Confidence: 0.81843266

00:56:29.920 --> 00:56:32.402 also tried to convince Lucy that

NOTE Confidence: 0.81843266

00:56:32.402 --> 00:56:34.634 adversity is what makes us mature.

NOTE Confidence: 0.81843266

00:56:34.640 --> 00:56:38.168 The growing soul is watered best

NOTE Confidence: 0.81843266

00:56:38.168 --> 00:56:40.520 by tears of sadness.

NOTE Confidence: 0.81843266

00:56:40.520 --> 00:56:42.290 So we've published a number of

NOTE Confidence: 0.81843266

00:56:42.290 --> 00:56:44.268 articles in this area as well

NOTE Confidence: 0.81843266

00:56:44.268 --> 00:56:46.482 and including some of the first

NOTE Confidence: 0.81843266

00:56:46.482 --> 00:56:47.915 nationally representative studies to

NOTE Confidence: 0.81843266

00:56:47.915 --> 00:56:50.141 look at post traumatic growth in a

NOTE Confidence: 0.81843266

00:56:50.141 --> 00:56:52.840 population based sample of military veterans.

NOTE Confidence: 0.81843266

00:56:52.840 --> 00:56:55.339 And most recently and and Steve was

NOTE Confidence: 0.81843266

00:56:55.339 --> 00:56:57.795 very proud of this paper showing

NOTE Confidence: 0.81843266

00:56:57.795 --> 00:57:00.417 that the the pandemic was associated

NOTE Confidence: 0.81843266

00:57:00.417 --> 00:57:03.189 with positive psychological changes.

NOTE Confidence: 0.81843266

00:57:03.190 --> 00:57:05.269 So what is this idea of post

NOTE Confidence: 0.81843266

00:57:05.269 --> 00:57:05.863 traumatic growth?

NOTE Confidence: 0.81843266

00:57:05.870 --> 00:57:07.906 So these are positive,

NOTE Confidence: 0.81843266

00:57:07.906 --> 00:57:09.433 meaningful psychological changes

NOTE Confidence: 0.81843266

00:57:09.433 --> 00:57:11.839 that an individual can experience

NOTE Confidence: 0.81843266

00:57:11.839 --> 00:57:14.269 as a result of struggling with

NOTE Confidence: 0.81843266

00:57:14.269 --> 00:57:16.669 traumatic and stressful life events.

NOTE Confidence: 0.81843266

00:57:16.670 --> 00:57:18.025 These are the various domains

NOTE Confidence: 0.81843266

00:57:18.025 --> 00:57:19.109 that have been identified.

NOTE Confidence: 0.81843266

00:57:19.110 --> 00:57:22.006 The first five have been or considered the

NOTE Confidence: 0.81843266

00:57:22.006 --> 00:57:24.250 original dimensions of post traumatic growth,

NOTE Confidence: 0.81843266

00:57:24.250 --> 00:57:25.842 increased appreciation of life,

NOTE Confidence: 0.81843266

00:57:25.842 --> 00:57:27.832 greater sense of personal strength

NOTE Confidence: 0.81843266

00:57:27.832 --> 00:57:28.690 and coping,

NOTE Confidence: 0.81843266

00:57:28.690 --> 00:57:29.498 self efficacy,

NOTE Confidence: 0.81843266

00:57:29.498 --> 00:57:32.326 embracing a future paths for one's life.

NOTE Confidence: 0.81843266

00:57:32.330 --> 00:57:34.808 We're seeing new possibilities after trauma,

NOTE Confidence: 0.81843266

00:57:34.810 --> 00:57:37.334 experiencing a renewed appreciation

NOTE Confidence: 0.81843266

00:57:37.334 --> 00:57:39.227 for interpersonal relationships,

NOTE Confidence: 0.81843266

00:57:39.230 --> 00:57:40.870 positive spiritual changes and the

NOTE Confidence: 0.81843266

00:57:40.870 --> 00:57:43.104 the two here were actually added more

NOTE Confidence: 0.81843266

00:57:43.104 --> 00:57:44.987 more recently in the past five years

NOTE Confidence: 0.81843266

00:57:44.987 --> 00:57:46.870 or so that one might experience.

NOTE Confidence: 0.879466005238095

00:57:46.870 --> 00:57:49.006 Increase in compassion and altruism and

NOTE Confidence: 0.879466005238095

00:57:49.006 --> 00:57:51.972 and and a tendency to want to give back

NOTE Confidence: 0.879466005238095

00:57:51.972 --> 00:57:53.940 to others and also creative growth.

NOTE Confidence: 0.879466005238095

00:57:53.940 --> 00:57:56.364 And this came up largely in the context

NOTE Confidence: 0.879466005238095

00:57:56.364 --> 00:57:58.779 of the pandemic where many individuals

NOTE Confidence: 0.879466005238095

00:57:58.779 --> 00:58:01.389 took on new hobbies and interests.

NOTE Confidence: 0.879466005238095

00:58:01.390 --> 00:58:03.588 And one of our earlier studies we

NOTE Confidence: 0.879466005238095

00:58:03.588 --> 00:58:05.820 found that 50% of veterans reported

NOTE Confidence: 0.879466005238095

00:58:05.820 --> 00:58:07.970 experiencing post traumatic growth and

NOTE Confidence: 0.879466005238095

00:58:07.970 --> 00:58:10.388 some of the independent correlates

NOTE Confidence: 0.879466005238095

00:58:10.388 --> 00:58:13.358 and drivers of post traumatic growth

NOTE Confidence: 0.879466005238095

00:58:13.358 --> 00:58:15.150 interestingly were re experiencing

NOTE Confidence: 0.879466005238095

00:58:15.150 --> 00:58:17.200 or intrusive symptoms of PTSD.

NOTE Confidence: 0.879466005238095

00:58:17.200 --> 00:58:18.760 Which suggests that there has to

NOTE Confidence: 0.879466005238095

00:58:18.760 --> 00:58:20.380 be this struggle with the trauma,

NOTE Confidence: 0.879466005238095

00:58:20.380 --> 00:58:22.270 which potentially can then lead to

NOTE Confidence: 0.879466005238095

00:58:22.270 --> 00:58:24.406 a reappraisal of it and potentially

NOTE Confidence: 0.879466005238095

00:58:24.406 --> 00:58:26.854 also a reintegration of that traumatic

NOTE Confidence: 0.879466005238095

00:58:26.854 --> 00:58:28.958 experience into one's life narrative.

NOTE Confidence: 0.879466005238095

00:58:28.960 --> 00:58:31.126 Importantly this has to happen in

NOTE Confidence: 0.879466005238095

00:58:31.126 --> 00:58:33.279 the context of support of others.

NOTE Confidence: 0.879466005238095

00:58:33.280 --> 00:58:35.290 Rich Tedeschi and others who have

NOTE Confidence: 0.879466005238095

00:58:35.290 --> 00:58:37.004 largely developed this concept have

NOTE Confidence: 0.879466005238095

00:58:37.004 --> 00:58:38.888 long argued for the importance of

NOTE Confidence: 0.879466005238095

00:58:38.888 --> 00:58:40.886 social connection and strong sense of

NOTE Confidence: 0.879466005238095

00:58:40.886 --> 00:58:42.878 purpose and these solution genic factors.

NOTE Confidence: 0.879466005238095

00:58:42.880 --> 00:58:46.163 And similarly we see these emerging as

NOTE Confidence: 0.879466005238095

00:58:46.163 --> 00:58:49.498 key correlates of post traumatic growth.

NOTE Confidence: 0.879466005238095

00:58:49.500 --> 00:58:52.496 When we look among veterans with PTSD,

NOTE Confidence: 0.879466005238095

00:58:52.500 --> 00:58:54.340 they're actually more likely to

NOTE Confidence: 0.879466005238095

00:58:54.340 --> 00:58:55.812 experience post traumatic growth.

NOTE Confidence: 0.879466005238095

00:58:55.820 --> 00:58:58.277 We see about 3/4 of veterans with

NOTE Confidence: 0.879466005238095

00:58:58.277 --> 00:58:59.780 PTSD who were poor,

NOTE Confidence: 0.879466005238095

00:58:59.780 --> 00:59:01.436 at least moderate or higher levels

NOTE Confidence: 0.879466005238095

00:59:01.436 --> 00:59:02.540 of post traumatic growth.

NOTE Confidence: 0.879466005238095

00:59:02.540 --> 00:59:04.696 And this was Steve's idea to say,

NOTE Confidence: 0.879466005238095

00:59:04.700 --> 00:59:06.536 even in the context of PTSD,

NOTE Confidence: 0.879466005238095

00:59:06.540 --> 00:59:08.118 if you have post traumatic growth,

NOTE Confidence: 0.879466005238095

00:59:08.120 --> 00:59:09.452 are you functioning better?

NOTE Confidence: 0.879466005238095

00:59:09.452 --> 00:59:12.038 And indeed, that does happen to be the case.

NOTE Confidence: 0.879466005238095

00:59:12.040 --> 00:59:14.490 Veterans who had PTSD and post traumatic

NOTE Confidence: 0.879466005238095

00:59:14.490 --> 00:59:16.276 growth actually scored better on

NOTE Confidence: 0.879466005238095

00:59:16.276 --> 00:59:17.971 measures of mental functioning than

NOTE Confidence: 0.879466005238095

00:59:17.971 --> 00:59:19.989 those with PTSD who did not have.

NOTE Confidence: 0.879466005238095

00:59:19.990 --> 00:59:22.558 Post traumatic growth and So what we observe,

NOTE Confidence: 0.879466005238095

00:59:22.560 --> 00:59:24.653 and these are empirical data where we

NOTE Confidence: 0.879466005238095

00:59:24.653 --> 00:59:27.037 try to fit the the the association

NOTE Confidence: 0.879466005238095

00:59:27.037 --> 00:59:29.167 between the level of PTSD symptom

NOTE Confidence: 0.879466005238095

00:59:29.236 --> 00:59:31.416 severity and post traumatic growth,

NOTE Confidence: 0.879466005238095

00:59:31.420 --> 00:59:34.480 we see this inverted U-shaped association.

NOTE Confidence: 0.879466005238095

00:59:34.480 --> 00:59:37.060 So growth is really maximized right

NOTE Confidence: 0.879466005238095

00:59:37.060 --> 00:59:39.220 around this moderate threshold of

NOTE Confidence: 0.879466005238095

00:59:39.220 --> 00:59:39.958 PTSD symptoms.

NOTE Confidence: 0.879466005238095

00:59:39.960 --> 00:59:41.984 And so if you have too few symptoms,

NOTE Confidence: 0.879466005238095

00:59:41.990 --> 00:59:43.859 there's really nothing to grow from and

NOTE Confidence: 0.879466005238095

00:59:43.859 --> 00:59:45.688 once you exceed a certain threshold,

NOTE Confidence: 0.879466005238095

00:59:45.690 --> 00:59:47.180 you've reached the point of

NOTE Confidence: 0.879466005238095

00:59:47.180 --> 00:59:47.776 diminishing return.

NOTE Confidence: 0.879466005238095

00:59:47.780 --> 00:59:49.394 So really this is the sweet

NOTE Confidence: 0.879466005238095

00:59:49.394 --> 00:59:50.900 spot of post traumatic growth.

NOTE Confidence: 0.879466005238095

00:59:50.900 --> 00:59:52.586 Just right around that moderate threshold.

NOTE Confidence: 0.879466005238095

00:59:52.590 --> 00:59:53.282 And interestingly,

NOTE Confidence: 0.879466005238095

00:59:53.282 --> 00:59:55.704 this happens to be right around the

NOTE Confidence: 0.879466005238095

00:59:55.704 --> 00:59:57.321 threshold that we typically impose

NOTE Confidence: 0.879466005238095

00:59:57.321 --> 00:59:59.139 for a positive screen for PTSD.

NOTE Confidence: 0.8891727375

01:00:01.330 --> 01:00:03.658 Importantly, we've also found that post

NOTE Confidence: 0.8891727375

01:00:03.658 --> 01:00:05.820 traumatic growth can fluctuate over time.

NOTE Confidence: 0.8891727375

01:00:05.820 --> 01:00:07.986 About 60% report stable post traumatic

NOTE Confidence: 0.8891727375

01:00:07.986 --> 01:00:10.270 growth over a two year period,

NOTE Confidence: 0.8891727375

01:00:10.270 --> 01:00:13.126 and it's maintained by PTSD symptoms,

NOTE Confidence: 0.8891727375

01:00:13.130 --> 01:00:14.806 most notably intrusive thoughts.

NOTE Confidence: 0.8891727375

01:00:14.806 --> 01:00:16.901 But also these Saluda genic

NOTE Confidence: 0.8891727375

01:00:16.901 --> 01:00:18.368 factors purpose in life,

NOTE Confidence: 0.8891727375

01:00:18.370 --> 01:00:20.230 altruism, gratitude, religiosity,

NOTE Confidence: 0.8891727375

01:00:20.230 --> 01:00:22.090 and active lifestyle,

NOTE Confidence: 0.8891727375

01:00:22.090 --> 01:00:25.758 which is likely linked to active coping.

NOTE Confidence: 0.8891727375

01:00:25.760 --> 01:00:27.846 And this is a question that that

NOTE Confidence: 0.8891727375

01:00:27.846 --> 01:00:30.018 Steve posed and we ended up being

NOTE Confidence: 0.8891727375

01:00:30.018 --> 01:00:32.242 very interested and he was very proud

NOTE Confidence: 0.8891727375

01:00:32.242 --> 01:00:34.587 of this finding is that is post

NOTE Confidence: 0.8891727375

01:00:34.587 --> 01:00:36.910 traumatic growth an end in and of

NOTE Confidence: 0.8891727375

01:00:36.910 --> 01:00:39.268 itself or can it serve potentially as

NOTE Confidence: 0.8891727375

01:00:39.268 --> 01:00:41.090 somewhat of a psychological shield,

NOTE Confidence: 0.8891727375

01:00:41.090 --> 01:00:42.338 if you will,

NOTE Confidence: 0.8891727375

01:00:42.338 --> 01:00:44.002 to promoting resilience to

NOTE Confidence: 0.8891727375

01:00:44.002 --> 01:00:44.834 subsequent traumas?

NOTE Confidence: 0.8891727375

01:00:44.840 --> 01:00:47.143 And so we looked at this empirically

NOTE Confidence: 0.8891727375

01:00:47.143 --> 01:00:49.080 using the longitudinal nerves data set

NOTE Confidence: 0.8891727375

01:00:49.080 --> 01:00:51.152 and we found that indeed veterans who

NOTE Confidence: 0.8891727375

01:00:51.208 --> 01:00:53.218 reported a greater sense of personal

NOTE Confidence: 0.8891727375

01:00:53.218 --> 01:00:55.562 strength in relation to a trauma that.

NOTE Confidence: 0.8891727375

01:00:55.562 --> 01:00:57.566 Occurred more than 25 years earlier,

NOTE Confidence: 0.8891727375

01:00:57.570 --> 01:00:59.655 we're actually substantially less likely

NOTE Confidence: 0.8891727375

01:00:59.655 --> 01:01:03.180 to develop PTSD to a new traumatic event,

NOTE Confidence: 0.8891727375

01:01:03.180 --> 01:01:05.105 and this is a pretty strong effect.

NOTE Confidence: 0.8891727375

01:01:05.110 --> 01:01:07.420 For each standard deviation unit increase,

NOTE Confidence: 0.8891727375

01:01:07.420 --> 01:01:10.402 we saw a 32% lower likelihood

NOTE Confidence: 0.8891727375

01:01:10.402 --> 01:01:11.893 of developing PTSD.

NOTE Confidence: 0.8891727375

01:01:11.900 --> 01:01:13.600 So it's underscores the importance

NOTE Confidence: 0.8891727375

01:01:13.600 --> 01:01:16.032 I think of looking at these

NOTE Confidence: 0.8891727375

01:01:16.032 --> 01:01:17.368 constructs interchangeably.

NOTE Confidence: 0.8891727375

01:01:17.370 --> 01:01:19.130 So resilience, post traumatic growth,

NOTE Confidence: 0.8891727375

01:01:19.130 --> 01:01:21.160 PTSD and what it suggests to us

NOTE Confidence: 0.8891727375

01:01:21.160 --> 01:01:23.291 is that post traumatic growth even

NOTE Confidence: 0.8891727375

01:01:23.291 --> 01:01:25.667 in the presence of Co occurring.

NOTE Confidence: 0.8891727375

01:01:25.670 --> 01:01:28.076 PTSD symptoms may help an individual

NOTE Confidence: 0.8891727375

01:01:28.076 --> 01:01:30.291 develop coping skills to better

NOTE Confidence: 0.8891727375

01:01:30.291 --> 01:01:31.917 manage subsequent traumas.

NOTE Confidence: 0.8891727375

01:01:31.920 --> 01:01:33.858 There's now a program that's been

NOTE Confidence: 0.8891727375

01:01:33.858 --> 01:01:35.150 developed called Boulder Crest

NOTE Confidence: 0.8891727375

01:01:35.202 --> 01:01:36.876 by Rich Tedeschi, Steve and I.

NOTE Confidence: 0.8891727375

01:01:36.876 --> 01:01:37.964 Unfortunately, before he passed,

NOTE Confidence: 0.8891727375

01:01:37.970 --> 01:01:38.806 we we, we hadn't.

NOTE Confidence: 0.8891727375

01:01:38.806 --> 01:01:40.717 We had reached out to rich to to

NOTE Confidence: 0.8891727375

01:01:40.717 --> 01:01:42.237 potentially go there and actually

NOTE Confidence: 0.8891727375

01:01:42.237 --> 01:01:43.149 experience the training.

NOTE Confidence: 0.8891727375

01:01:43.150 --> 01:01:44.795 And these are veterans who've tried all

NOTE Confidence: 0.8891727375

01:01:44.795 --> 01:01:46.380 kinds of treatments and nothing's worked.

NOTE Confidence: 0.8891727375

01:01:46.380 --> 01:01:47.516 But the BOULDERCREST program

NOTE Confidence: 0.8891727375

01:01:47.516 --> 01:01:48.936 really centers around the themes

NOTE Confidence: 0.8891727375

01:01:48.936 --> 01:01:50.239 of post traumatic growth.

NOTE Confidence: 0.8891727375

01:01:50.240 --> 01:01:52.136 It's not pushing the trauma away,

NOTE Confidence: 0.8891727375

01:01:52.140 --> 01:01:53.284 but growing from it,

NOTE Confidence: 0.8891727375

01:01:53.284 --> 01:01:54.714 benefiting from it and moving

NOTE Confidence: 0.8891727375

01:01:54.714 --> 01:01:56.190 on and incorporating it.

NOTE Confidence: 0.8891727375

01:01:56.190 --> 01:01:57.000 Into one's life.

NOTE Confidence: 0.851041104285714

01:01:59.250 --> 01:02:00.755 I also want to comment on Steve.

NOTE Confidence: 0.851041104285714

01:02:00.760 --> 01:02:03.312 Just incredible contributions and

NOTE Confidence: 0.851041104285714

01:02:03.312 --> 01:02:06.502 productivity during the COVID pandemic.

NOTE Confidence: 0.851041104285714

01:02:06.510 --> 01:02:08.617 Steve was a member of the Yale

NOTE Confidence: 0.851041104285714

01:02:08.617 --> 01:02:10.210 COVID-19 Mental Health Task Force,

NOTE Confidence: 0.851041104285714

01:02:10.210 --> 01:02:11.738 the Mount Sinai COVID-19

NOTE Confidence: 0.851041104285714

01:02:11.738 --> 01:02:13.266 mental health research team,

NOTE Confidence: 0.851041104285714

01:02:13.270 --> 01:02:15.926 which he of course wrote me into and

NOTE Confidence: 0.851041104285714

01:02:15.926 --> 01:02:18.455 was heavily involved in in several of

NOTE Confidence: 0.851041104285714

01:02:18.455 --> 01:02:20.950 our national studies on US veterans.

NOTE Confidence: 0.851041104285714

01:02:20.950 --> 01:02:24.190 I looked and and she's published 18 papers,

NOTE Confidence: 0.851041104285714

01:02:24.190 --> 01:02:26.162 including three perspective pieces,

NOTE Confidence: 0.851041104285714

01:02:26.162 --> 01:02:28.134 including one incredibly well

NOTE Confidence: 0.851041104285714

01:02:28.134 --> 01:02:30.342 written and and, you know,

NOTE Confidence: 0.851041104285714

01:02:30.342 --> 01:02:33.464 forward Thinking Piece published in JAMA on

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01:02:33.464 --> 01:02:37.038 the pandemic related post traumatic growth.

01:02:37.040 --> 01:02:39.007 Highly encourage folks to read that if

01:02:39.007 --> 01:02:40.510 they're interested in this concept.

01:02:40.510 --> 01:02:42.854 And of course he was doing this all

01:02:42.854 --> 01:02:44.459 while undergoing intensive treatment

01:02:44.459 --> 01:02:46.375 for metastatic prostate cancer.

01:02:46.380 --> 01:02:47.156 Absolutely amazing.

01:02:47.156 --> 01:02:49.872 I'm going to play a brief clip

01:02:49.872 --> 01:02:51.799 on video clip of Steve.

01:02:51.800 --> 01:02:54.160 I think we need his voice with us.

01:02:54.160 --> 01:02:56.032 This was from last year's grand

01:02:56.032 --> 01:02:57.962 rounds when John had asked for

01:02:57.962 --> 01:03:00.216 members of the faculty and and staff

01:03:00.216 --> 01:03:02.070 and Yale psychiatry to describe

01:03:02.070 --> 01:03:04.737 what the pandemic meant to to them.

01:03:04.740 --> 01:03:06.162 And what really strikes me about

NOTE Confidence: 0.851041104285714

01:03:06.162 --> 01:03:06.873 this is just.

NOTE Confidence: 0.851041104285714

01:03:06.880 --> 01:03:09.029 So grateful Steve was to be involved

NOTE Confidence: 0.851041104285714

01:03:09.029 --> 01:03:12.181 and to be part of the teams that were

NOTE Confidence: 0.851041104285714

01:03:12.181 --> 01:03:14.422 involved in doing research around the

NOTE Confidence: 0.851041104285714

01:03:14.422 --> 01:03:16.963 COVID pandemic and the response to it.

NOTE Confidence: 0.07820135

01:03:25.090 --> 01:03:29.630 Everyone. With you.

NOTE Confidence: 0.07820135

01:03:29.630 --> 01:03:33.686 I retired over two years ago.

NOTE Confidence: 0.07820135

01:03:33.690 --> 01:03:36.889 During my entire social movie revolved around

NOTE Confidence: 0.07820135

01:03:36.889 --> 01:03:41.080 the outside psychiatry department and the.

NOTE Confidence: 0.07820135

01:03:41.080 --> 01:03:43.546 He no longer had a novels.

NOTE Confidence: 0.07820135

01:03:43.550 --> 01:03:46.880 Good reasons to visit him.

NOTE Confidence: 0.07820135

01:03:46.880 --> 01:03:49.310 On regular basis.

NOTE Confidence: 0.07820135

01:03:49.310 --> 01:03:51.946 And with the start of COVID, it looked as

NOTE Confidence: 0.07820135

01:03:51.946 --> 01:03:55.250 if the situation would get even worse.

NOTE Confidence: 0.07820135

01:03:55.250 --> 01:03:58.212 I also started to feel guilty about not

NOTE Confidence: 0.07820135

01:03:58.212 --> 01:04:01.340 being in the hospital on the front line.

NOTE Confidence: 0.07820135

01:04:01.340 --> 01:04:04.730 I mean no way to contribute.

NOTE Confidence: 0.07820135

01:04:04.730 --> 01:04:07.586 I like being on the front line.

NOTE Confidence: 0.07820135

01:04:07.590 --> 01:04:11.214 And felt that my role as a physician

NOTE Confidence: 0.07820135

01:04:11.214 --> 01:04:15.108 who caretaker. He's slipping away.

NOTE Confidence: 0.07820135

01:04:15.110 --> 01:04:18.356 Even when I try to internalize

NOTE Confidence: 0.07820135

01:04:18.356 --> 01:04:20.520 my father's lifelong model.

NOTE Confidence: 0.07820135

01:04:20.520 --> 01:04:23.436 I'm not OK. You're not OK.

NOTE Confidence: 0.07820135

01:04:23.440 --> 01:04:30.198 It's OK. I still felt pretty.

NOTE Confidence: 0.07820135

01:04:30.200 --> 01:04:32.140 In China.

NOTE Confidence: 0.07820135

01:04:32.140 --> 01:04:34.648 He asked if I would consider

NOTE Confidence: 0.07820135

01:04:34.648 --> 01:04:37.437 becoming a member of a COVID-19

NOTE Confidence: 0.07820135

01:04:37.437 --> 01:04:39.485 mental health task force.

NOTE Confidence: 0.07820135

01:04:39.490 --> 01:04:40.266 It's meaningful.

NOTE Confidence: 0.07820135

01:04:40.266 --> 01:04:43.370 And ask if I'm right joiner to give

NOTE Confidence: 0.07820135

01:04:43.451 --> 01:04:46.166 a talk about resilience to PA and,

NOTE Confidence: 0.07820135

01:04:46.166 --> 01:04:46.830 you know,

NOTE Confidence: 0.07820135

01:04:46.830 --> 01:04:47.610 interests.

NOTE Confidence: 0.625457977142857

01:04:49.750 --> 01:04:52.676 And I got married to them again.

NOTE Confidence: 0.625457977142857

01:04:52.680 --> 01:04:56.210 My partner is 20 years.

NOTE Confidence: 0.625457977142857

01:04:56.210 --> 01:04:58.619 I was back.

NOTE Confidence: 0.625457977142857

01:04:58.620 --> 01:05:00.220 That was my teenage.

NOTE Confidence: 0.625457977142857

01:05:00.220 --> 01:05:03.290 That was what we need since August.

NOTE Confidence: 0.625457977142857

01:05:03.290 --> 01:05:05.690 Perhaps I could contribute,

NOTE Confidence: 0.625457977142857

01:05:05.690 --> 01:05:09.290 even if in a small way.

NOTE Confidence: 0.625457977142857

01:05:09.290 --> 01:05:13.140 Which brings to mind Helen Keller's please.

NOTE Confidence: 0.625457977142857

01:05:13.140 --> 01:05:14.980 I longed to accomplish

NOTE Confidence: 0.625457977142857

01:05:14.980 --> 01:05:16.820 great and noble task,

NOTE Confidence: 0.625457977142857

01:05:16.820 --> 01:05:19.272 but it is my chief duty to

NOTE Confidence: 0.625457977142857

01:05:19.272 --> 01:05:21.232 accomplish small tasks as if

NOTE Confidence: 0.625457977142857

01:05:21.232 --> 01:05:23.340 they were great and noble.

NOTE Confidence: 0.827775056190476

01:05:25.970 --> 01:05:28.946 And recently I learned that the

NOTE Confidence: 0.827775056190476

01:05:28.946 --> 01:05:30.930 Yale Department of Psychiatry

NOTE Confidence: 0.827775056190476

01:05:31.020 --> 01:05:33.654 has been rated the number one

NOTE Confidence: 0.827775056190476

01:05:33.654 --> 01:05:36.070 department in the United States.

NOTE Confidence: 0.827775056190476

01:05:36.070 --> 01:05:38.458 Just thinking about it.

NOTE Confidence: 0.827775056190476

01:05:38.460 --> 01:05:41.732 You and I have the opportunity to work

NOTE Confidence: 0.827775056190476

01:05:41.732 --> 01:05:44.849 for great department whose clinical,

NOTE Confidence: 0.827775056190476

01:05:44.850 --> 01:05:49.106 educational and research mission is to help

NOTE Confidence: 0.827775056190476

01:05:49.106 --> 01:05:53.708 those who are suffering mental illness.

NOTE Confidence: 0.827775056190476

01:05:53.710 --> 01:05:55.048 What could be better than that?

NOTE Confidence: 0.819625371666667

01:05:57.440 --> 01:05:59.150 So this year, in a way,

NOTE Confidence: 0.819625371666667

01:05:59.150 --> 01:06:00.930 I rejoined the department

NOTE Confidence: 0.819625371666667

01:06:00.930 --> 01:06:03.155 by joining the task force,

NOTE Confidence: 0.819625371666667

01:06:03.160 --> 01:06:05.905 giving the talk with his meaning and

NOTE Confidence: 0.819625371666667

01:06:05.905 --> 01:06:09.055 also teaming up with colleagues to

NOTE Confidence: 0.819625371666667

01:06:09.055 --> 01:06:12.488 investigate the impact of the pandemic

NOTE Confidence: 0.819625371666667

01:06:12.488 --> 01:06:14.848 on frontline healthcare workers.

NOTE Confidence: 0.819625371666667

01:06:14.850 --> 01:06:18.090 Here's a passage from the manuscript

NOTE Confidence: 0.819625371666667

01:06:18.090 --> 01:06:20.775 that we recently published about

NOTE Confidence: 0.819625371666667

01:06:20.775 --> 01:06:22.386 frontline healthcare workers.

NOTE Confidence: 0.819625371666667

01:06:22.390 --> 01:06:26.026 I quote from that because it is relevant to

NOTE Confidence: 0.819625371666667

01:06:26.026 --> 01:06:31.598 how I personally experienced this past year.

NOTE Confidence: 0.819625371666667

01:06:31.600 --> 01:06:35.780 Quote. Baby seals and special forces

NOTE Confidence: 0.819625371666667

01:06:35.780 --> 01:06:38.744 teams often attribute their own courage

NOTE Confidence: 0.819625371666667

01:06:38.744 --> 01:06:41.824 and resilience to the power of team

NOTE Confidence: 0.819625371666667

01:06:41.824 --> 01:06:44.867 members who have each other's back and

NOTE Confidence: 0.819625371666667

01:06:44.867 --> 01:06:48.900 will even risk their life to one another.

NOTE Confidence: 0.819625371666667

01:06:48.900 --> 01:06:51.064 Message from healthcare leaders

NOTE Confidence: 0.819625371666667

01:06:51.064 --> 01:06:54.322 should be clear. Team, team, team,

NOTE Confidence: 0.819625371666667

01:06:54.322 --> 01:06:57.586 you are your brother and sisters.

NOTE Confidence: 0.819625371666667

01:06:57.590 --> 01:07:01.048 Team. We are all in this together.

01:07:01.050 --> 01:07:03.552 Fighting for a common mobile cause

01:07:03.552 --> 01:07:06.496 is a privilege to be working

01:07:06.496 --> 01:07:08.278 alongside such remarkable.

01:07:11.200 --> 01:07:14.847 For me, this year has been filled

01:07:14.847 --> 01:07:17.850 with distress and great concern

01:07:17.850 --> 01:07:20.484 for all those who have suffered

01:07:20.484 --> 01:07:22.240 from the devastating impact.

01:07:22.240 --> 01:07:24.250 Something came down.

01:07:24.250 --> 01:07:26.605 And for the toxic political

01:07:26.605 --> 01:07:28.489 divisions in our country.

01:07:28.490 --> 01:07:32.284 And for long standing and pervasive social,

01:07:32.290 --> 01:07:33.830 racial, economic,

01:07:33.830 --> 01:07:36.140 and healthcare disparities.

01:07:39.080 --> 01:07:41.305 This year has also been

01:07:41.305 --> 01:07:43.085 filled between no purpose.

01:07:43.090 --> 01:07:47.236 We just kind of resilient bonds.

NOTE Confidence: 0.645858275555555

01:07:47.240 --> 01:07:49.670 92 the privilege to work with

NOTE Confidence: 0.645858275555555

01:07:49.670 --> 01:07:52.658 him and care deeply about when

NOTE Confidence: 0.645858275555555

01:07:52.658 --> 01:07:56.046 wonderful colleagues who are both

NOTE Confidence: 0.645858275555555

01:07:56.046 --> 01:07:58.854 teenagers and cherished friends.

NOTE Confidence: 0.645858275555555

01:07:58.860 --> 01:08:01.626 Thank you for having my back.

NOTE Confidence: 0.807144856

01:08:07.180 --> 01:08:07.852 Absolutely amazing.

NOTE Confidence: 0.807144856

01:08:07.852 --> 01:08:09.868 Every time I watched the video

NOTE Confidence: 0.807144856

01:08:09.868 --> 01:08:12.368 I I think about the data and we

NOTE Confidence: 0.807144856

01:08:12.368 --> 01:08:14.594 see the same themes and and and

NOTE Confidence: 0.807144856

01:08:14.594 --> 01:08:16.574 how Steven bodied all of these

NOTE Confidence: 0.807144856

01:08:16.574 --> 01:08:18.734 resilience factors during the fight,

NOTE Confidence: 0.807144856

01:08:18.734 --> 01:08:20.558 fight for his life.

NOTE Confidence: 0.807144856

01:08:20.560 --> 01:08:22.440 Here are some remembrances from

NOTE Confidence: 0.807144856

01:08:22.440 --> 01:08:23.944 from Steve's many colleagues.

NOTE Confidence: 0.807144856

01:08:23.950 --> 01:08:26.122 I had an outpouring I probably

NOTE Confidence: 0.807144856

01:08:26.122 --> 01:08:28.975 about 200 emails that that I I I

NOTE Confidence: 0.807144856

01:08:28.975 --> 01:08:30.640 received after Steve had passed.

NOTE Confidence: 0.807144856

01:08:30.640 --> 01:08:32.692 The first is from Ilan Harpaz

NOTE Confidence: 0.807144856

01:08:32.692 --> 01:08:34.060 Rotem in our department,

NOTE Confidence: 0.807144856

01:08:34.060 --> 01:08:35.752 who said that Steve was more

NOTE Confidence: 0.807144856

01:08:35.752 --> 01:08:36.880 than an intellectual mentor.

NOTE Confidence: 0.807144856

01:08:36.880 --> 01:08:38.994 He cared for us like a father.

NOTE Confidence: 0.807144856

01:08:39.000 --> 01:08:40.952 I was lucky enough to have a FaceTime

NOTE Confidence: 0.807144856

01:08:40.952 --> 01:08:43.258 call with him several days before he passed.

NOTE Confidence: 0.807144856

01:08:43.260 --> 01:08:45.956 He was a fighter and reflected on resilience.

NOTE Confidence: 0.807144856

01:08:45.960 --> 01:08:48.354 He was an amazing mentor and spoke

NOTE Confidence: 0.807144856

01:08:48.354 --> 01:08:50.519 excitedly about the various projects.

NOTE Confidence: 0.807144856

01:08:50.520 --> 01:08:53.664 And was working on he valued

NOTE Confidence: 0.807144856

01:08:53.664 --> 01:08:55.236 his mentees tremendously.

NOTE Confidence: 0.807144856

01:08:55.240 --> 01:08:57.055 Lauren Pecoraro from Mount Sinai

NOTE Confidence: 0.807144856

01:08:57.055 --> 01:08:58.870 was involved in the COVID-19

NOTE Confidence: 0.807144856

01:08:58.932 --> 01:09:00.600 mental health research team.

NOTE Confidence: 0.807144856

01:09:00.600 --> 01:09:02.058 Said that Steve was a brilliant,

NOTE Confidence: 0.807144856

01:09:02.060 --> 01:09:04.949 kind and humble mentor and guide to us all.

NOTE Confidence: 0.807144856

01:09:04.950 --> 01:09:06.445 He generously gave of his

NOTE Confidence: 0.807144856

01:09:06.445 --> 01:09:08.620 time to help us in our work,

NOTE Confidence: 0.807144856

01:09:08.620 --> 01:09:10.876 even when he was ill and in pain.

NOTE Confidence: 0.807144856

01:09:10.880 --> 01:09:13.351 I know we will all greatly Miss

NOTE Confidence: 0.807144856

01:09:13.351 --> 01:09:15.740 Steve's calm and guiding presence.

NOTE Confidence: 0.807144856

01:09:15.740 --> 01:09:17.140 Rick for Keoni from Harvard,

NOTE Confidence: 0.807144856

01:09:17.140 --> 01:09:19.348 with whom Steve was developing resilience

NOTE Confidence: 0.807144856

01:09:19.348 --> 01:09:21.719 training programs in the past few years,

NOTE Confidence: 0.807144856

01:09:21.720 --> 01:09:23.545 remarked that Steve was a

NOTE Confidence: 0.807144856

01:09:23.545 --> 01:09:25.005 beautiful and inspiring person.

NOTE Confidence: 0.807144856

01:09:25.010 --> 01:09:26.415 He was always wanting to

NOTE Confidence: 0.807144856

01:09:26.415 --> 01:09:28.280 help in any way he could.

NOTE Confidence: 0.807144856

01:09:28.280 --> 01:09:31.682 There should be a picture of Steve in the

NOTE Confidence: 0.807144856

01:09:31.682 --> 01:09:34.169 dictionary next to the word resilience.

NOTE Confidence: 0.807144856

01:09:34.170 --> 01:09:34.836 And finally,

NOTE Confidence: 0.807144856

01:09:34.836 --> 01:09:35.502 Christine Olson,

NOTE Confidence: 0.807144856

01:09:35.502 --> 01:09:37.500 the Chief Wellness officer with whom

NOTE Confidence: 0.807144856

01:09:37.551 --> 01:09:39.630 Steve was working very closely during the

NOTE Confidence: 0.807144856

01:09:39.630 --> 01:09:41.688 pandemic and even prior to the pandemic,

NOTE Confidence: 0.807144856

01:09:41.690 --> 01:09:43.650 said that Steve made her feel seen,

NOTE Confidence: 0.807144856

01:09:43.650 --> 01:09:45.798 heard, valued, supported,

NOTE Confidence: 0.807144856

01:09:45.798 --> 01:09:47.230 developed, understood.

NOTE Confidence: 0.807144856

01:09:47.230 --> 01:09:49.071 He made me feel like I was

NOTE Confidence: 0.807144856

01:09:49.071 --> 01:09:50.370 somebody special and capable,

NOTE Confidence: 0.807144856

01:09:50.370 --> 01:09:52.706 showed me what it was to be resilient.

NOTE Confidence: 0.807144856

01:09:52.710 --> 01:09:54.708 I felt important because he shared

NOTE Confidence: 0.807144856

01:09:54.708 --> 01:09:56.589 himself and his life with me,

NOTE Confidence: 0.807144856

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01:09:56.590 --> 01:09:58.390 led by example and generously

NOTE Confidence: 0.807144856

01:09:58.390 --> 01:10:00.770 gave of his time and wisdom.

NOTE Confidence: 0.807144856

01:10:00.770 --> 01:10:02.434 He was a rare,

NOTE Confidence: 0.807144856

01:10:02.434 --> 01:10:04.930 brilliant gem of a human being.

NOTE Confidence: 0.807144856

01:10:04.930 --> 01:10:07.854 I miss him so much and I know that I am

NOTE Confidence: 0.807144856

01:10:07.854 --> 01:10:10.290 sad and grieving because I was lucky.

NOTE Confidence: 0.807144856

01:10:10.290 --> 01:10:11.478 I was lucky to know him.

NOTE Confidence: 0.861865181111111

01:10:14.350 --> 01:10:15.965 And finally, these are reflections

NOTE Confidence: 0.861865181111111

01:10:15.965 --> 01:10:17.257 directly from Steve from.

NOTE Confidence: 0.861865181111111

01:10:17.260 --> 01:10:19.425 These are from the forthcoming

NOTE Confidence: 0.861865181111111

01:10:19.425 --> 01:10:22.240 3rd edition of Steve and Doctor

NOTE Confidence: 0.861865181111111

01:10:22.240 --> 01:10:24.508 Charney's Book on Resilience.

NOTE Confidence: 0.861865181111111

01:10:24.510 --> 01:10:26.148 This is a direct quote from Steve,

NOTE Confidence: 0.861865181111111

01:10:26.150 --> 01:10:28.112 who said resilience has been defined

NOTE Confidence: 0.861865181111111

01:10:28.112 --> 01:10:30.209 as the ability to bounce back,

NOTE Confidence: 0.861865181111111

01:10:30.210 --> 01:10:32.540 but I can't bounce back.

114

NOTE Confidence: 0.861865181111111

01:10:32.540 --> 01:10:34.305 It's been defined as going

NOTE Confidence: 0.861865181111111

01:10:34.305 --> 01:10:35.717 through a traumatic situation

NOTE Confidence: 0.861865181111111

01:10:35.717 --> 01:10:37.338 without a drop in functioning,

NOTE Confidence: 0.861865181111111

01:10:37.340 --> 01:10:39.844 but I have had a drop in function.

NOTE Confidence: 0.861865181111111

01:10:39.850 --> 01:10:41.635 Does that mean I am not resilient?

NOTE Confidence: 0.834347008571428

01:10:43.770 --> 01:10:46.010 We can answer Steve's question for him.

NOTE Confidence: 0.834347008571428

01:10:46.010 --> 01:10:48.114 He was absolutely resilient.

NOTE Confidence: 0.834347008571428

01:10:48.114 --> 01:10:49.666 He inspired, supported,

NOTE Confidence: 0.834347008571428

01:10:49.666 --> 01:10:51.650 loved and lived fully.

NOTE Confidence: 0.834347008571428

01:10:51.650 --> 01:10:53.660 He let go of resentments and

NOTE Confidence: 0.834347008571428

01:10:53.660 --> 01:10:55.590 connected to sources of meaning.

NOTE Confidence: 0.834347008571428

01:10:55.590 --> 01:10:58.026 While Steve courageously fought his cancer,

NOTE Confidence: 0.834347008571428

01:10:58.030 --> 01:10:59.934 pain and physical limitations,

NOTE Confidence: 0.834347008571428

01:10:59.934 --> 01:11:02.790 he did bounce back with love,

NOTE Confidence: 0.834347008571428

01:11:02.790 --> 01:11:04.910 giving and service to others,

NOTE Confidence: 0.834347008571428

01:11:04.910 --> 01:11:08.150 the field colleagues, mentees and COVID

NOTE Confidence: 0.834347008571428

01:11:08.150 --> 01:11:11.390 frontline workers in his final months.

NOTE Confidence: 0.834347008571428

01:11:11.390 --> 01:11:14.790 Steve also reflected it on how he personally

NOTE Confidence: 0.834347008571428

01:11:14.790 --> 01:11:17.266 defined resilience toward the end of life.

NOTE Confidence: 0.834347008571428

01:11:17.270 --> 01:11:18.960 Everyone he knew well would

NOTE Confidence: 0.834347008571428

01:11:18.960 --> 01:11:21.329 agree that this is how he lived.

NOTE Confidence: 0.834347008571428

01:11:21.330 --> 01:11:24.372 Do the best you can with what you've got.

NOTE Confidence: 0.834347008571428

01:11:24.380 --> 01:11:28.160 Take it all success and failure and use it to

NOTE Confidence: 0.834347008571428

01:11:28.248 --> 01:11:31.776 the best you can in the service of others.

NOTE Confidence: 0.834347008571428

01:11:31.780 --> 01:11:32.737 In the end,

NOTE Confidence: 0.834347008571428

01:11:32.737 --> 01:11:35.659 what really matters is who and what you love.

NOTE Confidence: 0.834347008571428

01:11:35.660 --> 01:11:36.572 That's it.

NOTE Confidence: 0.834347008571428

01:11:36.572 --> 01:11:37.940 End of discussion.

NOTE Confidence: 0.834347008571428

01:11:37.940 --> 01:11:41.444 Love is the heart and soul of resilience.

NOTE Confidence: 0.843704064285714

01:11:45.550 --> 01:11:48.840 And finally, this is a Christmas card

NOTE Confidence: 0.843704064285714

01:11:48.840 --> 01:11:51.248 that I received last year from Steve May.

01:11:51.250 --> 01:11:54.040 May come across as a little unusual has the

01:11:54.040 --> 01:11:56.629 cover of Steve and Doctor Charney's book,

01:11:56.630 --> 01:11:59.234 as well as various pictures of Steve

01:11:59.234 --> 01:12:00.903 engaging and incredibly physically

01:12:00.903 --> 01:12:03.825 demanding activities of pushing up boulders,

01:12:03.830 --> 01:12:05.638 lifting trees, of boxing,

01:12:05.638 --> 01:12:07.446 and of course Bernadette.

01:12:07.450 --> 01:12:10.432 There as a cliffhanger and inside

01:12:10.432 --> 01:12:12.909 was this simple message that

01:12:12.909 --> 01:12:15.660 now when I reflect on it means.

01:12:15.660 --> 01:12:18.684 Much more than when I initially read it,

01:12:18.690 --> 01:12:22.450 it simply said hang in there you can do it,

01:12:22.450 --> 01:12:25.414 press on. And Bernadette,

01:12:25.414 --> 01:12:27.528 when I shared this slide with her,

01:12:27.530 --> 01:12:29.735 asked me to also add and don't

01:12:29.735 --> 01:12:31.410 take yourself too seriously.

NOTE Confidence: 0.843704064285714

01:12:31.410 --> 01:12:33.826 Steve always had a way to infuse humor,

NOTE Confidence: 0.843704064285714

01:12:33.830 --> 01:12:36.441 even in the darkest and and most

NOTE Confidence: 0.843704064285714

01:12:36.441 --> 01:12:38.430 challenging of life situations.

NOTE Confidence: 0.843704064285714

01:12:38.430 --> 01:12:39.760 And I think when I reflect on

NOTE Confidence: 0.843704064285714

01:12:39.760 --> 01:12:40.690 this really simple message,

NOTE Confidence: 0.843704064285714

01:12:40.690 --> 01:12:42.706 it's it's a message for all of us

NOTE Confidence: 0.843704064285714

01:12:42.706 --> 01:12:45.279 and and how Steve wanted to leave us

NOTE Confidence: 0.843704064285714

01:12:45.279 --> 01:12:47.290 with the encouragement to press on

NOTE Confidence: 0.843704064285714

01:12:47.290 --> 01:12:49.446 and forge ahead in what we're doing.

NOTE Confidence: 0.843704064285714

01:12:49.450 --> 01:12:50.200 And so, Steve,

NOTE Confidence: 0.843704064285714

01:12:50.200 --> 01:12:52.150 I'll try to say this without tearing up.

NOTE Confidence: 0.843704064285714

01:12:52.150 --> 01:12:55.818 Thank you for always having our backs.

NOTE Confidence: 0.843704064285714

01:12:55.820 --> 01:12:58.814 And for being an enduring shining

NOTE Confidence: 0.843704064285714

01:12:58.814 --> 01:13:00.810 light in our lives.

NOTE Confidence: 0.843704064285714

01:13:00.810 --> 01:13:02.466 We love you, we miss you,

NOTE Confidence: 0.843704064285714

01:13:02.470 --> 01:13:04.426 and we look forward to honoring

NOTE Confidence: 0.843704064285714

01:13:04.426 --> 01:13:06.422 and building on your extraordinary

NOTE Confidence: 0.843704064285714

01:13:06.422 --> 01:13:08.730 legacy for the rest of our lives.

NOTE Confidence: 0.843704064285714

01:13:08.730 --> 01:13:11.154 And thank you all for joining us today

NOTE Confidence: 0.843704064285714

01:13:11.154 --> 01:13:13.767 to honor our dear colleague and friend,

NOTE Confidence: 0.843704064285714

01:13:13.770 --> 01:13:14.806 Steve Southwick.

NOTE Confidence: 0.843704064285714

01:13:14.806 --> 01:13:17.914 This concludes our formal session today,

NOTE Confidence: 0.843704064285714

01:13:17.920 --> 01:13:19.944 and I'll turn it over now to Doctor

NOTE Confidence: 0.843704064285714

01:13:19.944 --> 01:13:21.478 Crystal for any final remarks.

NOTE Confidence: 0.8683468575

01:13:24.430 --> 01:13:28.548 Thank you, rob. 1st. Rob,

NOTE Confidence: 0.8683468575

01:13:28.548 --> 01:13:31.474 thank you for pulling all this together.

NOTE Confidence: 0.8683468575

01:13:31.480 --> 01:13:36.495 Your. Your ability to draw on Steve's

NOTE Confidence: 0.8683468575

01:13:36.495 --> 01:13:40.218 legacy with us and to share share this

NOTE Confidence: 0.8683468575

01:13:40.218 --> 01:13:43.676 with us all is really greatly appreciated.

NOTE Confidence: 0.8683468575

01:13:43.680 --> 01:13:46.185 As was the presentations from

NOTE Confidence: 0.8683468575

119

01:13:46.185 --> 01:13:48.189 all the speakers today,

NOTE Confidence: 0.8683468575

01:13:48.190 --> 01:13:51.730 from Doctor Charney and and from.

NOTE Confidence: 0.8683468575

01:13:51.730 --> 01:13:55.168 Doctor Montalvo Ortiz.

NOTE Confidence: 0.8683468575

01:13:55.170 --> 01:13:58.530 What a remarkable fortunate community we

NOTE Confidence: 0.8683468575

01:13:58.530 --> 01:14:03.850 are to have known, worked with, learn from.

NOTE Confidence: 0.8683468575

01:14:03.850 --> 01:14:10.514 Doctor Southwick. And. Um, I we will.

NOTE Confidence: 0.8683468575

01:14:10.514 --> 01:14:14.060 He's he gives us a gift.

NOTE Confidence: 0.8683468575

01:14:14.060 --> 01:14:17.357 That keeps us going at this really

NOTE Confidence: 0.8683468575

01:14:17.357 --> 01:14:20.078 terribly difficult time in our culture,

NOTE Confidence: 0.8683468575

01:14:20.080 --> 01:14:22.444 in our. You know,

NOTE Confidence: 0.8683468575

01:14:22.444 --> 01:14:26.460 by challenging world that we live in.

NOTE Confidence: 0.8683468575

01:14:26.460 --> 01:14:31.124 And. And. So thank you.

NOTE Confidence: 0.8683468575

01:14:31.124 --> 01:14:33.748 To all the speakers,

NOTE Confidence: 0.8683468575

01:14:33.750 --> 01:14:37.788 thanks to all who have joined us today.

NOTE Confidence: 0.8683468575

01:14:37.790 --> 01:14:41.696 As we've had our respective backs.

NOTE Confidence: 0.8683468575

01:14:41.700 --> 01:14:45.320 As we remember Steve and

NOTE Confidence: 0.8683468575

01:14:45.320 --> 01:14:46.960 special thanks to the speakers,

NOTE Confidence: 0.8683468575

01:14:46.960 --> 01:14:49.000 so take care of your buddy.