WEBVTT

NOTE duration:"00:55:37"

NOTE recognizability:0.758

NOTE language:en-us

NOTE Confidence: 0.169391703333333

00:00:00.000 --> 00:00:02.529 Question and dumb.

NOTE Confidence: 0.583239176

00:00:04.740 --> 00:00:06.777 I wanna give you one. It's an honor

NOTE Confidence: 0.583239176

00:00:06.777 --> 00:00:10.129 for me to be here and present my

NOTE Confidence: 0.583239176

00:00:10.129 --> 00:00:13.460 lab work to the department. And.

NOTE Confidence: 0.75637591

00:00:16.050 --> 00:00:17.310 I want to of course,

NOTE Confidence: 0.75637591

00:00:17.310 --> 00:00:19.540 acknowledge the tremendous help in

NOTE Confidence: 0.75637591

00:00:19.540 --> 00:00:22.247 this work for the National Center

NOTE Confidence: 0.75637591

00:00:22.247 --> 00:00:24.298 for PTSD with Jaune, Crystal,

NOTE Confidence: 0.75637591

00:00:24.298 --> 00:00:26.170 Steve Southwick, Andrew Peters.

NOTE Confidence: 0.75637591

00:00:26.170 --> 00:00:28.552 Like our collaborator and a large

NOTE Confidence: 0.75637591

00:00:28.552 --> 00:00:31.349 portion of the work that I'm doing,

NOTE Confidence: 0.75637591

00:00:31.350 --> 00:00:32.800 but particularly on those studies

NOTE Confidence: 0.75637591

00:00:32.800 --> 00:00:34.250 that I'm going to present,

NOTE Confidence: 0.75637591

1

00:00:34.250 --> 00:00:37.566 I wanna acknowledge my lab member doctor.

NOTE Confidence: 0.75637591

00:00:37.566 --> 00:00:40.414 All the work that he was a therapist

NOTE Confidence: 0.75637591

00:00:40.414 --> 00:00:43.166 and did a tremendous amount of analysis

NOTE Confidence: 0.75637591

00:00:43.166 --> 00:00:45.449 on the data and Charles Gordon,

NOTE Confidence: 0.75637591

00:00:45.449 --> 00:00:47.314 who is my lab manager.

NOTE Confidence: 0.75637591

00:00:47.320 --> 00:00:50.464 Erin O'Brien, who is the independent

NOTE Confidence: 0.75637591

00:00:50.464 --> 00:00:53.260 assessor and mark Laura Serena,

NOTE Confidence: 0.75637591

00:00:53.260 --> 00:00:54.790 Medicine and Rebecca,

NOTE Confidence: 0.75637591

00:00:54.790 --> 00:00:57.856 who are postgrad, did the heavy in.

NOTE Confidence: 0.75637591

00:00:57.856 --> 00:01:00.160 Lifting of organizing the data and

NOTE Confidence: 0.75637591

00:01:00.238 --> 00:01:02.975 you see them probably around in in

NOTE Confidence: 0.75637591

00:01:02.975 --> 00:01:05.189 the medical school all the time.

NOTE Confidence: 0.75637591

00:01:05.190 --> 00:01:09.006 So now they you know where they belongs to.

NOTE Confidence: 0.75637591

00:01:09.010 --> 00:01:10.798 Tremendous thanks to Shelly

NOTE Confidence: 0.75637591

00:01:10.798 --> 00:01:12.586 Ahmann and Bentyl Mandy,

NOTE Confidence: 0.75637591

00:01:12.590 --> 00:01:15.392 who worked the physician on my

NOTE Confidence: 0.75637591

00:01:15.392 --> 00:01:17.975 study doing the ketamine infusion

NOTE Confidence: 0.75637591

00:01:17.975 --> 00:01:20.487 and the medical examination.

NOTE Confidence: 0.75637591

00:01:20.490 --> 00:01:23.810 As John, of course noted,

NOTE Confidence: 0.75637591

00:01:23.810 --> 00:01:26.625 I'm collaborating with the levy

NOTE Confidence: 0.75637591

00:01:26.625 --> 00:01:29.440 decision making lab and to

NOTE Confidence: 0.75637591

00:01:29.545 --> 00:01:32.850 graduate student Ronan and Newton.

NOTE Confidence: 0.75637591

00:01:32.850 --> 00:01:35.190 And also assisting analysis and

NOTE Confidence: 0.75637591

00:01:35.190 --> 00:01:37.062 my collaborated Mount Sinai,

NOTE Confidence: 0.75637591

00:01:37.070 --> 00:01:40.755 Danielle Shiller and our postdoc

NOTE Confidence: 0.75637591

00:01:40.755 --> 00:01:42.229 Philip Pullman.

NOTE Confidence: 0.75637591

00:01:42.230 --> 00:01:43.707 At the time he was a postdoc.

NOTE Confidence: 0.75637591

00:01:43.710 --> 00:01:47.806 Now he back in Switzerland under the Swiss

NOTE Confidence: 0.75637591

00:01:47.806 --> 00:01:51.260 National Science Foundation Post Fellowship.

NOTE Confidence: 0.75637591

00:01:51.260 --> 00:01:52.384 So OK,

NOTE Confidence: 0.75637591

00:01:52.384 --> 00:01:52.946 PTSD,

NOTE Confidence: 0.75637591

00:01:52.946 --> 00:01:56.868 I want to really to dedicate this

NOTE Confidence: 0.75637591

00:01:56.868 --> 00:01:59.608 talk to my grandparents maternal

NOTE Confidence: 0.75637591

00:01:59.608 --> 00:02:01.800 grandparents to my grandmother,

NOTE Confidence: 0.75637591

00:02:01.800 --> 00:02:05.300 Tova and my grandfathers Ellie we

NOTE Confidence: 0.75637591

00:02:05.300 --> 00:02:08.992 we we do something for different

NOTE Confidence: 0.75637591

00:02:08.992 --> 00:02:13.192 reason and it's hard for me not to

NOTE Confidence: 0.75637591

00:02:13.192 --> 00:02:16.839 explain why I ended up doing PTSD.

NOTE Confidence: 0.75637591

00:02:16.840 --> 00:02:19.621 I realize I'm 20 years in yell and I

NOTE Confidence: 0.75637591

00:02:19.621 --> 00:02:22.080 never talked about this specifically.

NOTE Confidence: 0.75637591

00:02:22.080 --> 00:02:26.245 Person I grew up in a household

NOTE Confidence: 0.75637591

00:02:26.245 --> 00:02:28.688 that was really dumb.

NOTE Confidence: 0.75637591

00:02:28.690 --> 00:02:29.706 In trauma,

NOTE Confidence: 0.75637591

00:02:29.706 --> 00:02:31.738 especially around the Holocaust

NOTE Confidence: 0.75637591

00:02:31.738 --> 00:02:36.510 was over in 24/7 and I was born to

NOTE Confidence: 0.75637591

00:02:36.510 --> 00:02:39.600 single very young single mother.

NOTE Confidence: 0.75637591

00:02:39.600 --> 00:02:42.912 And that had to hold two jobs and she

NOTE Confidence: 0.75637591

00:02:42.912 --> 00:02:45.630 worked from 7:00 AM to 3:00 PM at

NOTE Confidence: 0.75637591

00:02:45.630 --> 00:02:48.840 one job and then another dorm from 3 to 7.

NOTE Confidence: 0.75637591

00:02:48.840 --> 00:02:51.108 So my maternal grandparents

NOTE Confidence: 0.75637591

00:02:51.108 --> 00:02:53.376 were my primary caretaker.

NOTE Confidence: 0.75637591

00:02:53.380 --> 00:02:56.296 Until the age of nine and then

NOTE Confidence: 0.75637591

00:02:56.296 --> 00:02:58.886 just to understand my grandmother.

NOTE Confidence: 0.798139596666667

00:03:00.990 --> 00:03:03.839 Lost her three sisters and parents in

NOTE Confidence: 0.798139596666667

00:03:03.839 --> 00:03:06.011 the Holocaust and I can't remember

NOTE Confidence: 0.798139596666667

00:03:06.011 --> 00:03:08.819 a day that she was not holding a

NOTE Confidence: 0.798139596666667

00:03:08.819 --> 00:03:10.842 picture of her three beautiful

NOTE Confidence: 0.798139596666667

00:03:10.842 --> 00:03:13.378 sister young sister and her parents.

NOTE Confidence: 0.798139596666667

00:03:13.378 --> 00:03:16.361 And then you know, it was the

NOTE Confidence: 0.798139596666667

00:03:16.361 --> 00:03:18.300 early 19 day to take a photo.

NOTE Confidence: 0.798139596666667

00:03:18.300 --> 00:03:19.900 It always was an event.

NOTE Confidence: 0.798139596666667

00:03:19.900 --> 00:03:21.088 You had to have a photographer

NOTE Confidence: 0.798139596666667

00:03:21.088 --> 00:03:22.200 about it dressed so nicely.

NOTE Confidence: 0.798139596666667

00:03:22.200 --> 00:03:24.234 So those picture was very magical in a way.

NOTE Confidence: 0.798139596666667

00:03:24.240 --> 00:03:26.616 It's not that everyone has a cell phone,

NOTE Confidence: 0.798139596666667

00:03:26.620 --> 00:03:28.636 so I remember her showing her sisters

NOTE Confidence: 0.798139596666667

00:03:28.636 --> 00:03:31.155 to me all the time as a young child,

NOTE Confidence: 0.798139596666667

00:03:31.160 --> 00:03:32.980 you don't understand this.

NOTE Confidence: 0.798139596666667

00:03:32.980 --> 00:03:36.639 As much as we understand it as adults,

NOTE Confidence: 0.798139596666667

00:03:36.640 --> 00:03:39.080 but then pain and agony,

NOTE Confidence: 0.798139596666667

00:03:39.080 --> 00:03:41.558 and she was spared because she because

NOTE Confidence: 0.798139596666667

00:03:41.558 --> 00:03:43.640 before the German invaded Poland,

NOTE Confidence: 0.798139596666667

00:03:43.640 --> 00:03:45.894 she went on a trip to Palestine

NOTE Confidence: 0.798139596666667

00:03:45.900 --> 00:03:46.791 and then parent.

NOTE Confidence: 0.798139596666667

00:03:46.791 --> 00:03:49.434 Her parents don't don't to come back and stay

NOTE Confidence: 0.798139596666667

00:03:49.434 --> 00:03:52.136 there and so she ended up in the age of 12.

NOTE Confidence: 0.798139596666667

00:03:52.140 --> 00:03:53.316 As a you know,

NOTE Confidence: 0.798139596666667

00:03:53.316 --> 00:03:55.080 out of school in in Palestine,

00:03:55.080 --> 00:03:59.470 my grandfather turned Grand Father.

00:03:59.470 --> 00:04:01.846 When Germany invaded Poland,

00:04:01.846 --> 00:04:03.628 they found themselves.

00:04:03.630 --> 00:04:06.622 In a situation that his parents made the

00:04:06.622 --> 00:04:09.609 decision to smuggle him his three sisters,

00:04:09.610 --> 00:04:10.376 his three,

00:04:10.376 --> 00:04:11.142 his brother,

00:04:11.142 --> 00:04:14.752 and one young sister out of Poland to safety.

00:04:14.752 --> 00:04:17.489 And this can be a whole lecture

00:04:17.489 --> 00:04:20.409 about this amazing journey across the

00:04:20.409 --> 00:04:23.670 entire Europe to France that they made

00:04:23.670 --> 00:04:25.848 and trying to avoid being captured.

00:04:25.850 --> 00:04:28.020 You know, can think like a group

00:04:28.020 --> 00:04:30.330 of my father was 13 at the time,

00:04:30.330 --> 00:04:35.136 but his brother ranged from 4 from 17 to.

00:04:35.140 --> 00:04:36.106 10 years old,

NOTE Confidence: 0.798139596666667

00:04:36.106 --> 00:04:38.038 little sister that had to care.

NOTE Confidence: 0.798139596666667

00:04:38.040 --> 00:04:40.840 Carry four in this adventure,

NOTE Confidence: 0.798139596666667

00:04:40.840 --> 00:04:42.340 eventually ended up in France.

NOTE Confidence: 0.798139596666667

00:04:42.340 --> 00:04:44.412 It was a probably not a very good

NOTE Confidence: 0.798139596666667

00:04:44.412 --> 00:04:46.750 place to end up because the Germany

NOTE Confidence: 0.798139596666667

00:04:46.750 --> 00:04:48.864 of course eventually took over France

NOTE Confidence: 0.798139596666667

00:04:48.864 --> 00:04:51.935 and and his brother and sister was

NOTE Confidence: 0.798139596666667

00:04:51.935 --> 00:04:54.430 sent to the concentration camp.

NOTE Confidence: 0.798139596666667

00:04:54.430 --> 00:04:56.962 My grandfather was able to escape

NOTE Confidence: 0.798139596666667

00:04:56.962 --> 00:04:59.118 prior to that and and made.

NOTE Confidence: 0.615052976142857

00:05:01.300 --> 00:05:05.605 And able to board a refugee boat.

NOTE Confidence: 0.615052976142857

00:05:05.610 --> 00:05:10.052 Went to Palestine and then at the

NOTE Confidence: 0.615052976142857

00:05:10.052 --> 00:05:13.388 time Palestine was occupied by UM.

NOTE Confidence: 0.615052976142857

00:05:13.390 --> 00:05:15.610 The British Empire and they

NOTE Confidence: 0.615052976142857

00:05:15.610 --> 00:05:18.325 refused to accept any boat refugee

00:05:18.325 --> 00:05:20.791 from the Second World War due

00:05:20.791 --> 00:05:23.589 to of course political reasons.

00:05:23.590 --> 00:05:25.798 And my grandfather and some other

00:05:25.798 --> 00:05:27.950 people were jumping the boat when

00:05:27.950 --> 00:05:30.106 it got closer to Tel Aviv shores.

00:05:30.110 --> 00:05:33.330 The usually boats were turned

00:05:33.330 --> 00:05:36.330 back to Cyprus to refugee camp

00:05:36.330 --> 00:05:38.550 eventually allowing later on after

00:05:38.550 --> 00:05:41.688 the UN resolution to come back.

00:05:41.690 --> 00:05:43.762 So you have two.

00:05:43.762 --> 00:05:46.517 People out of middle school have

00:05:46.517 --> 00:05:48.911 to fend for themselves and and

00:05:48.911 --> 00:05:51.735 live in a country without any and.

00:05:51.735 --> 00:05:55.760 Many parents and and working odd jobs.

00:05:55.760 --> 00:05:58.238 And and and.

00:05:58.240 --> 00:06:02.744 Eventually I think it just was

NOTE Confidence: 0.615052976142857

00:06:02.744 --> 00:06:05.587 a situation that always affected

NOTE Confidence: 0.615052976142857

00:06:05.587 --> 00:06:08.149 the hardly knew any Hebrew the

NOTE Confidence: 0.615052976142857

00:06:08.149 --> 00:06:10.869 language were skill was very poor

NOTE Confidence: 0.615052976142857

00:06:10.869 --> 00:06:12.689 and educational force limited.

NOTE Confidence: 0.615052976142857

00:06:12.690 --> 00:06:14.670 When I was nine years old,

NOTE Confidence: 0.615052976142857

00:06:14.670 --> 00:06:17.141 actually my dumb mother made a decision

NOTE Confidence: 0.615052976142857

00:06:17.141 --> 00:06:19.509 that she probably wants a better life.

NOTE Confidence: 0.615052976142857

00:06:19.510 --> 00:06:24.478 She took a job abroad in France and left me,

NOTE Confidence: 0.615052976142857

00:06:24.478 --> 00:06:26.542 but the social services and there

NOTE Confidence: 0.615052976142857

00:06:26.542 --> 00:06:29.310 was a decision that I'll be probably

NOTE Confidence: 0.615052976142857

00:06:29.310 --> 00:06:32.399 better off in foster care because my

NOTE Confidence: 0.615052976142857

00:06:32.399 --> 00:06:34.909 grandparents had really limited their,

NOTE Confidence: 0.615052976142857

00:06:34.910 --> 00:06:36.270 you know, education, skill,

NOTE Confidence: 0.615052976142857

00:06:36.270 --> 00:06:38.310 and language skill they were loving,

NOTE Confidence: 0.615052976142857

00:06:38.310 --> 00:06:40.230 caring and ever was ever felt.

NOTE Confidence: 0.615052976142857

00:06:40.230 --> 00:06:40.836 I I left.

NOTE Confidence: 0.615052976142857

00:06:40.836 --> 00:06:43.671 I felt as a child, extremely protective and.

NOTE Confidence: 0.615052976142857

00:06:43.671 --> 00:06:46.099 You know decision making.

NOTE Confidence: 0.615052976142857

00:06:46.100 --> 00:06:50.044 And so half of my life actually from

NOTE Confidence: 0.615052976142857

00:06:50.044 --> 00:06:53.360 age 9 to age 18I grew in foster care.

NOTE Confidence: 0.615052976142857

00:06:53.360 --> 00:06:56.070 And this is another very

NOTE Confidence: 0.615052976142857

00:06:56.070 --> 00:06:57.569 unique environment and.

NOTE Confidence: 0.615052976142857

00:06:57.569 --> 00:07:00.841 To grow because you know you are in

NOTE Confidence: 0.615052976142857

00:07:00.841 --> 00:07:03.847 someone else's home as much as they

NOTE Confidence: 0.615052976142857

00:07:03.847 --> 00:07:06.490 are loving and caring and and you

NOTE Confidence: 0.615052976142857

00:07:06.490 --> 00:07:08.380 know you always feel stranger in

NOTE Confidence: 0.615052976142857

00:07:08.380 --> 00:07:10.934 a way it's not a stranger is that

NOTE Confidence: 0.615052976142857

00:07:10.934 --> 00:07:13.188 when you open the fridge you take

NOTE Confidence: 0.615052976142857

00:07:13.188 --> 00:07:15.750 a yogurt or you open the candy bar.

NOTE Confidence: 0.615052976142857

00:07:15.750 --> 00:07:18.200 You have this big sensation that you're

NOTE Confidence: 0.615052976142857

00:07:18.200 --> 00:07:20.240 stealing something doesn't belongs to you.

NOTE Confidence: 0.615052976142857

00:07:20.240 --> 00:07:22.512 It's just something that

NOTE Confidence: 0.615052976142857

00:07:22.512 --> 00:07:25.032 it's very hard to describe.

NOTE Confidence: 0.615052976142857

00:07:25.032 --> 00:07:28.918 I don't know, but being like in a home.

NOTE Confidence: 0.615052976142857

00:07:28.920 --> 00:07:30.648 And there is of course biological

NOTE Confidence: 0.615052976142857

00:07:30.648 --> 00:07:31.800 child that you can.

NOTE Confidence: 0.615052976142857

00:07:31.800 --> 00:07:34.470 You are hyper.

NOTE Confidence: 0.615052976142857

00:07:34.470 --> 00:07:37.228 Are sensitive to those differences and then,

NOTE Confidence: 0.615052976142857

00:07:37.230 --> 00:07:40.450 but I I thankfully flourished at school.

NOTE Confidence: 0.615052976142857

00:07:40.450 --> 00:07:42.066 I flourished in sport.

NOTE Confidence: 0.615052976142857

00:07:42.066 --> 00:07:44.902 I did them well and everybody knows

NOTE Confidence: 0.615052976142857

00:07:44.902 --> 00:07:47.674 that the end of high school in Israel.

NOTE Confidence: 0.615052976142857

00:07:47.674 --> 00:07:49.985 There is also a service,

NOTE Confidence: 0.615052976142857

00:07:49.985 --> 00:07:55.090 so it's also a way to for me was to

NOTE Confidence: 0.615052976142857

00:07:55.090 --> 00:07:59.766 build some equity and money to afford.

NOTE Confidence: 0.615052976142857

00:07:59.770 --> 00:08:02.514 And my university and have a roof over

00:08:02.514 --> 00:08:05.468 my head so I I stayed in the military

00:08:05.468 --> 00:08:08.395 for 10 years as an officer, unfortunately.

00:08:08.395 --> 00:08:12.720 Israel at the time was.

00:08:12.720 --> 00:08:14.885 Occupying South Lebanon and it

00:08:14.885 --> 00:08:17.790 was the 82 invasion to Lebanon,

00:08:17.790 --> 00:08:18.345 Lebanon.

00:08:18.345 --> 00:08:22.149 The plus is almost till two 2002

00:08:22.149 --> 00:08:24.963 1005 member correctly and 87 and

00:08:24.963 --> 00:08:28.363 my middle of my military service

00:08:28.363 --> 00:08:31.528 that was the Palestinian uprising.

00:08:31.530 --> 00:08:34.797 So a lot of service was done in in

00:08:34.797 --> 00:08:37.838 areas that was heavily populated and

00:08:37.838 --> 00:08:42.354 Lebanon is unique that the enemy is is not.

00:08:42.354 --> 00:08:43.316 You know,

00:08:43.320 --> 00:08:45.145 I I'm quite politically I

00:08:45.145 --> 00:08:46.970 was extremely active all my

NOTE Confidence: 0.789124720909091

00:08:47.045 --> 00:08:50.726 life, so in high school as a peace movement,

NOTE Confidence: 0.789124720909091

00:08:50.730 --> 00:08:52.740 trying to advocate for peace and

NOTE Confidence: 0.789124720909091

00:08:52.740 --> 00:08:55.010 Palestinian state that my political view,

NOTE Confidence: 0.789124720909091

00:08:55.010 --> 00:08:56.906 I couldn't afford myself not to go down.

NOTE Confidence: 0.789124720909091

00:08:56.910 --> 00:08:59.398 I could not do that because you can't,

NOTE Confidence: 0.789124720909091

00:08:59.400 --> 00:09:00.814 you're gonna end up in jail and

NOTE Confidence: 0.789124720909091

00:09:00.814 --> 00:09:02.038 I think something that I wanted.

NOTE Confidence: 0.789124720909091

00:09:02.040 --> 00:09:04.656 There's a trajectory, and of course,

NOTE Confidence: 0.789124720909091

00:09:04.660 --> 00:09:07.476 so you had a lot of internal conflict.

NOTE Confidence: 0.789124720909091

00:09:07.480 --> 00:09:10.348 You know, making right air raids

NOTE Confidence: 0.789124720909091

00:09:10.348 --> 00:09:12.848 into suspect house pulling people

NOTE Confidence: 0.789124720909091

00:09:12.848 --> 00:09:15.348 you have young kids screaming.

NOTE Confidence: 0.789124720909091

00:09:15.350 --> 00:09:17.365 And the wives are screaming

NOTE Confidence: 0.789124720909091

00:09:17.365 --> 00:09:19.883 and pulling a suspect that not

NOTE Confidence: 0.789124720909091

00:09:19.883 --> 00:09:21.998 necessarily is a real suspect,

00:09:22.000 --> 00:09:24.460 because intelligent can be

00:09:24.460 --> 00:09:28.150 deceived by local that have some.

00:09:28.150 --> 00:09:29.750 Internal reason I cannot go,

00:09:29.750 --> 00:09:31.434 but it's very taxing.

00:09:31.434 --> 00:09:34.441 Very hard to see young people that

00:09:34.441 --> 00:09:37.609 in my head in one hand are freedom

00:09:37.609 --> 00:09:40.470 fighters and so and and then you

00:09:40.470 --> 00:09:43.810 have to deal with this population,

00:09:43.810 --> 00:09:46.312 so that's kind of was very hard for me

00:09:46.312 --> 00:09:48.562 after I stayed just until I hated every

00:09:48.562 --> 00:09:51.530 day and I just wanted to build this enough.

00:09:51.530 --> 00:09:54.406 You know they have enough money when I leave

00:09:54.406 --> 00:09:57.880 to to at least manage myself through college.

00:09:57.880 --> 00:09:58.976 And and of course,

00:09:58.976 --> 00:10:01.856 I was the first one in my family to go

00:10:01.856 --> 00:10:05.716 to college and ended up here and here.

NOTE Confidence: 0.789124720909091

00:10:05.720 --> 00:10:06.330 20 years.

NOTE Confidence: 0.789124720909091

00:10:06.330 --> 00:10:08.160 This is the longest place that

NOTE Confidence: 0.789124720909091

00:10:08.160 --> 00:10:09.940 I ever lived in my life.

NOTE Confidence: 0.789124720909091

00:10:09.940 --> 00:10:14.220 And so here I am.

NOTE Confidence: 0.789124720909091

00:10:14.220 --> 00:10:16.915 What you learn when you study when

NOTE Confidence: 0.789124720909091

00:10:16.915 --> 00:10:19.922 you you in foster care it's you

NOTE Confidence: 0.789124720909091

00:10:19.922 --> 00:10:21.977 become hypersensitive to the in.

NOTE Confidence: 0.789124720909091

00:10:21.980 --> 00:10:24.160 Appreciate the kindness of others.

NOTE Confidence: 0.789124720909091

00:10:24.160 --> 00:10:26.456 Those who give you a hand and push

NOTE Confidence: 0.789124720909091

00:10:26.456 --> 00:10:28.824 you forward and and you know it's very

NOTE Confidence: 0.789124720909091

00:10:28.824 --> 00:10:30.920 hard when you don't have a family.

NOTE Confidence: 0.789124720909091

00:10:30.920 --> 00:10:33.116 So you really are dependent on

NOTE Confidence: 0.789124720909091

00:10:33.116 --> 00:10:35.595 others and some people make some

NOTE Confidence: 0.789124720909091

00:10:35.595 --> 00:10:37.945 small decisions that you don't

NOTE Confidence: 0.789124720909091

00:10:37.945 --> 00:10:39.774 understand how fundamentals and

NOTE Confidence: 0.789124720909091

00:10:39.774 --> 00:10:41.800 making change in people's life.

NOTE Confidence: 0.789124720909091

00:10:41.800 --> 00:10:44.320 So I want to thank Robert.

NOTE Confidence: 0.789124720909091

00:10:44.320 --> 00:10:45.156 Roseanne had,

NOTE Confidence: 0.789124720909091

00:10:45.156 --> 00:10:47.664 and he was my first research

NOTE Confidence: 0.789124720909091

00:10:47.664 --> 00:10:49.200 mentor here at Yale.

NOTE Confidence: 0.789124720909091

00:10:49.200 --> 00:10:52.576 He in Morris Bell brought me into yell.

NOTE Confidence: 0.789124720909091

00:10:52.580 --> 00:10:54.533 They convinced me to leave UC Davis

NOTE Confidence: 0.789124720909091

00:10:54.533 --> 00:10:57.296 and I was off for a post up there

NOTE Confidence: 0.789124720909091

00:10:57.296 --> 00:10:58.920 and actually also position and

NOTE Confidence: 0.789124720909091

00:10:58.920 --> 00:11:01.200 convince him to come to yellow.

NOTE Confidence: 0.789124720909091

00:11:01.200 --> 00:11:03.200 Last night I had a dream that I'm

NOTE Confidence: 0.789124720909091

00:11:03.200 --> 00:11:05.040 calling you see Davis ask for jobs.

NOTE Confidence: 0.789124720909091

00:11:05.040 --> 00:11:07.320 I'm not sure I made the right decision,

NOTE Confidence: 0.789124720909091

00:11:07.320 --> 00:11:10.116 but anyway, it's just he he.

NOTE Confidence: 0.789124720909091

00:11:10.120 --> 00:11:13.612 He taught me how to be a better researcher,

NOTE Confidence: 0.789124720909091

00:11:13.620 --> 00:11:14.195 Bob.

NOTE Confidence: 0.789124720909091

00:11:14.195 --> 00:11:17.645 And when I finished my postdoc,

NOTE Confidence: 0.789124720909091

00:11:17.650 --> 00:11:20.009 the I was offered a position amount,

NOTE Confidence: 0.789124720909091

00:11:20.010 --> 00:11:20.571 silent,

NOTE Confidence: 0.789124720909091

00:11:20.571 --> 00:11:25.059 but I was really interested in staying here.

NOTE Confidence: 0.789124720909091

00:11:25.060 --> 00:11:27.636 From variety of reason and I had

NOTE Confidence: 0.789124720909091

00:11:27.636 --> 00:11:29.313 some conversation with Mike Cyrnek

NOTE Confidence: 0.789124720909091

00:11:29.313 --> 00:11:31.750 that the at the time that almost 20,

NOTE Confidence: 0.789124720909091

00:11:31.750 --> 00:11:34.186 you know 1516 years ago there

NOTE Confidence: 0.789124720909091

00:11:34.186 --> 00:11:36.414 was no single psychologist on the

NOTE Confidence: 0.789124720909091

00:11:36.414 --> 00:11:39.010 PTSD specialty clinic at the VA,

NOTE Confidence: 0.789124720909091

00:11:39.010 --> 00:11:41.314 and I don't think even might remember that,

NOTE Confidence: 0.789124720909091

00:11:41.320 --> 00:11:43.960 but he he he then decided to it,

NOTE Confidence: 0.789124720909091

00:11:43.960 --> 00:11:45.296 was on his psychiatrist,

NOTE Confidence: 0.789124720909091

00:11:45.296 --> 00:11:47.660 nurses and social work on the unit

NOTE Confidence: 0.789124720909091

00:11:47.660 --> 00:11:49.718 and and he made this decision to,

00:11:49.720 --> 00:11:50.400 you know,

00:11:50.400 --> 00:11:52.440 seek a position for a psychologist

00:11:52.440 --> 00:11:54.438 which I was higher into it,

00:11:54.440 --> 00:11:56.554 and this is the. Place that they

00:11:56.554 --> 00:11:59.076 wanted to treat them and and and work,

00:11:59.076 --> 00:12:01.020 and this is really made a

00:12:01.098 --> 00:12:03.328 tremendous impact and I don't

00:12:03.328 --> 00:12:05.540 think even Mike was aware of this.

00:12:05.540 --> 00:12:09.450 How much it was impactful when I was at the

00:12:09.450 --> 00:12:12.780 National Center for PTSD at the PTSD clinic.

00:12:12.780 --> 00:12:15.105 Steve Southwick invited me into

00:12:15.105 --> 00:12:17.779 the National Center for PTSD.

00:12:17.780 --> 00:12:20.671 He and John managed this division of

00:12:20.671 --> 00:12:23.267 the neuroscience and they actually just

00:12:23.267 --> 00:12:25.963 Steve took care of me like a father.

00:12:25.970 --> 00:12:28.749 He made sure that all the resources

NOTE Confidence: 0.822282296363636

00:12:28.749 --> 00:12:31.468 and and and and the mentorship that

NOTE Confidence: 0.822282296363636

00:12:31.468 --> 00:12:34.233 needed for me to conduct my work

NOTE Confidence: 0.822282296363636

00:12:34.233 --> 00:12:36.609 at the National Center for PTSD.

NOTE Confidence: 0.822282296363636

00:12:36.610 --> 00:12:39.448 And this was tremendous support that

NOTE Confidence: 0.822282296363636

00:12:39.450 --> 00:12:41.412 was fundamental to my success and

NOTE Confidence: 0.822282296363636

00:12:41.412 --> 00:12:43.869 my work that I'm going to present

NOTE Confidence: 0.822282296363636

00:12:43.869 --> 00:12:45.522 today and then running off.

NOTE Confidence: 0.822282296363636

00:12:45.522 --> 00:12:47.460 Of course that hired me then.

NOTE Confidence: 0.822282296363636

00:12:47.460 --> 00:12:51.087 Two and not nap back to the be the

NOTE Confidence: 0.822282296363636

00:12:51.087 --> 00:12:54.268 director of the PTSD and treatment

NOTE Confidence: 0.822282296363636

00:12:54.268 --> 00:12:57.344 evaluation and for the entire system.

NOTE Confidence: 0.822282296363636

00:12:57.344 --> 00:13:00.350 So overseeing this is something that

NOTE Confidence: 0.822282296363636

00:13:00.444 --> 00:13:04.519 is really tremendous. So really.

NOTE Confidence: 0.822282296363636

00:13:04.520 --> 00:13:06.368 One of the things those people

NOTE Confidence: 0.822282296363636

00:13:06.370 --> 00:13:09.594 without them I will not be here today.

NOTE Confidence: 0.822282296363636

00:13:09.600 --> 00:13:11.838 So I'm gonna talk Johnny now.

NOTE Confidence: 0.822282296363636

00:13:11.840 --> 00:13:14.675 The work that being done in my lab and

NOTE Confidence: 0.822282296363636

00:13:14.675 --> 00:13:17.276 probably have to rush a little bit faster.

NOTE Confidence: 0.822282296363636

00:13:17.280 --> 00:13:20.490 And then I plan I'm going to talk about fuel,

NOTE Confidence: 0.822282296363636

00:13:20.490 --> 00:13:21.078 learning,

NOTE Confidence: 0.822282296363636

00:13:21.078 --> 00:13:24.018 extinction and PTSD about some

NOTE Confidence: 0.822282296363636

00:13:24.018 --> 00:13:26.930 issue with ambiguity in PTSD.

NOTE Confidence: 0.822282296363636

00:13:26.930 --> 00:13:29.906 And then the combination of exposure

NOTE Confidence: 0.822282296363636

00:13:29.906 --> 00:13:32.840 therapy and katamine so we know PTSD.

NOTE Confidence: 0.822282296363636

00:13:32.840 --> 00:13:35.000 There you need to be exposed

NOTE Confidence: 0.822282296363636

00:13:35.087 --> 00:13:36.608 to traumatic event.

NOTE Confidence: 0.822282296363636

00:13:36.610 --> 00:13:39.538 I can give a whole lecture how much

NOTE Confidence: 0.822282296363636

00:13:39.538 --> 00:13:42.799 criteria is problematic and how you define

NOTE Confidence: 0.822282296363636

00:13:42.799 --> 00:13:46.189 what's qualified as criteria and what isn't.

NOTE Confidence: 0.822282296363636

00:13:46.190 --> 00:13:49.480 We have the signature in.

NOTE Confidence: 0.822282296363636

00:13:49.480 --> 00:13:53.500 Symptoms which are intrusive thoughts,

NOTE Confidence: 0.822282296363636

00:13:53.500 --> 00:13:54.014 flashbacks,

NOTE Confidence: 0.822282296363636

00:13:54.014 --> 00:13:57.612 the nightmares in my lab we are

NOTE Confidence: 0.822282296363636

00:13:57.612 --> 00:14:00.060 thinking about this mechanism,

NOTE Confidence: 0.822282296363636

00:14:00.060 --> 00:14:02.144 memory processing reconsolidation deficits.

NOTE Confidence: 0.822282296363636

00:14:02.144 --> 00:14:06.020 We have the avoidance of a reminder.

NOTE Confidence: 0.822282296363636

00:14:06.020 --> 00:14:07.560 People just try to avoid,

NOTE Confidence: 0.822282296363636

00:14:07.560 --> 00:14:09.816 and that's in order to avoid.

NOTE Confidence: 0.822282296363636

00:14:09.820 --> 00:14:11.048 Of course,

NOTE Confidence: 0.822282296363636

00:14:11.048 --> 00:14:12.890 this intrusive thoughts.

NOTE Confidence: 0.822282296363636

00:14:12.890 --> 00:14:14.730 There is alternation in modern

NOTE Confidence: 0.822282296363636

00:14:14.730 --> 00:14:16.570 communication this is very MDD,

NOTE Confidence: 0.822282296363636

00:14:16.570 --> 00:14:19.396 like cluster of PTSD symptoms there

NOTE Confidence: 0.822282296363636

00:14:19.396 --> 00:14:22.820 is dampening of the reward system and

NOTE Confidence: 0.822282296363636

00:14:22.820 --> 00:14:24.520 cognitive distortion that you know

NOTE Confidence: 0.822282296363636

00:14:24.520 --> 00:14:26.349 something is terribly wrong with me.

NOTE Confidence: 0.822282296363636

00:14:26.350 --> 00:14:30.334 It's my fault those those other people fault.

NOTE Confidence: 0.822282296363636

00:14:30.340 --> 00:14:32.824 And there is the hyper vigilance

NOTE Confidence: 0.822282296363636

00:14:32.824 --> 00:14:35.625 hyperarousal what we think of in the

NOTE Confidence: 0.822282296363636

00:14:35.625 --> 00:14:37.773 lab as the fear extinction deficits,

NOTE Confidence: 0.822282296363636

00:14:37.780 --> 00:14:40.620 the over generalization of fear.

NOTE Confidence: 0.822282296363636

00:14:40.620 --> 00:14:44.190 And the lifetime prevalence of PTSD.

NOTE Confidence: 0.822282296363636

00:14:44.190 --> 00:14:47.298 About 8% of the population will experience

NOTE Confidence: 0.822282296363636

00:14:47.298 --> 00:14:50.341 dramatic event in the life and meet

NOTE Confidence: 0.822282296363636

00:14:50.341 --> 00:14:52.216 PTSD diagnosis, lifetime diagnosis.

NOTE Confidence: 0.822282296363636

00:14:52.216 --> 00:14:52.744 However,

NOTE Confidence: 0.822282296363636

00:14:52.744 --> 00:14:56.440 we have lower emission in the monotherapy.

NOTE Confidence: 0.822282296363636

00:14:56.440 --> 00:14:59.320 30% remission in medication

NOTE Confidence: 0.822282296363636

00:14:59.320 --> 00:15:01.654 and 50% in psychotherapy,

NOTE Confidence: 0.822282296363636

00:15:01.654 --> 00:15:04.783 so they're in need for a new.

NOTE Confidence: 0.822282296363636

00:15:04.790 --> 00:15:07.496 And way of thinking of it.

NOTE Confidence: 0.822282296363636

00:15:07.500 --> 00:15:11.042 So fear is very hard to extinguish

NOTE Confidence: 0.822282296363636

00:15:11.042 --> 00:15:12.054 to extinction.

NOTE Confidence: 0.822282296363636

00:15:12.060 --> 00:15:12.453 Why?

NOTE Confidence: 0.822282296363636

00:15:12.453 --> 00:15:14.418 Because fear is learned instantly.

NOTE Confidence: 0.822282296363636

00:15:14.420 --> 00:15:16.280 You know you put your hand in a fire once.

NOTE Confidence: 0.822282296363636

00:15:16.280 --> 00:15:18.008 You don't have to do it more than

NOTE Confidence: 0.822282296363636

00:15:18.008 --> 00:15:19.730 once to know that it's not good

NOTE Confidence: 0.822282296363636

00:15:19.730 --> 00:15:21.735 idea and in the wild practice

NOTE Confidence: 0.822282296363636

00:15:21.735 --> 00:15:24.080 makes perfect is not an option.

NOTE Confidence: 0.822282296363636

00:15:24.080 --> 00:15:25.400 Fear is remember forever.

NOTE Confidence: 0.822282296363636

00:15:25.400 --> 00:15:27.380 So once you learn about danger,

NOTE Confidence: 0.887464653333333

00:15:27.380 --> 00:15:30.674 it is important not to have to relearn it.

NOTE Confidence: 0.887464653333333

00:15:30.680 --> 00:15:32.352 And that's the reason.

NOTE Confidence: 0.887464653333333

00:15:32.352 --> 00:15:35.299 It's so hard to change memories of

NOTE Confidence: 0.887464653333333

00:15:35.299 --> 00:15:38.187 fear because there are really in in in.

NOTE Confidence: 0.887464653333333

00:15:38.190 --> 00:15:39.914 Have a biological purpose?

00:15:39.914 --> 00:15:42.634 Is that you? You don't want to

00:15:42.634 --> 00:15:44.770 forget them when they study PTSD.

00:15:44.770 --> 00:15:47.465 The 90% of the studies are involved.

00:15:47.470 --> 00:15:50.508 What is called the Pavlovi and conditioning

00:15:50.510 --> 00:15:52.223 classical conditioning paradigm.

00:15:52.223 --> 00:15:54.507 Then in this paradigm,

00:15:54.510 --> 00:15:57.285 taking unconditional stimulus that causes

00:15:57.285 --> 00:15:59.879 aversive reaction like pain, fear.

00:15:59.879 --> 00:16:02.462 Here it will be like say my

00:16:02.462 --> 00:16:05.122 electric shock and you pair it

00:16:05.122 --> 00:16:06.966 with condition stimuli stimulus.

00:16:06.970 --> 00:16:08.860 Let's say sound so you.

00:16:08.860 --> 00:16:12.300 Play a song you see no effect on the animal.

00:16:12.300 --> 00:16:14.862 Then you pair the sound and the

00:16:14.862 --> 00:16:16.972 conditions stimulate with the electric

00:16:16.972 --> 00:16:18.856 show the unconditioned stimuli.

NOTE Confidence: 0.887464653333333

00:16:18.860 --> 00:16:20.576 When you take the shock away

NOTE Confidence: 0.887464653333333

00:16:20.576 --> 00:16:21.434 after several trial,

NOTE Confidence: 0.887464653333333

00:16:21.440 --> 00:16:23.234 the animal will respond to the

NOTE Confidence: 0.887464653333333

00:16:23.234 --> 00:16:24.780 tone as a conditional fear.

NOTE Confidence: 0.887464653333333

00:16:24.780 --> 00:16:26.560 You'll see increase blood pressure,

NOTE Confidence: 0.887464653333333

00:16:26.560 --> 00:16:28.312 heart rate, respiration,

NOTE Confidence: 0.887464653333333

00:16:28.312 --> 00:16:29.480 freezing behavior,

NOTE Confidence: 0.887464653333333

00:16:29.480 --> 00:16:31.328 and stress hormone release.

NOTE Confidence: 0.887464653333333

00:16:31.328 --> 00:16:34.100 When we're doing that in human,

NOTE Confidence: 0.887464653333333

00:16:34.100 --> 00:16:36.870 the most common paradigm is

NOTE Confidence: 0.887464653333333

00:16:36.870 --> 00:16:39.086 to pair like neutral.

NOTE Confidence: 0.887464653333333

00:16:39.090 --> 00:16:41.736 Stimulus like a square with a certain

NOTE Confidence: 0.887464653333333

00:16:41.736 --> 00:16:44.764 color with the electric shock and

NOTE Confidence: 0.887464653333333

00:16:44.764 --> 00:16:49.588 then to do an extinction trial.

NOTE Confidence: 0.887464653333333

00:16:49.590 --> 00:16:51.280 Tremendous amount of risk showed

NOTE Confidence: 0.887464653333333

00:16:51.280 --> 00:16:52.970 that individual was pretty bad.

NOTE Confidence: 0.887464653333333

00:16:52.970 --> 00:16:55.230 PTSD have impairment and extinction.

NOTE Confidence: 0.887464653333333

00:16:55.230 --> 00:16:56.748 Learning and recall,

NOTE Confidence: 0.887464653333333

00:16:56.748 --> 00:16:59.784 and dysregulation of the prefrontal cortex,

NOTE Confidence: 0.887464653333333

00:16:59.790 --> 00:17:00.723 amygdala, Circuit City.

NOTE Confidence: 0.887464653333333

00:17:00.723 --> 00:17:01.967 So the you see,

NOTE Confidence: 0.887464653333333

00:17:01.970 --> 00:17:03.774 the ventral medial prefrontal

NOTE Confidence: 0.887464653333333

00:17:03.774 --> 00:17:06.029 cortex in the extension trial,

NOTE Confidence: 0.887464653333333

00:17:06.030 --> 00:17:07.890 pressing the brakes and say,

NOTE Confidence: 0.887464653333333

00:17:07.890 --> 00:17:10.739 don't worry, it's safe, it's safe and,

NOTE Confidence: 0.887464653333333

00:17:10.740 --> 00:17:13.104 and reducing amygdala activation.

NOTE Confidence: 0.887464653333333

00:17:13.104 --> 00:17:16.346 Whereas you see hyperactivation of the

NOTE Confidence: 0.887464653333333

00:17:16.346 --> 00:17:18.974 ventral medial prefrontal cortex in PTSD?

NOTE Confidence: 0.887464653333333

00:17:18.980 --> 00:17:21.840 Failing to suppress amygdala?

NOTE Confidence: 0.887464653333333

00:17:21.840 --> 00:17:26.278 In response, hyper response to fear.

NOTE Confidence: 0.887464653333333

00:17:26.280 --> 00:17:26.644 Also,

NOTE Confidence: 0.887464653333333

00:17:26.644 --> 00:17:29.556 in PTSD there is a complete volume deficit.

NOTE Confidence: 0.887464653333333

00:17:29.560 --> 00:17:32.720 Smaller input campus in was

NOTE Confidence: 0.887464653333333

00:17:32.720 --> 00:17:35.248 shown in this population.

NOTE Confidence: 0.887464653333333

00:17:35.250 --> 00:17:36.944 It's not clear yet if it's a

NOTE Confidence: 0.887464653333333

00:17:36.944 --> 00:17:38.460 risk factor or consequences.

NOTE Confidence: 0.887464653333333

00:17:38.460 --> 00:17:40.495 I'm mentioning this brain area

NOTE Confidence: 0.887464653333333

00:17:40.495 --> 00:17:43.424 because there will be a part of

NOTE Confidence: 0.887464653333333

00:17:43.424 --> 00:17:45.469 the focus of my investigation.

NOTE Confidence: 0.887464653333333

00:17:45.470 --> 00:17:48.466 So in a study in my lab,

NOTE Confidence: 0.887464653333333

00:17:48.470 --> 00:17:50.668 we assess the ability to track changing

NOTE Confidence: 0.887464653333333

00:17:50.668 --> 00:17:52.505 contingency in the environment in

NOTE Confidence: 0.887464653333333

00:17:52.505 --> 00:17:54.169 post traumatic stress disorder,

NOTE Confidence: 0.887464653333333

00:17:54.170 --> 00:17:56.537 and we can think about it in in in

NOTE Confidence: 0.887464653333333

00:17:56.537 --> 00:17:58.826 a war zone, you are in a war zone.

NOTE Confidence: 0.887464653333333

00:17:58.830 --> 00:18:01.470 You hit by an IED.

NOTE Confidence: 0.887464653333333

00:18:01.470 --> 00:18:05.609 And then you know it was a garbage can,

NOTE Confidence: 0.887464653333333

00:18:05.610 --> 00:18:07.980 in very hypervigilant any garbage cans.

NOTE Confidence: 0.887464653333333

00:18:07.980 --> 00:18:11.090 You worried that will be.

NOTE Confidence: 0.887464653333333

00:18:11.090 --> 00:18:13.235 Dangerous consequences and then you

NOTE Confidence: 0.887464653333333

00:18:13.235 --> 00:18:16.509 have a friend that is a good friend.

NOTE Confidence: 0.887464653333333

00:18:16.510 --> 00:18:19.958 You he fights with you alongside with you.

NOTE Confidence: 0.887464653333333

00:18:19.960 --> 00:18:22.408 How are you going and coming back home?

NOTE Confidence: 0.887464653333333

00:18:22.410 --> 00:18:24.335 You don't want to continue to have

NOTE Confidence: 0.887464653333333

00:18:24.335 --> 00:18:26.070 this tremendous fear of a garbage can.

NOTE Confidence: 0.887464653333333

00:18:26.070 --> 00:18:28.282 You are and you Haven or whatever

NOTE Confidence: 0.887464653333333

00:18:28.282 --> 00:18:30.218 you are Tel Aviv and and.

NOTE Confidence: 0.887464653333333

00:18:30.220 --> 00:18:32.854 And this is something that you

NOTE Confidence: 0.887464653333333

00:18:32.854 --> 00:18:34.610 need to readjust yourself.

NOTE Confidence: 0.887464653333333

00:18:34.610 --> 00:18:35.146 However,

NOTE Confidence: 0.887464653333333

00:18:35.146 --> 00:18:38.362 your friend and you know started

NOTE Confidence: 0.887464653333333

00:18:38.362 --> 00:18:42.150 to ended up addicted to.

NOTE Confidence: 0.887464653333333

00:18:42.150 --> 00:18:43.240 Them.

NOTE Confidence: 0.887464653333333

00:18:43.240 --> 00:18:44.728 Substances become aggressive and

NOTE Confidence: 0.887464653333333

00:18:44.728 --> 00:18:46.960 causing you a lot of distress,

NOTE Confidence: 0.887464653333333

00:18:46.960 --> 00:18:48.625 so contingencies change in the

NOTE Confidence: 0.887464653333333

00:18:48.625 --> 00:18:51.320 environment and we need to update our

NOTE Confidence: 0.887464653333333

00:18:51.320 --> 00:18:54.420 perception of safety and dangerous

NOTE Confidence: 0.887464653333333

00:18:54.420 --> 00:18:57.662 because there is some level of of

NOTE Confidence: 0.887464653333333

00:18:57.662 --> 00:18:59.870 uncertainty in certain eventive life.

NOTE Confidence: 0.78724427

00:18:59.870 --> 00:19:02.810 It's not everything is fire or tiger.

NOTE Confidence: 0.78724427

00:19:02.810 --> 00:19:06.302 So we use what is called the reversal task.

NOTE Confidence: 0.78724427

00:19:06.310 --> 00:19:10.307 We have associated phase A with electric

NOTE Confidence: 0.78724427

00:19:10.307 --> 00:19:12.526 shock in the middle of the trial.

NOTE Confidence: 0.78724427

00:19:12.530 --> 00:19:15.813 We change the contingency and made people

NOTE Confidence: 0.78724427

00:19:15.813 --> 00:19:19.286 relearn what is safe and what is danger.

NOTE Confidence: 0.78724427

00:19:19.290 --> 00:19:23.394 It's about 24 trial for 12 each for each

NOTE Confidence: 0.78724427

00:19:23.394 --> 00:19:27.407 face in in the first half of the trial,

NOTE Confidence: 0.78724427

00:19:27.410 --> 00:19:30.196 and then we reverse another 16 trial

NOTE Confidence: 0.78724427

00:19:30.196 --> 00:19:33.236 for phase eight and B and half of

NOTE Confidence: 0.78724427

00:19:33.236 --> 00:19:37.470 them were associated with shocks.

NOTE Confidence: 0.78724427

00:19:37.470 --> 00:19:40.848 This is a combat veteran population,

NOTE Confidence: 0.78724427

00:19:40.850 --> 00:19:42.230 all exposed to trauma.

NOTE Confidence: 0.78724427

00:19:42.230 --> 00:19:44.909 Half of them were meeting criteria for PTSD,

NOTE Confidence: 0.78724427

00:19:44.910 --> 00:19:47.130 with of course, comorbid conditions

NOTE Confidence: 0.78724427

00:19:47.130 --> 00:19:48.906 of depression and anxiety.

NOTE Confidence: 0.78724427

00:19:48.910 --> 00:19:50.690 We excluded any substance

NOTE Confidence: 0.78724427

00:19:50.690 --> 00:19:52.915 use disorder in this study.

NOTE Confidence: 0.928496004285714

00:19:55.160 --> 00:19:57.064 So when we look at the population,

NOTE Confidence: 0.928496004285714

00:19:57.070 --> 00:19:58.970 regardless of the symptoms,

NOTE Confidence: 0.928496004285714

00:19:58.970 --> 00:20:01.345 we saw that the actually.

NOTE Confidence: 0.751318413333333

00:20:03.480 --> 00:20:07.170 Veterans exposed to trauma were laying.

NOTE Confidence: 0.751318413333333

00:20:07.170 --> 00:20:09.156 To differentiate between

NOTE Confidence: 0.751318413333333

00:20:09.156 --> 00:20:11.804 safety and unsafe faces,

NOTE Confidence: 0.751318413333333

00:20:11.810 --> 00:20:14.040 and if you look at the middle of the trial,

NOTE Confidence: 0.751318413333333

00:20:14.040 --> 00:20:17.270 where is the number 12?

NOTE Confidence: 0.751318413333333

00:20:17.270 --> 00:20:21.332 Trial, they successfully create a reverse

NOTE Confidence: 0.751318413333333

00:20:21.332 --> 00:20:24.452 cylinder and this is the most common

NOTE Confidence: 0.751318413333333

00:20:24.452 --> 00:20:27.467 analysis when you compare phase to Phase B.

NOTE Confidence: 0.751318413333333

00:20:27.470 --> 00:20:29.456 However, in psychiatry there is more

NOTE Confidence: 0.751318413333333

00:20:29.456 --> 00:20:31.529 advanced way to look about learning

NOTE Confidence: 0.751318413333333

00:20:31.529 --> 00:20:33.923 today and this is the Rescorla Wagner.

NOTE Confidence: 0.751318413333333

00:20:33.930 --> 00:20:36.429 I'm not going to go into computational

NOTE Confidence: 0.751318413333333

00:20:36.429 --> 00:20:38.167 psychiatrist because we are half

NOTE Confidence: 0.751318413333333

00:20:38.167 --> 00:20:39.687 of us is probably clinician,

NOTE Confidence: 0.751318413333333

00:20:39.690 --> 00:20:41.330 but the idea is that you can model.

NOTE Confidence: 0.751318413333333

00:20:41.330 --> 00:20:44.653 You know what you're going to do if you

NOTE Confidence: 0.751318413333333

00:20:44.653 --> 00:20:47.020 getting a shock to one square and then.

NOTE Confidence: 0.751318413333333

00:20:47.020 --> 00:20:49.064 You not getting and and you see,

NOTE Confidence: 0.751318413333333

00:20:49.070 --> 00:20:51.014 let's say that it's a Blue Square and then

NOTE Confidence: 0.751318413333333

00:20:51.014 --> 00:20:52.978 you being presented the blue score again

NOTE Confidence: 0.751318413333333

00:20:52.978 --> 00:20:54.908 and not getting shocked the next time

NOTE Confidence: 0.751318413333333

00:20:54.908 --> 00:20:56.651 that the Blue Square will be presented,

NOTE Confidence: 0.751318413333333

00:20:56.660 --> 00:20:59.257 you going to reduce your guards and

NOTE Confidence: 0.751318413333333

00:20:59.257 --> 00:21:01.938 expect your fear going to be lessened.

NOTE Confidence: 0.751318413333333

00:21:01.940 --> 00:21:02.328 However,

NOTE Confidence: 0.751318413333333

00:21:02.328 --> 00:21:05.044 if it's being followed by shock the

NOTE Confidence: 0.751318413333333

00:21:05.044 --> 00:21:07.837 next time you're going to update this

NOTE Confidence: 0.751318413333333

00:21:07.840 --> 00:21:09.718 so you can really calculate them.

NOTE Confidence: 0.751318413333333

00:21:09.720 --> 00:21:13.072 And here we using galvanic skin response

NOTE Confidence: 0.751318413333333

00:21:13.072 --> 00:21:16.474 response as a proxy for this stress,

NOTE Confidence: 0.751318413333333

00:21:16.480 --> 00:21:17.509 you can really.

NOTE Confidence: 0.751318413333333

00:21:17.509 --> 00:21:19.567 Measure those what you expected and

NOTE Confidence: 0.751318413333333

00:21:19.567 --> 00:21:21.911 then what you get and what the reaction

NOTE Confidence: 0.751318413333333

00:21:21.911 --> 00:21:24.518 is to each stimulus and build what is

NOTE Confidence: 0.751318413333333

00:21:24.518 --> 00:21:27.970 called the alpha the learning rate.

NOTE Confidence: 0.751318413333333

00:21:27.970 --> 00:21:30.786 So when we look at the learning rates

NOTE Confidence: 0.751318413333333

00:21:30.790 --> 00:21:34.086 and in this population that we we saw

NOTE Confidence: 0.751318413333333

00:21:34.086 --> 00:21:36.686 that hypothesis symptoms was associated

NOTE Confidence: 0.751318413333333

00:21:36.686 --> 00:21:39.506 with learning lower learning rate.

NOTE Confidence: 0.751318413333333

00:21:39.510 --> 00:21:41.628 OK, and that was very interesting,

NOTE Confidence: 0.751318413333333

00:21:41.630 --> 00:21:43.678 because amygdala tracks value

NOTE Confidence: 0.751318413333333

00:21:43.678 --> 00:21:46.750 less as a function of symptoms.

NOTE Confidence: 0.751318413333333

00:21:46.750 --> 00:21:47.790 When you look at it.

NOTE Confidence: 0.751318413333333

00:21:47.790 --> 00:21:49.626 When you're looking at better here,

NOTE Confidence: 0.751318413333333

00:21:49.630 --> 00:21:51.985 it's represent the contribution of

NOTE Confidence: 0.751318413333333

00:21:51.985 --> 00:21:54.490 expected value to the amygdala signal.

NOTE Confidence: 0.751318413333333

00:21:54.490 --> 00:21:55.660 So not just.

NOTE Confidence: 0.751318413333333

00:21:55.660 --> 00:21:58.500 In that they have a lower learning rate.

NOTE Confidence: 0.751318413333333

00:21:58.500 --> 00:22:01.396 This is really have a direct

NOTE Confidence: 0.751318413333333

00:22:01.396 --> 00:22:04.020 relationship to amygdala activation.

NOTE Confidence: 0.751318413333333

00:22:04.020 --> 00:22:07.284 In response to what you expect to get.

NOTE Confidence: 0.494280878222222

00:22:09.750 --> 00:22:11.406 More complicating mode,

NOTE Confidence: 0.494280878222222

00:22:11.406 --> 00:22:13.614 the computational psychiatry that

NOTE Confidence: 0.494280878222222

00:22:13.614 --> 00:22:17.084 flourish now, actually there is a

NOTE Confidence: 0.494280878222222

00:22:17.084 --> 00:22:20.630 learning rate in the original Rascal.

NOTE Confidence: 0.494280878222222

00:22:20.630 --> 00:22:22.780 Assume a constant learning like.

NOTE Confidence: 0.494280878222222

00:22:22.780 --> 00:22:25.748 Here we use what is called the hybrid

NOTE Confidence: 0.494280878222222

00:22:25.748 --> 00:22:28.517 model that take another Paris home

NOTE Confidence: 0.494280878222222

00:22:28.517 --> 00:22:31.439 model that allowed to prediction error.

NOTE Confidence: 0.494280878222222

00:22:31.440 --> 00:22:33.708 Wait, what does it mean that every

NOTE Confidence: 0.494280878222222

00:22:33.708 --> 00:22:36.138 time that we learn by mismatches,

NOTE Confidence: 0.494280878222222

00:22:36.140 --> 00:22:38.084 so you expect one things and

NOTE Confidence: 0.494280878222222

00:22:38.084 --> 00:22:40.233 get another thing, so you then?

NOTE Confidence: 0.494280878222222

00:22:40.233 --> 00:22:42.590 Correct your learning so the.

NOTE Confidence: 0.494280878222222

00:22:42.590 --> 00:22:45.730 Pierce Holes allows for, uh,

NOTE Confidence: 0.494280878222222

00:22:45.730 --> 00:22:51.190 this weight that everyone puts into that.

NOTE Confidence: 0.494280878222222

00:22:51.190 --> 00:22:53.410 At updating of the learning

NOTE Confidence: 0.494280878222222

00:22:53.410 --> 00:22:56.310 in the course of a trial.

NOTE Confidence: 0.494280878222222

00:22:56.310 --> 00:22:59.190 So and we when we tested model fit,

NOTE Confidence: 0.494280878222222

00:22:59.190 --> 00:23:01.842 it showed that the hybrid model

NOTE Confidence: 0.494280878222222

00:23:01.842 --> 00:23:04.546 fits the learning better and so we

NOTE Confidence: 0.494280878222222

00:23:04.546 --> 00:23:06.730 further look at that and what we

NOTE Confidence: 0.494280878222222

00:23:06.730 --> 00:23:09.880 found out was extremely interested.

NOTE Confidence: 0.494280878222222

00:23:09.880 --> 00:23:12.958 Interesting phenomena is that people with

NOTE Confidence: 0.494280878222222

00:23:12.958 --> 00:23:16.729 higher symptoms of PTSD actually put.

NOTE Confidence: 0.494280878222222

00:23:16.729 --> 00:23:21.187 Higher weights to the prediction error,

NOTE Confidence: 0.494280878222222

00:23:21.190 --> 00:23:22.905 so if there is a Mitch match

NOTE Confidence: 0.494280878222222

00:23:22.905 --> 00:23:23.395 they overcorrect.

NOTE Confidence: 0.494280878222222

00:23:23.400 --> 00:23:26.244 So let's say I'm expecting to get a shot.

36

NOTE Confidence: 0.494280878222222

00:23:26.250 --> 00:23:28.050 And I'm not getting the shock the next

NOTE Confidence: 0.494280878222222

00:23:28.050 --> 00:23:29.955 time that there will be the Blue Square.

NOTE Confidence: 0.494280878222222

00:23:29.960 --> 00:23:31.650 I will people with higher

NOTE Confidence: 0.494280878222222

00:23:31.650 --> 00:23:33.002 PTSD symptoms were lower.

NOTE Confidence: 0.494280878222222

00:23:33.010 --> 00:23:34.674 The expectation too much,

NOTE Confidence: 0.494280878222222

00:23:34.674 --> 00:23:37.650 and if they're gonna get a shock

NOTE Confidence: 0.494280878222222

00:23:37.650 --> 00:23:39.050 when they expect no shock,

NOTE Confidence: 0.494280878222222

00:23:39.050 --> 00:23:41.780 they're going to be overly anxious

NOTE Confidence: 0.494280878222222

00:23:41.780 --> 00:23:46.000 the next time that they go in to

NOTE Confidence: 0.494280878222222

00:23:46.000 --> 00:23:48.850 see this dangerous Blue Square.

NOTE Confidence: 0.494280878222222

00:23:48.850 --> 00:23:51.265 So kind of they were all over.

NOTE Confidence: 0.494280878222222

00:23:51.270 --> 00:23:52.653 In the learning.

NOTE Confidence: 0.494280878222222

00:23:52.653 --> 00:23:55.419 Paradigm so you can think about

NOTE Confidence: 0.494280878222222

00:23:55.419 --> 00:23:57.969 this as I'm getting a shock.

NOTE Confidence: 0.494280878222222

00:23:57.970 --> 00:23:59.422 I'm not getting a shock at

NOTE Confidence: 0.494280878222222

00:23:59.422 --> 00:24:00.390 some level of ambiguity.

NOTE Confidence: 0.494280878222222

00:24:00.390 --> 00:24:02.223 Uncertainty and uncertainty

NOTE Confidence: 0.494280878222222

00:24:02.223 --> 00:24:05.889 is very high in a battlefield.

NOTE Confidence: 0.494280878222222

00:24:05.890 --> 00:24:08.626 You know you never know what's gonna happen.

NOTE Confidence: 0.494280878222222

00:24:08.630 --> 00:24:10.734 I'm gonna be hit is gonna be the

NOTE Confidence: 0.494280878222222

00:24:10.734 --> 00:24:12.498 patrol gonna be relaxing and and

NOTE Confidence: 0.494280878222222

00:24:12.498 --> 00:24:14.256 you know it's nothing gonna be

NOTE Confidence: 0.494280878222222

00:24:14.316 --> 00:24:16.246 just another mundane and actually

NOTE Confidence: 0.494280878222222

00:24:16.250 --> 00:24:17.744 anyone that served long time a

NOTE Confidence: 0.494280878222222

00:24:17.744 --> 00:24:19.711 period even in a war zone sometimes

NOTE Confidence: 0.494280878222222

00:24:19.711 --> 00:24:21.529 it's boring you going and you're

NOTE Confidence: 0.494280878222222

00:24:21.529 --> 00:24:23.319 doing foot patrol on the same St.

NOTE Confidence: 0.494280878222222

00:24:23.320 --> 00:24:24.640 Over and over again,

NOTE Confidence: 0.494280878222222

00:24:24.640 --> 00:24:26.800 nothing happened and then one day

NOTE Confidence: 0.494280878222222

00:24:26.800 --> 00:24:29.320 something happened and it can be

NOTE Confidence: 0.494280878222222

00:24:29.320 --> 00:24:32.972 extremely unstable and environment.

NOTE Confidence: 0.494280878222222

00:24:32.972 --> 00:24:35.859 It's unclear, of course if.

NOTE Confidence: 0.691824227142857

00:24:38.600 --> 00:24:40.930 Answered if I'm untolerable until

NOTE Confidence: 0.691824227142857

00:24:40.930 --> 00:24:43.260 ability to being untolerable to

NOTE Confidence: 0.691824227142857

00:24:43.335 --> 00:24:45.657 uncertainty is a risk factor or

NOTE Confidence: 0.691824227142857

00:24:45.657 --> 00:24:47.640 it's a consequences of PTSD.

NOTE Confidence: 0.691824227142857

00:24:47.640 --> 00:24:49.572 That's something that of course in

NOTE Confidence: 0.691824227142857

00:24:49.572 --> 00:24:51.690 cross sectional study we cannot answer.

NOTE Confidence: 0.643882013333333

00:24:54.950 --> 00:24:56.900 Not not interesting.

NOTE Confidence: 0.643882013333333

00:24:56.900 --> 00:25:00.098 Thing is that similar brain area

NOTE Confidence: 0.643882013333333

00:25:00.098 --> 00:25:02.178 are implicated in decision making

NOTE Confidence: 0.643882013333333

00:25:02.178 --> 00:25:04.149 under uncertainty and fear learning,

NOTE Confidence: 0.643882013333333

00:25:04.150 --> 00:25:06.684 and those are of course medium prefrontal,

NOTE Confidence: 0.643882013333333

00:25:06.690 --> 00:25:08.418 cortex, striatum and amygdala.

NOTE Confidence: 0.643882013333333

00:25:08.418 --> 00:25:11.938 So here in this study we have looked

NOTE Confidence: 0.643882013333333

00:25:11.938 --> 00:25:14.906 at decision making and whereas in the

NOTE Confidence: 0.643882013333333

00:25:14.906 --> 00:25:17.687 fear conditioning you are passive,

NOTE Confidence: 0.643882013333333

00:25:17.690 --> 00:25:19.502 you're making assumption what's going to

NOTE Confidence: 0.643882013333333

00:25:19.502 --> 00:25:21.189 happen, but you don't have to act here.

NOTE Confidence: 0.643882013333333

00:25:21.190 --> 00:25:24.238 We stand instead of asking people.

NOTE Confidence: 0.643882013333333

00:25:24.240 --> 00:25:26.759 Our verse in a questionnaire that we

NOTE Confidence: 0.643882013333333

00:25:26.759 --> 00:25:28.852 use a task behavioral task and then

NOTE Confidence: 0.643882013333333

00:25:28.852 --> 00:25:31.037 you have to make active decision.

NOTE Confidence: 0.643882013333333

00:25:31.040 --> 00:25:33.210 You have to act upon your decision.

NOTE Confidence: 0.643882013333333

00:25:33.210 --> 00:25:34.192 I will.

NOTE Confidence: 0.643882013333333

00:25:34.192 --> 00:25:36.612 This is another economic task

NOTE Confidence: 0.643882013333333

00:25:36.612 --> 00:25:39.776 used by Levy Lab that uses PTSD

NOTE Confidence: 0.643882013333333

00:25:39.780 --> 00:25:40.998 patient and you have a lot.

NOTE Confidence: 0.643882013333333

00:25:41.000 --> 00:25:43.208 You have to choose either to

NOTE Confidence: 0.643882013333333

00:25:43.208 --> 00:25:45.128 play lottery or take the money.

NOTE Confidence: 0.643882013333333

00:25:45.128 --> 00:25:47.440 So you and and this is real money involved.

NOTE Confidence: 0.643882013333333

00:25:47.440 --> 00:25:48.648 People getting down money.

NOTE Confidence: 0.643882013333333

00:25:48.648 --> 00:25:50.460 The bags are in the lab,

NOTE Confidence: 0.643882013333333

00:25:50.460 --> 00:25:52.218 they can make it's real for

NOTE Confidence: 0.643882013333333

00:25:52.218 --> 00:25:54.258 them so you have a 100 chips.

NOTE Confidence: 0.643882013333333

00:25:54.260 --> 00:25:55.452 You have to choose.

NOTE Confidence: 0.643882013333333

00:25:55.452 --> 00:25:57.148 Either too, if you pull a red one,

NOTE Confidence: 0.643882013333333

00:25:57.150 --> 00:25:58.795 you're gonna get $5 if you or

NOTE Confidence: 0.643882013333333

00:25:58.795 --> 00:26:00.448 you don't wanna play the lottery,

NOTE Confidence: 0.643882013333333

00:26:00.450 --> 00:26:02.508 just take the $5 in destroy so

NOTE Confidence: 0.643882013333333

00:26:02.508 --> 00:26:04.129 of course doesn't make sense.

NOTE Confidence: 0.643882013333333

00:26:04.130 --> 00:26:06.321 You have only 50%, so you're gonna

NOTE Confidence: 0.643882013333333

00:26:06.321 --> 00:26:08.826 take the $5 Y to play the lottery.

NOTE Confidence: 0.643882013333333

00:26:08.830 --> 00:26:10.250 Then we're raising the beds.

NOTE Confidence: 0.643882013333333

00:26:10.250 --> 00:26:12.898 OK, do you wanna play the lottery for

NOTE Confidence: 0.643882013333333

00:26:12.898 --> 00:26:15.567 the chance to win $10 or take the five?

NOTE Confidence: 0.643882013333333

00:26:15.570 --> 00:26:19.310 So here like there is 50% chance to get $10.

NOTE Confidence: 0.643882013333333

00:26:19.310 --> 00:26:21.318 That's meaning that OK,

NOTE Confidence: 0.643882013333333

00:26:21.318 --> 00:26:23.828 theoretically have $5 in the

NOTE Confidence: 0.643882013333333

00:26:23.828 --> 00:26:25.870 bag if you're not risk taking.

NOTE Confidence: 0.643882013333333

00:26:25.870 --> 00:26:27.949 I said, let me take the file.

NOTE Confidence: 0.643882013333333

00:26:27.950 --> 00:26:29.096 If you like a little bit

NOTE Confidence: 0.643882013333333

00:26:29.096 --> 00:26:30.080 more with taking you say,

NOTE Confidence: 0.643882013333333

00:26:30.080 --> 00:26:32.186 let's let me play the lottery.

NOTE Confidence: 0.643882013333333

00:26:32.190 --> 00:26:34.446 Eventually you raise the amount and

NOTE Confidence: 0.643882013333333

00:26:34.446 --> 00:26:36.358 eventually at one point everybody

NOTE Confidence: 0.643882013333333

00:26:36.358 --> 00:26:38.766 will skip the lottery and then you

NOTE Confidence: 0.643882013333333

00:26:38.766 --> 00:26:41.048 can model the behavior about risk.

NOTE Confidence: 0.643882013333333

00:26:41.050 --> 00:26:44.443 And this can be done in gain and loss.

NOTE Confidence: 0.643882013333333

00:26:44.450 --> 00:26:47.355 However, there is 2 type of uncertainty.

NOTE Confidence: 0.643882013333333

00:26:47.360 --> 00:26:49.410 The Riskware probably are known.

NOTE Confidence: 0.643882013333333

00:26:49.410 --> 00:26:50.270 So if you have like,

NOTE Confidence: 0.643882013333333

00:26:50.270 --> 00:26:52.447 you're going to a medical procedure today,

NOTE Confidence: 0.643882013333333

00:26:52.450 --> 00:26:55.660 cancer treatment have really good.

NOTE Confidence: 0.643882013333333

00:26:55.660 --> 00:26:58.260 Prediction it was is a rate of success.

NOTE Confidence: 0.643882013333333

00:26:58.260 --> 00:27:00.458 You being described this as the treatment.

NOTE Confidence: 0.643882013333333

00:27:00.460 --> 00:27:01.820 This is what's gonna happen.

NOTE Confidence: 0.643882013333333

00:27:01.820 --> 00:27:03.740 This is the likelihood if you

NOTE Confidence: 0.643882013333333

00:27:03.740 --> 00:27:05.382 do this kind of treatment.

NOTE Confidence: 0.643882013333333

00:27:05.382 --> 00:27:07.780 This however, life is full of ambiguity.

NOTE Confidence: 0.643882013333333

00:27:07.780 --> 00:27:09.730 We don't know exactly what

NOTE Confidence: 0.643882013333333

00:27:09.730 --> 00:27:10.900 the probability are,

NOTE Confidence: 0.643882013333333

00:27:10.900 --> 00:27:14.158 and this is another time of

NOTE Confidence: 0.643882013333333

00:27:14.158 --> 00:27:17.480 uncertainty that we call ambiguity.

NOTE Confidence: 0.643882013333333

00:27:17.480 --> 00:27:19.793 And we can create ambiguity in this task too.

NOTE Confidence: 0.643882013333333

00:27:19.800 --> 00:27:22.596 So let's take here in again,

NOTE Confidence: 0.643882013333333

00:27:22.600 --> 00:27:24.958 we put some level of ambiguity.

NOTE Confidence: 0.643882013333333

00:27:24.960 --> 00:27:27.975 You don't know how many chips in the bag,

NOTE Confidence: 0.643882013333333

00:27:27.980 --> 00:27:29.750 so you can play the lottery.

NOTE Confidence: 0.643882013333333

00:27:29.750 --> 00:27:31.794 You can take $5 or play the

NOTE Confidence: 0.643882013333333

00:27:31.794 --> 00:27:33.079 lottery and get $20.

NOTE Confidence: 0.643882013333333

00:27:33.079 --> 00:27:34.306 However, you know,

NOTE Confidence: 0.643882013333333

00:27:34.306 --> 00:27:36.760 let's say I'm extremely risk averse.

NOTE Confidence: 0.643882013333333

00:27:36.760 --> 00:27:39.315 I say OK, they tricking me here.

NOTE Confidence: 0.643882013333333

00:27:39.320 --> 00:27:41.865 I think this long labs

NOTE Confidence: 0.643882013333333

00:27:41.865 --> 00:27:44.760 are going to screw me I.

NOTE Confidence: 0.643882013333333

00:27:44.760 --> 00:27:47.140 Imagining there is 75 in

NOTE Confidence: 0.643882013333333

00:27:47.140 --> 00:27:49.520 blue chip and only 25.

NOTE Confidence: 0.643882013333333

00:27:49.520 --> 00:27:51.116 I'm not going to play the lottery.

NOTE Confidence: 0.643882013333333

00:27:51.120 --> 00:27:52.620 I'm gonna take the $5.

NOTE Confidence: 0.643882013333333

00:27:52.620 --> 00:27:54.215 So in this subject head

NOTE Confidence: 0.643882013333333

00:27:54.215 --> 00:27:55.810 there is already created a

NOTE Confidence: 0.847143268181818

00:27:55.881 --> 00:28:00.936 situation. There is 75 blue, 25 red.

NOTE Confidence: 0.847143268181818

00:28:00.940 --> 00:28:02.664 However, when we change

00:28:02.664 --> 00:28:04.388 the contingency to laws.

00:28:04.390 --> 00:28:10.365 This subjects think maybe maybe

00:28:10.365 --> 00:28:13.970 I if there is actually 75 blue.

00:28:13.970 --> 00:28:16.007 It's better to play the lottery then

00:28:16.007 --> 00:28:17.928 you're not going to lose any money,

00:28:17.930 --> 00:28:20.317 but suddenly that change the mind and

00:28:20.317 --> 00:28:22.770 thinking maybe there is actually 275 red.

00:28:22.770 --> 00:28:24.930 I'm going to lose 20 bucks.

00:28:24.930 --> 00:28:27.338 So they decide not to play the lottery

00:28:27.338 --> 00:28:29.817 again and lose only $5 and we actually

00:28:29.817 --> 00:28:31.719 take the money away from them.

00:28:31.720 --> 00:28:34.120 So you can think about how in the

00:28:34.120 --> 00:28:36.795 same bag and that existed in the lab,

00:28:36.800 --> 00:28:39.885 can be the same time 75 blue if

00:28:39.885 --> 00:28:45.590 you playing on a game or 75 in in.

00:28:45.590 --> 00:28:47.746 Road if you playing under last condition,

NOTE Confidence: 0.847143268181818

00:28:47.750 --> 00:28:49.526 so this is in our head.

NOTE Confidence: 0.847143268181818

00:28:49.530 --> 00:28:52.914 Of course there is not 150 chips in there.

NOTE Confidence: 0.847143268181818

00:28:52.914 --> 00:28:56.148 It's only 100 so you change your perception.

NOTE Confidence: 0.847143268181818

00:28:56.150 --> 00:28:58.970 Depends on if you thinking it's

NOTE Confidence: 0.847143268181818

00:28:58.970 --> 00:29:02.650 a aversive or a positive outcome.

NOTE Confidence: 0.847143268181818

00:29:02.650 --> 00:29:05.536 So the study we manipulated different

NOTE Confidence: 0.847143268181818

00:29:05.536 --> 00:29:08.345 level of ambiguity and risk taking

NOTE Confidence: 0.847143268181818

00:29:08.345 --> 00:29:09.949 and what we found.

NOTE Confidence: 0.847143268181818

00:29:09.950 --> 00:29:15.770 It's extremely interesting that people.

NOTE Confidence: 0.847143268181818

00:29:15.770 --> 00:29:17.698 With post traumatic stress

NOTE Confidence: 0.847143268181818

00:29:17.698 --> 00:29:19.626 disorder versus averse storm,

NOTE Confidence: 0.847143268181818

00:29:19.630 --> 00:29:20.071 big,

NOTE Confidence: 0.847143268181818

00:29:20.071 --> 00:29:22.276 witty only under negative outcome

NOTE Confidence: 0.847143268181818

00:29:22.276 --> 00:29:25.447 and this is the time the proportion

NOTE Confidence: 0.847143268181818

00:29:25.447 --> 00:29:28.534 that people choose not to play the

NOTE Confidence: 0.847143268181818

00:29:28.618 --> 00:29:32.634 lottery in all other domain of risk

NOTE Confidence: 0.847143268181818

00:29:32.634 --> 00:29:35.198 under a gain and loss in the reward.

NOTE Confidence: 0.847143268181818

00:29:35.200 --> 00:29:37.856 There was no differences.

NOTE Confidence: 0.847143268181818

00:29:37.856 --> 00:29:38.520 Again,

NOTE Confidence: 0.847143268181818

00:29:38.520 --> 00:29:40.914 in the area of a competition psychiatry,

NOTE Confidence: 0.847143268181818

00:29:40.920 --> 00:29:43.083 you can really create what is called

NOTE Confidence: 0.847143268181818

00:29:43.083 --> 00:29:44.939 subjective value for each individual,

NOTE Confidence: 0.847143268181818

00:29:44.940 --> 00:29:48.328 so you can have a single number

NOTE Confidence: 0.847143268181818

00:29:48.328 --> 00:29:50.699 represent someone attitude or a loss.

NOTE Confidence: 0.847143268181818

00:29:50.700 --> 00:29:56.320 Either in the ambiguity in or risk condition,

NOTE Confidence: 0.847143268181818

00:29:56.320 --> 00:30:00.660 and again when we have examined this.

NOTE Confidence: 0.847143268181818

00:30:00.660 --> 00:30:02.607 Subjective value again,

NOTE Confidence: 0.847143268181818

00:30:02.607 --> 00:30:07.710 we found it on individual with PTSD had.

NOTE Confidence: 0.847143268181818

00:30:07.710 --> 00:30:09.430 We reversed one big witty,

NOTE Confidence: 0.847143268181818

00:30:09.430 --> 00:30:11.118 only under lost condition.

NOTE Confidence: 0.75477624

47

00:30:13.380 --> 00:30:16.524 So one last thing,

NOTE Confidence: 0.75477624

00:30:16.524 --> 00:30:19.414 when we took those combat exposure,

NOTE Confidence: 0.75477624

00:30:19.414 --> 00:30:22.816 the level of combat exposure was

NOTE Confidence: 0.75477624

00:30:22.816 --> 00:30:24.420 significantly associated with.

NOTE Confidence: 0.75477624

00:30:24.420 --> 00:30:26.248 PTSD symptom, and specifically

NOTE Confidence: 0.75477624

00:30:26.248 --> 00:30:28.076 with anxious arousal symptoms.

NOTE Confidence: 0.75477624

00:30:28.080 --> 00:30:30.744 Those are the hyper vigilance or

NOTE Confidence: 0.75477624

00:30:30.744 --> 00:30:32.520 exaggerated title response exactly.

NOTE Confidence: 0.75477624

00:30:32.520 --> 00:30:35.070 Those things that reflects in the

NOTE Confidence: 0.75477624

00:30:35.070 --> 00:30:36.890 fear conditioning and paradigm

NOTE Confidence: 0.75477624

00:30:36.890 --> 00:30:40.770 that we use early when we plug the.

NOTE Confidence: 0.75477624

00:30:40.770 --> 00:30:43.620 Subjective value for ambiguity under loss.

NOTE Confidence: 0.75477624

00:30:43.620 --> 00:30:44.937 It's totally mediated.

NOTE Confidence: 0.75477624

00:30:44.937 --> 00:30:47.571 The direct relationship between the level

NOTE Confidence: 0.75477624

00:30:47.571 --> 00:30:51.220 of combat exposure and the PTSD symptoms.

NOTE Confidence: 0.75477624

00:30:51.220 --> 00:30:52.840 Although we can,

48

00:30:52.840 --> 00:30:54.320 it's not a longitudinal standing.

00:30:54.320 --> 00:30:56.972 We know that hey happened before

00:30:56.972 --> 00:30:59.882 be thus can be what schedule,

00:30:59.882 --> 00:31:02.166 relationship and this schedule

00:31:02.166 --> 00:31:04.590 relationship you know.

00:31:04.590 --> 00:31:07.590 I'm fully mediated here by the level of.

00:31:10.460 --> 00:31:14.180 Aversive nastu ambiguous loss.

00:31:14.180 --> 00:31:17.900 So you can think.

00:31:17.900 --> 00:31:22.156 You can think about this PC population

00:31:22.160 --> 00:31:24.834 that we what we finding that they

00:31:24.834 --> 00:31:27.421 have hard time to deal with learning

00:31:27.421 --> 00:31:30.228 and updating when there is some level

00:31:30.228 --> 00:31:32.399 of ambiguity in the environment,

00:31:32.400 --> 00:31:35.548 and specifically when those

00:31:35.548 --> 00:31:37.909 decisions are involved.

00:31:37.910 --> 00:31:41.390 A negative outcome elect you know,

NOTE Confidence: 0.764559775

00:31:41.390 --> 00:31:43.450 mild shocks.

NOTE Confidence: 0.764559775

00:31:43.450 --> 00:31:47.154 And here we also show that it's can

NOTE Confidence: 0.764559775

00:31:47.154 --> 00:31:52.306 replicate it in in monetary losses and gain,

NOTE Confidence: 0.764559775

00:31:52.310 --> 00:31:55.330 whereas we didn't find anything.

NOTE Confidence: 0.764559775

00:31:55.330 --> 00:31:59.026 In the game domain.

NOTE Confidence: 0.764559775

00:31:59.026 --> 00:32:02.326 And so when we thinking all the study that

NOTE Confidence: 0.764559775

00:32:02.326 --> 00:32:05.433 my lab did and I was working as a clinician,

NOTE Confidence: 0.764559775

00:32:05.440 --> 00:32:07.708 and we I realized we're not dealing

NOTE Confidence: 0.764559775

00:32:07.708 --> 00:32:09.553 actually with the trauma, memory,

NOTE Confidence: 0.764559775

00:32:09.553 --> 00:32:11.468 trauma memory is very complex.

NOTE Confidence: 0.764559775

00:32:11.470 --> 00:32:13.510 It has connection to the self.

NOTE Confidence: 0.764559775

00:32:13.510 --> 00:32:15.148 It's part of who we are.

NOTE Confidence: 0.764559775

00:32:15.150 --> 00:32:17.215 We take our past present

NOTE Confidence: 0.764559775

00:32:17.215 --> 00:32:18.867 and we make interpretation.

NOTE Confidence: 0.764559775

00:32:18.870 --> 00:32:21.607 You know, the over over generalization fears,

NOTE Confidence: 0.764559775

00:32:21.610 --> 00:32:24.545 really, maybe express itself

NOTE Confidence: 0.764559775

00:32:24.545 --> 00:32:26.365 in our avoidance behavior.

NOTE Confidence: 0.764559775

00:32:26.370 --> 00:32:27.942 We are very jumpy.

NOTE Confidence: 0.764559775

00:32:27.942 --> 00:32:30.300 But the the the trauma memory

NOTE Confidence: 0.764559775

00:32:30.381 --> 00:32:32.509 and I did a lot of trauma,

NOTE Confidence: 0.764559775

00:32:32.510 --> 00:32:34.742 exposure and trauma focused

NOTE Confidence: 0.764559775

00:32:34.742 --> 00:32:36.974 psychotherapy and training it.

NOTE Confidence: 0.764559775

00:32:36.980 --> 00:32:39.896 And you realize when you are.

NOTE Confidence: 0.764559775

00:32:39.900 --> 00:32:42.249 Talking to patient, there is much more to it,

NOTE Confidence: 0.764559775

00:32:42.250 --> 00:32:45.610 just pure fear response.

NOTE Confidence: 0.764559775

00:32:45.610 --> 00:32:47.438 So trauma focused.

NOTE Confidence: 0.764559775

00:32:47.438 --> 00:32:48.920 Psychotherapy is effective.

NOTE Confidence: 0.764559775

00:32:48.920 --> 00:32:51.932 It's first line intervention recommended by

NOTE Confidence: 0.764559775

00:32:51.932 --> 00:32:55.040 all clinical guidelines published to date.

NOTE Confidence: 0.764559775

00:32:55.040 --> 00:32:58.337 It's ranging from 9 to 12 sessions.

NOTE Confidence: 0.764559775

00:32:58.340 --> 00:32:58.620 However,

NOTE Confidence: 0.764559775

00:32:58.620 --> 00:33:00.860 we know that there is high dropout rates,

NOTE Confidence: 0.764559775

00:33:00.860 --> 00:33:03.597 about 50% of the people drop out

NOTE Confidence: 0.764559775

00:33:03.597 --> 00:33:05.540 and remissions are only 50%,

NOTE Confidence: 0.764559775

00:33:05.540 --> 00:33:09.019 so there is a need for shift.

NOTE Confidence: 0.764559775

00:33:09.020 --> 00:33:10.196 There is a.

NOTE Confidence: 0.764559775

00:33:10.196 --> 00:33:12.156 2 exposure 2 component to

NOTE Confidence: 0.764559775

00:33:12.156 --> 00:33:14.080 trauma focused psychotherapy.

NOTE Confidence: 0.764559775

00:33:14.080 --> 00:33:15.052 It's very possible is.

NOTE Confidence: 0.764559775

00:33:15.052 --> 00:33:16.267 That's why I like it.

NOTE Confidence: 0.764559775

00:33:16.270 --> 00:33:17.566 One is the exposure.

NOTE Confidence: 0.764559775

00:33:17.566 --> 00:33:19.755 Go out there, let's inhibit the

NOTE Confidence: 0.764559775

00:33:19.755 --> 00:33:21.375 over generalization of fear.

NOTE Confidence: 0.764559775

00:33:21.380 --> 00:33:23.620 You're gonna face a lot of garbage.

NOTE Confidence: 0.764559775

00:33:23.620 --> 00:33:25.628 Can make sure that you know you know

NOTE Confidence: 0.764559775

00:33:25.628 --> 00:33:27.819 they're safe and there will be an inhibition.

NOTE Confidence: 0.764559775

00:33:27.820 --> 00:33:29.780 However, there is other component.

NOTE Confidence: 0.764559775

00:33:29.780 --> 00:33:32.396 It's this really experiencing the memory.

NOTE Confidence: 0.764559775

00:33:32.400 --> 00:33:35.417 And when we conceptualize it as a

NOTE Confidence: 0.764559775

00:33:35.417 --> 00:33:37.640 failure to consolidate the memory,

NOTE Confidence: 0.764559775

00:33:37.640 --> 00:33:39.385 one memory consolidation is when

NOTE Confidence: 0.764559775

00:33:39.385 --> 00:33:41.130 you bring up the memory.

NOTE Confidence: 0.764559775

00:33:41.130 --> 00:33:42.792 Into label states.

NOTE Confidence: 0.764559775

00:33:42.792 --> 00:33:43.900 So consciousness.

NOTE Confidence: 0.764559775

00:33:43.900 --> 00:33:45.344 It's amendable to change,

NOTE Confidence: 0.764559775

00:33:45.344 --> 00:33:46.066 you can.

NOTE Confidence: 0.764559775

00:33:46.070 --> 00:33:48.884 It's like a material in the

NOTE Confidence: 0.764559775

00:33:48.884 --> 00:33:51.436 hands of the therapist to help

NOTE Confidence: 0.764559775

00:33:51.436 --> 00:33:53.464 the patient to rethink about it

NOTE Confidence: 0.764559775

00:33:53.464 --> 00:33:55.659 and put a new meaning to it.

NOTE Confidence: 0.764559775

00:33:55.660 --> 00:33:57.110 It's not an easy task,

NOTE Confidence: 0.764559775

00:33:57.110 --> 00:34:00.344 but however it it it's you you

NOTE Confidence: 0.764559775

00:34:00.344 --> 00:34:03.044 can think about and let's say

NOTE Confidence: 0.764559775

00:34:03.044 --> 00:34:05.672 for me like there was event.

NOTE Confidence: 0.764559775

00:34:05.680 --> 00:34:08.221 That we are hit by an IED

NOTE Confidence: 0.764559775

00:34:08.221 --> 00:34:10.408 and I remember that I was.

NOTE Confidence: 0.764559775

00:34:10.410 --> 00:34:10.654 Freezing,

NOTE Confidence: 0.764559775

00:34:10.654 --> 00:34:12.606 I don't know how long the freeze took.

NOTE Confidence: 0.764559775

00:34:12.610 --> 00:34:15.946 If it was one second or ten second.

NOTE Confidence: 0.764559775

00:34:15.950 --> 00:34:18.959 I remember just in my head it was running.

NOTE Confidence: 0.764559775

00:34:18.959 --> 00:34:19.928 I'm gonna die.

NOTE Confidence: 0.764559775

00:34:19.930 --> 00:34:22.338 I think this I remember this clearly

NOTE Confidence: 0.764559775

00:34:22.338 --> 00:34:24.478 it's like my my thought was I

NOTE Confidence: 0.764559775

00:34:24.478 --> 00:34:26.550 was not moving and I was thinking

NOTE Confidence: 0.764559775

00:34:26.617 --> 00:34:28.729 I'm gonna die in my head and then

NOTE Confidence: 0.764559775

00:34:28.729 --> 00:34:31.008 you snap out of that and and it's

NOTE Confidence: 0.764559775

00:34:31.008 --> 00:34:33.596 fight or flight instinct you you

54

NOTE Confidence: 0.764559775

00:34:33.596 --> 00:34:37.088 started to get engaged in combat.

NOTE Confidence: 0.764559775

00:34:37.090 --> 00:34:37.496 Eventually,

NOTE Confidence: 0.764559775

00:34:37.496 --> 00:34:40.744 you know we made it out of this

NOTE Confidence: 0.945589605555556

00:34:40.750 --> 00:34:42.822 situation, and then I

NOTE Confidence: 0.945589605555556

00:34:42.822 --> 00:34:45.412 started to talk about it.

NOTE Confidence: 0.945589605555556

00:34:45.420 --> 00:34:47.481 You know, to my friend and say I started

NOTE Confidence: 0.945589605555556

00:34:47.481 --> 00:34:49.310 to joke about how this freezing,

NOTE Confidence: 0.945589605555556

00:34:49.310 --> 00:34:51.170 you know, was really tremendous.

NOTE Confidence: 0.945589605555556

00:34:51.170 --> 00:34:53.627 Scary, But then I started to have

NOTE Confidence: 0.945589605555556

00:34:53.627 --> 00:34:55.730 some humor out injected into memory.

NOTE Confidence: 0.945589605555556

00:34:55.730 --> 00:34:57.830 So every time that I brought

NOTE Confidence: 0.945589605555556

00:34:57.830 --> 00:34:59.369 it to consciousness,

NOTE Confidence: 0.945589605555556

00:34:59.370 --> 00:35:02.506 it's stressful in a way and more manageable.

NOTE Confidence: 0.945589605555556

00:35:02.510 --> 00:35:04.295 It's happened to everyone in every time

NOTE Confidence: 0.945589605555556

00:35:04.295 --> 00:35:06.390 that you think about negative attribution.

NOTE Confidence: 0.945589605555556

00:35:06.390 --> 00:35:07.960 It seems like in PTSD.

NOTE Confidence: 0.945589605555556

00:35:07.960 --> 00:35:11.384 This memory is stuck in its original form.

NOTE Confidence: 0.945589605555556

00:35:11.390 --> 00:35:13.050 It doesn't go any transformation

NOTE Confidence: 0.945589605555556

00:35:13.050 --> 00:35:15.347 that every time that they have the

NOTE Confidence: 0.945589605555556

00:35:15.347 --> 00:35:17.063 flashbacks or some of the time,

NOTE Confidence: 0.945589605555556

00:35:17.070 --> 00:35:21.000 it's really recalling all the neural.

NOTE Confidence: 0.945589605555556

00:35:21.000 --> 00:35:23.790 Component of the smell, emotions,

NOTE Confidence: 0.945589605555556

00:35:23.790 --> 00:35:26.597 fear that was associated with the memory.

NOTE Confidence: 0.945589605555556

00:35:26.600 --> 00:35:30.056 It's like happening to them all over again.

NOTE Confidence: 0.945589605555556

00:35:30.060 --> 00:35:33.360 So the idea was here to use

NOTE Confidence: 0.945589605555556

00:35:33.360 --> 00:35:36.160 katamine to enhance new learning.

NOTE Confidence: 0.945589605555556

00:35:36.160 --> 00:35:39.100 I wanna talk about this study

NOTE Confidence: 0.945589605555556

00:35:39.100 --> 00:35:42.230 because Schiller and her mom

NOTE Confidence: 0.945589605555556

00:35:42.230 --> 00:35:44.684 made this very discovery.

NOTE Confidence: 0.945589605555556

00:35:44.684 --> 00:35:47.519 Interesting that if you create

NOTE Confidence: 0.945589605555556

00:35:47.519 --> 00:35:50.560 a reminder before an extinction,

NOTE Confidence: 0.945589605555556

00:35:50.560 --> 00:35:56.230 what is called you bring something into.

NOTE Confidence: 0.945589605555556

00:35:56.230 --> 00:35:57.686 Uh, the reconsolidation window.

NOTE Confidence: 0.945589605555556

00:35:57.686 --> 00:35:59.870 So they did like three groups.

NOTE Confidence: 0.945589605555556

00:35:59.870 --> 00:36:02.908 One of them did get no reminder

NOTE Confidence: 0.945589605555556

00:36:02.908 --> 00:36:03.776 for extinction.

NOTE Confidence: 0.945589605555556

00:36:03.780 --> 00:36:05.635 The two other Group One got 10

NOTE Confidence: 0.945589605555556

00:36:05.635 --> 00:36:07.090 minutes before the extinction,

NOTE Confidence: 0.945589605555556

00:36:07.090 --> 00:36:08.745 trying to reminder and the

NOTE Confidence: 0.945589605555556

00:36:08.745 --> 00:36:12.150 other one six hours so.

NOTE Confidence: 0.945589605555556

00:36:12.150 --> 00:36:14.355 And when they brought those people back

NOTE Confidence: 0.945589605555556

00:36:14.360 --> 00:36:16.988 24 hours after the extinction trial,

NOTE Confidence: 0.945589605555556

00:36:16.990 --> 00:36:19.390 they showed that the group that received a

NOTE Confidence: 0.945589605555556

00:36:19.390 --> 00:36:21.670 reminder 10 minutes before the extending.

NOTE Confidence: 0.945589605555556

00:36:21.670 --> 00:36:22.762 So before you,

NOTE Confidence: 0.945589605555556

00:36:22.762 --> 00:36:24.946 let's say you you were conditioned

NOTE Confidence: 0.945589605555556

00:36:24.946 --> 00:36:26.369 to a Blue Square.

NOTE Confidence: 0.945589605555556

00:36:26.370 --> 00:36:29.594 You've been shown only the Blue Square.

NOTE Confidence: 0.945589605555556

00:36:29.594 --> 00:36:30.980 Without anything else.

NOTE Confidence: 0.945589605555556

00:36:30.980 --> 00:36:33.020 You just brought this memory of Blue Square

NOTE Confidence: 0.945589605555556

00:36:33.020 --> 00:36:35.388 to a consciousness and only 10 minutes.

NOTE Confidence: 0.945589605555556

00:36:35.390 --> 00:36:36.610 After that you started

NOTE Confidence: 0.945589605555556

00:36:36.610 --> 00:36:37.830 with the extinction track.

NOTE Confidence: 0.945589605555556

00:36:37.830 --> 00:36:40.056 The Sumption was that the memory

NOTE Confidence: 0.945589605555556

00:36:40.056 --> 00:36:42.295 because you you evoke this memory

NOTE Confidence: 0.945589605555556

00:36:42.295 --> 00:36:44.525 of the Blue Square that allow it

NOTE Confidence: 0.945589605555556

00:36:44.525 --> 00:36:47.359 to be in label state and and so the

NOTE Confidence: 0.945589605555556

00:36:47.359 --> 00:36:50.026 group that had 10 minutes before the

NOTE Confidence: 0.945589605555556

00:36:50.026 --> 00:36:52.106 extinguisher had zero return of fear,

NOTE Confidence: 0.945589605555556

00:36:52.110 --> 00:36:53.993 whereas the group that had this reminder

NOTE Confidence: 0.945589605555556

00:36:53.993 --> 00:36:56.970 6 hours or not reminder, had the return of.

NOTE Confidence: 0.945589605555556

00:36:56.970 --> 00:36:58.035 Dear friend nomina.

NOTE Confidence: 0.945589605555556

00:36:58.040 --> 00:37:00.595 So they concluded that the windows for

NOTE Confidence: 0.945589605555556

00:37:00.595 --> 00:37:02.667 reconsolidation is at least 10 minutes

NOTE Confidence: 0.945589605555556

00:37:02.667 --> 00:37:04.795 long but less than six hour long.

NOTE Confidence: 0.945589605555556

00:37:04.800 --> 00:37:07.432 We don't know exactly how long the

NOTE Confidence: 0.945589605555556

00:37:07.432 --> 00:37:09.720 memory stays in label label stay.

NOTE Confidence: 0.945589605555556

00:37:09.720 --> 00:37:12.170 They did an imaging study and it's

NOTE Confidence: 0.945589605555556

00:37:12.170 --> 00:37:13.814 extremely interesting result because

NOTE Confidence: 0.945589605555556

00:37:13.814 --> 00:37:16.570 what they show that in another reminder

NOTE Confidence: 0.945589605555556

00:37:16.570 --> 00:37:18.790 group in the extinction they need

NOTE Confidence: 0.945589605555556

00:37:18.790 --> 00:37:20.760 the ventral medial prefrontal cortex

NOTE Confidence: 0.945589605555556

00:37:20.760 --> 00:37:23.710 to inhibit the fear of the amygdala.

NOTE Confidence: 0.945589605555556

00:37:23.710 --> 00:37:25.498 However, in the reconsolidation,

NOTE Confidence: 0.945589605555556

00:37:25.498 --> 00:37:27.286 the group that had.

NOTE Confidence: 0.945589605555556

00:37:27.290 --> 00:37:30.286 The membrane label state there is no

NOTE Confidence: 0.945589605555556

00:37:30.286 --> 00:37:33.055 need to suppress mcdell activation with

NOTE Confidence: 0.945589605555556

00:37:33.055 --> 00:37:35.530 the ventral medial prefrontal cortex,

NOTE Confidence: 0.945589605555556

00:37:35.530 --> 00:37:38.379 thinking that is a new representation

NOTE Confidence: 0.945589605555556

00:37:38.379 --> 00:37:41.274 that doesn't need this inhibition

NOTE Confidence: 0.945589605555556

00:37:41.274 --> 00:37:44.034 activity of the ventral medial

NOTE Confidence: 0.945589605555556

00:37:44.034 --> 00:37:46.254 prefrontal cortex and that will

NOTE Confidence: 0.945589605555556

00:37:46.254 --> 00:37:48.570 link to our results later.

NOTE Confidence: 0.945589605555556

00:37:48.570 --> 00:37:49.950 So why can't I mean?

NOTE Confidence: 0.945589605555556

00:37:49.950 --> 00:37:51.490 Because we know that stress,

NOTE Confidence: 0.945589605555556

00:37:51.490 --> 00:37:53.224 overtime, create atrophy,

NOTE Confidence: 0.945589605555556

00:37:53.224 --> 00:37:56.668 and loss of dendrites, spines and branches,

NOTE Confidence: 0.945589605555556

00:37:56.668 --> 00:37:57.796 we know that.

NOTE Confidence: 0.945589605555556

00:37:57.800 --> 00:37:59.604 Katamine reverse this effect.

NOTE Confidence: 0.945589605555556

00:37:59.604 --> 00:38:02.310 So we know that and this

NOTE Confidence: 0.812545704736842

00:38:02.402 --> 00:38:04.298 tremendous amount of work

NOTE Confidence: 0.812545704736842

00:38:04.298 --> 00:38:06.668 done here at yell mostly.

NOTE Confidence: 0.812545704736842

00:38:06.670 --> 00:38:09.008 But later on Doom and lab work,

00:38:09.010 --> 00:38:13.550 and of course Jones and other people,

00:38:13.550 --> 00:38:17.510 discovery of Kitami Ketamin promote

00:38:17.510 --> 00:38:19.886 neurogenesis synaptogenesis cell

00:38:19.886 --> 00:38:22.605 proliferation studies here at Yale show

00:38:22.605 --> 00:38:24.964 that Ketamin reverse lower BDNF level

00:38:24.964 --> 00:38:27.470 in the hippocampus caused by stress get

00:38:27.470 --> 00:38:30.034 them in lower reactivation of theory,

00:38:30.034 --> 00:38:31.946 sports and animal alleviate.

00:38:31.950 --> 00:38:33.935 Is D like symptoms of

00:38:33.935 --> 00:38:35.524 animal models and inhuman?

00:38:35.524 --> 00:38:38.303 We know that it's lower depressive symptoms,

00:38:38.310 --> 00:38:41.278 that is transit if we using a single

00:38:41.278 --> 00:38:43.608 infusion and also in Mount Sinai,

00:38:43.610 --> 00:38:46.275 they show that ketamin show

00:38:46.275 --> 00:38:49.690 reduction in PTSD symptoms in adults,

00:38:49.690 --> 00:38:51.914 so that seems like that we have a

NOTE Confidence: 0.812545704736842

00:38:51.914 --> 00:38:54.017 window of opportunity 24 hours after

NOTE Confidence: 0.812545704736842

00:38:54.017 --> 00:38:56.606 infusion there is a pickup for the

NOTE Confidence: 0.812545704736842

00:38:56.606 --> 00:38:59.027 BDNF that lasts for seven days.

NOTE Confidence: 0.812545704736842

00:38:59.027 --> 00:39:02.520 After seven days BDNF levels come to.

NOTE Confidence: 0.812545704736842

00:39:02.520 --> 00:39:02.901 Baseline,

NOTE Confidence: 0.812545704736842

00:39:02.901 --> 00:39:05.949 so we thought let's try to use this

NOTE Confidence: 0.812545704736842

00:39:05.949 --> 00:39:08.791 window of opportunity to enhance the

NOTE Confidence: 0.812545704736842

00:39:08.791 --> 00:39:10.995 reconsolidation of the traumatic

NOTE Confidence: 0.812545704736842

00:39:10.995 --> 00:39:13.980 memory we did a screen patient

NOTE Confidence: 0.812545704736842

00:39:13.980 --> 00:39:17.504 with script them and we use Regina

NOTE Confidence: 0.812545704736842

00:39:17.504 --> 00:39:20.084 Sinha training opportunities and we

NOTE Confidence: 0.812545704736842

00:39:20.084 --> 00:39:23.147 learn how to script memory trauma.

NOTE Confidence: 0.812545704736842

00:39:23.150 --> 00:39:24.212 Said a neutral.

NOTE Confidence: 0.812545704736842

00:39:24.212 --> 00:39:26.690 We need a neutral because you need

NOTE Confidence: 0.812545704736842

00:39:26.767 --> 00:39:29.247 to compare activation to something.

NOTE Confidence: 0.812545704736842

00:39:29.250 --> 00:39:31.322 And the idea was to bring the trauma

NOTE Confidence: 0.812545704736842

00:39:31.322 --> 00:39:33.310 memory to the level of said memory,

NOTE Confidence: 0.812545704736842

00:39:33.310 --> 00:39:34.750 because we're not in the business

NOTE Confidence: 0.812545704736842

00:39:34.750 --> 00:39:35.470 of racing memory,

NOTE Confidence: 0.812545704736842

00:39:35.470 --> 00:39:36.802 but we want the trauma memory

NOTE Confidence: 0.812545704736842

00:39:36.802 --> 00:39:38.349 be said when I'm thinking about

NOTE Confidence: 0.812545704736842

00:39:38.349 --> 00:39:39.864 those events in the military.

NOTE Confidence: 0.812545704736842

00:39:39.870 --> 00:39:42.047 They said, you know, I can cry,

NOTE Confidence: 0.812545704736842

00:39:42.050 --> 00:39:45.038 but that isn't really.

NOTE Confidence: 0.812545704736842

00:39:45.040 --> 00:39:46.320 I'm not losing a day.

NOTE Confidence: 0.812545704736842

00:39:46.320 --> 00:39:47.320 I'm not losing an hour.

NOTE Confidence: 0.812545704736842

00:39:47.320 --> 00:39:49.240 I'm not losing like 3 minutes.

NOTE Confidence: 0.812545704736842

00:39:49.240 --> 00:39:50.320 It's gonna be, you know,

NOTE Confidence: 0.812545704736842

00:39:50.320 --> 00:39:51.824 transition of two seconds.

NOTE Confidence: 0.812545704736842

00:39:51.824 --> 00:39:53.704 I'm thinking about those events

NOTE Confidence: 0.812545704736842

00:39:53.704 --> 00:39:55.850 that happen to me and they are said

NOTE Confidence: 0.812545704736842

00:39:55.850 --> 00:39:57.674 and and we can acknowledge the

NOTE Confidence: 0.812545704736842

00:39:57.674 --> 00:39:59.846 sadness but they not paralyze me.

NOTE Confidence: 0.812545704736842

00:39:59.846 --> 00:40:03.566 And so we won't trauma memory to be kind

NOTE Confidence: 0.812545704736842

00:40:03.566 --> 00:40:07.265 of evoked in the level of other said memory.

NOTE Confidence: 0.812545704736842

00:40:07.270 --> 00:40:10.390 We randomized the group to ketamin,

NOTE Confidence: 0.812545704736842

00:40:10.390 --> 00:40:11.238 omit assalam.

NOTE Confidence: 0.812545704736842

00:40:11.238 --> 00:40:14.630 We had 14 in this pile of 14

NOTE Confidence: 0.812545704736842

00:40:14.630 --> 00:40:18.242 individual in the cat amine group

NOTE Confidence: 0.812545704736842

00:40:18.242 --> 00:40:20.890 and 14 in the medazzaland group.

NOTE Confidence: 0.812545704736842

00:40:20.890 --> 00:40:22.655 However, 1 participant in the

NOTE Confidence: 0.812545704736842

00:40:22.655 --> 00:40:25.070 middle and left after the infusion.

NOTE Confidence: 0.812545704736842

00:40:25.070 --> 00:40:26.444 She just said I came for

NOTE Confidence: 0.812545704736842

00:40:26.444 --> 00:40:27.690 the free drugs and left.

NOTE Confidence: 0.812545704736842

00:40:27.690 --> 00:40:29.930 We didn't lose a single

NOTE Confidence: 0.812545704736842

00:40:29.930 --> 00:40:32.106 participant to the intervention.

00:40:32.106 --> 00:40:36.920 Myself in and we started the exposure therapy

00:40:36.920 --> 00:40:39.530 24 hours after the ketamine infusion.

00:40:39.530 --> 00:40:42.350 Those took 44 consecutive

00:40:42.350 --> 00:40:45.170 days of exposure therapy.

00:40:45.170 --> 00:40:47.137 So what we had done is they

00:40:47.137 --> 00:40:49.210 want we did psychoeducation.

00:40:49.210 --> 00:40:52.330 Of course, the day Zero was the screening.

00:40:52.330 --> 00:40:54.605 We do cycle education and we built

00:40:54.605 --> 00:40:56.418 some hierarchy of exposure where

00:40:56.418 --> 00:40:58.740 people will go and voluntarily expose

00:40:58.740 --> 00:41:01.209 them self to things that they avoid.

00:41:01.210 --> 00:41:04.186 We try to reduce avoidance behavior by that,

00:41:04.190 --> 00:41:06.110 but that's not the focus of

00:41:06.110 --> 00:41:06.750 this intervention.

00:41:06.750 --> 00:41:09.774 On day two we did an MRI scan to

00:41:09.774 --> 00:41:12.014 achieve base 911 of activation

NOTE Confidence: 0.812545704736842

00:41:12.014 --> 00:41:14.738 of memory to the third neutral.

NOTE Confidence: 0.812545704736842

00:41:14.740 --> 00:41:17.110 And the trauma.

NOTE Confidence: 0.812545704736842

00:41:17.110 --> 00:41:20.690 And then after we did,

NOTE Confidence: 0.812545704736842

00:41:20.690 --> 00:41:23.715 the baseline memory level activation,

NOTE Confidence: 0.812545704736842

00:41:23.720 --> 00:41:25.756 they receive an infusion.

NOTE Confidence: 0.812545704736842

00:41:25.756 --> 00:41:28.810 14 minutes of .5 milligram per

NOTE Confidence: 0.812545704736842

00:41:28.910 --> 00:41:31.460 kilogram for the ketimine or

NOTE Confidence: 0.51082815

00:41:31.460 --> 00:41:34.360 .045 of midazolam per kilogram

NOTE Confidence: 0.51082815

00:41:34.360 --> 00:41:38.736 for 40 minutes. Day 345 and six.

NOTE Confidence: 0.51082815

00:41:38.736 --> 00:41:41.340 Every day they came met with

NOTE Confidence: 0.51082815

00:41:41.439 --> 00:41:44.264 a therapist and they trauma.

NOTE Confidence: 0.51082815

00:41:44.264 --> 00:41:45.440 Exposure therapy,

NOTE Confidence: 0.51082815

00:41:45.440 --> 00:41:48.338 processing the trauma with the therapist,

NOTE Confidence: 0.51082815

00:41:48.340 --> 00:41:50.660 trying to bring new meaning.

NOTE Confidence: 0.51082815

00:41:50.660 --> 00:41:53.782 And you know more it was open

NOTE Confidence: 0.51082815

00:41:53.782 --> 00:41:55.856 to the public, the study.

NOTE Confidence: 0.51082815

00:41:55.856 --> 00:41:59.068 So we had about would say probably 50%

NOTE Confidence: 0.51082815

00:41:59.068 --> 00:42:05.128 will rape victims and and about 50% war.

NOTE Confidence: 0.51082815

00:42:05.130 --> 00:42:06.650 But veterans that participate

NOTE Confidence: 0.51082815

00:42:06.650 --> 00:42:09.414 in the study took place in New

NOTE Confidence: 0.51082815

00:42:09.414 --> 00:42:11.280 Haven Hospital a day seven.

NOTE Confidence: 0.51082815

00:42:11.280 --> 00:42:13.030 We did another MRI scan,

NOTE Confidence: 0.51082815

00:42:13.030 --> 00:42:14.242 the post treatment,

NOTE Confidence: 0.51082815

00:42:14.242 --> 00:42:16.262 Macdill activation for the memories

NOTE Confidence: 0.51082815

00:42:16.262 --> 00:42:19.230 and we did another clinical assessment.

NOTE Confidence: 0.51082815

00:42:19.230 --> 00:42:21.750 We did a follow up 30 days scans

NOTE Confidence: 0.51082815

00:42:21.750 --> 00:42:23.778 again for the memory activation

NOTE Confidence: 0.51082815

00:42:23.778 --> 00:42:26.618 and clinical assessment and another

NOTE Confidence: 0.51082815

00:42:26.618 --> 00:42:29.858 clinical assessment just to see how

NOTE Confidence: 0.51082815

00:42:29.858 --> 00:42:32.510 symptoms reductions stay all the time.

NOTE Confidence: 0.51082815

00:42:32.510 --> 00:42:34.592 So let me take you through

NOTE Confidence: 0.51082815

00:42:34.592 --> 00:42:36.530 the results of the study,

NOTE Confidence: 0.51082815

00:42:36.530 --> 00:42:39.836 and so we look at them.

NOTE Confidence: 0.51082815

00:42:39.840 --> 00:42:43.406 Macdill activation to the

NOTE Confidence: 0.51082815

00:42:43.406 --> 00:42:44.898 traumatic memory at baseline,

NOTE Confidence: 0.51082815

00:42:44.900 --> 00:42:47.042 there was no difference between the

NOTE Confidence: 0.51082815

00:42:47.042 --> 00:42:49.897 group and both of the same level

NOTE Confidence: 0.51082815

00:42:49.897 --> 00:42:51.705 of amygdala activation distress.

NOTE Confidence: 0.464130237

00:42:53.770 --> 00:42:55.520 In response to traumatic memory,

NOTE Confidence: 0.464130237

00:42:55.520 --> 00:42:57.046 however, at the end of the treatment,

NOTE Confidence: 0.464130237

00:42:57.050 --> 00:42:59.495 there was significant reduction in

NOTE Confidence: 0.464130237

00:42:59.495 --> 00:43:02.520 amygdala activation to the trauma script.

NOTE Confidence: 0.464130237

00:43:02.520 --> 00:43:06.610 And when compared to the

NOTE Confidence: 0.464130237

00:43:06.610 --> 00:43:09.064 Medazzaland group and.

NOTE Confidence: 0.464130237

00:43:09.070 --> 00:43:11.344 When we look at the hippocampus

NOTE Confidence: 0.464130237

00:43:11.344 --> 00:43:13.410 activation to the trauma memory,

NOTE Confidence: 0.464130237

00:43:13.410 --> 00:43:16.812 we also saw a significant reduction

NOTE Confidence: 0.464130237

00:43:16.812 --> 00:43:19.507 in trauma recall activation in

NOTE Confidence: 0.464130237

00:43:19.507 --> 00:43:22.102 the hippocampus in the ketamin

NOTE Confidence: 0.464130237

00:43:22.102 --> 00:43:25.148 group when compared to the middle.

NOTE Confidence: 0.753401216666667

00:43:28.330 --> 00:43:30.850 When we look at the ventral medial

NOTE Confidence: 0.753401216666667

00:43:30.850 --> 00:43:32.614 prefrontal cortex, we didn't see

NOTE Confidence: 0.753401216666667

00:43:32.614 --> 00:43:34.354 any differences between the group.

NOTE Confidence: 0.798828331

00:43:36.460 --> 00:43:38.378 And I just want to remind that

NOTE Confidence: 0.798828331

00:43:38.378 --> 00:43:39.604 both the hippocampus, amygdala,

NOTE Confidence: 0.798828331

00:43:39.604 --> 00:43:41.220 hippocampus, and VM Pfc.

NOTE Confidence: 0.798828331

00:43:41.220 --> 00:43:42.730 There was no significant difference

NOTE Confidence: 0.798828331

00:43:42.730 --> 00:43:44.780 between the group prior to the study,

NOTE Confidence: 0.798828331

00:43:44.780 --> 00:43:48.746 so those reduction in the amygdala.

NOTE Confidence: 0.798828331

00:43:48.750 --> 00:43:53.075 And hippocampus showed really strong

NOTE Confidence: 0.798828331

00:43:53.075 --> 00:43:56.270 biomarker for the effect of ketamin

NOTE Confidence: 0.798828331

00:43:56.270 --> 00:43:58.600 underrepresentation of the trauma memory.

NOTE Confidence: 0.798828331

00:43:58.600 --> 00:44:01.064 And this is really a shift on

NOTE Confidence: 0.798828331

00:44:01.064 --> 00:44:03.320 this square or monetary gain.

NOTE Confidence: 0.798828331

00:44:03.320 --> 00:44:05.472 This is a whole new ball game when

NOTE Confidence: 0.798828331

00:44:05.472 --> 00:44:07.518 we using the real trauma memory,

NOTE Confidence: 0.798828331

00:44:07.520 --> 00:44:09.669 what they define as the air criteria.

NOTE Confidence: 0.872638748333333

00:44:12.030 --> 00:44:13.386 Another thing is what we done.

NOTE Confidence: 0.872638748333333

00:44:13.390 --> 00:44:15.924 We wanted to look at them connectivity.

NOTE Confidence: 0.872638748333333

00:44:15.930 --> 00:44:19.666 We knew that you know in regular fear

NOTE Confidence: 0.872638748333333

00:44:19.666 --> 00:44:23.035 extinction and lab paradigm we see the

NOTE Confidence: 0.872638748333333

00:44:23.035 --> 00:44:28.050 importance of VM Pfc activation to reduce.

NOTE Confidence: 0.872638748333333

00:44:28.050 --> 00:44:30.906 Amygdala activation this is did not.

NOTE Confidence: 0.872638748333333

00:44:30.910 --> 00:44:33.710 Was that what we did?

NOTE Confidence: 0.872638748333333

00:44:33.710 --> 00:44:35.158 We did not, sorry,

NOTE Confidence: 0.872638748333333

00:44:35.158 --> 00:44:38.133 observed that in our study what we saw

NOTE Confidence: 0.872638748333333

00:44:38.133 --> 00:44:41.704 is the decoupling of the katamine and of

NOTE Confidence: 0.872638748333333

00:44:41.704 --> 00:44:45.838 the amygdala with the hippocampus indicator,

NOTE Confidence: 0.872638748333333

00:44:45.838 --> 00:44:48.920 mean group much significant, more.

NOTE Confidence: 0.872638748333333

00:44:48.920 --> 00:44:52.350 We see this decoupling of the connectivity

NOTE Confidence: 0.872638748333333

00:44:52.350 --> 00:44:54.339 between hippocampus and amygdala

NOTE Confidence: 0.872638748333333

00:44:54.339 --> 00:44:57.147 indicate groups compared to the middle,

NOTE Confidence: 0.872638748333333

00:44:57.150 --> 00:45:00.906 so when we're thinking about chillers.

NOTE Confidence: 0.872638748333333

00:45:00.910 --> 00:45:02.896 Result it's made really clear to

NOTE Confidence: 0.872638748333333

00:45:02.896 --> 00:45:05.609 us that what we are seeing is this.

NOTE Confidence: 0.872638748333333

00:45:05.610 --> 00:45:08.568 The new pathway for memory reconsolidation

NOTE Confidence: 0.872638748333333

00:45:08.568 --> 00:45:11.130 of the original traumatic memory.

NOTE Confidence: 0.872638748333333

00:45:11.130 --> 00:45:14.242 It seems that there is less distress

NOTE Confidence: 0.872638748333333

00:45:14.242 --> 00:45:17.458 being expressed by the neural signature

NOTE Confidence: 0.872638748333333

00:45:17.458 --> 00:45:21.130 of the trauma indicator mean group.

NOTE Confidence: 0.872638748333333

00:45:21.130 --> 00:45:23.786 Compared to me that slam and that that

NOTE Confidence: 0.872638748333333

00:45:23.786 --> 00:45:25.620 doesn't involve the inhibition of.

NOTE Confidence: 0.805926436842105

00:45:27.690 --> 00:45:29.046 Ventromedial performed aquatic.

NOTE Confidence: 0.805926436842105

00:45:29.046 --> 00:45:32.210 It seems that the memory is now

NOTE Confidence: 0.805926436842105

00:45:32.290 --> 00:45:34.971 represented in in a way that is

NOTE Confidence: 0.805926436842105

00:45:34.971 --> 00:45:36.916 less distressful to the patient and

NOTE Confidence: 0.805926436842105

00:45:36.916 --> 00:45:39.165 there is no need for this tremendous

NOTE Confidence: 0.805926436842105

00:45:39.165 --> 00:45:42.240 inhibition to say it's OK, it's safe.

NOTE Confidence: 0.805926436842105

00:45:42.240 --> 00:45:45.775 The memory itself already has this more.

NOTE Confidence: 0.781731785555556

00:45:47.920 --> 00:45:50.148 Inappropriate representation and we

NOTE Confidence: 0.781731785555556

00:45:50.148 --> 00:45:53.410 when we compared the memories of the

NOTE Confidence: 0.781731785555556

00:45:53.410 --> 00:45:55.055 trauma to the set of their treatment,

NOTE Confidence: 0.781731785555556

00:45:55.060 --> 00:45:57.460 there was no difference in activation.

NOTE Confidence: 0.781731785555556

00:45:57.460 --> 00:46:00.540 Exactly as we wanted it to be.

NOTE Confidence: 0.781731785555556

00:46:00.540 --> 00:46:04.424 In the original design. We did some.

NOTE Confidence: 0.781731785555556

00:46:04.424 --> 00:46:06.452 We play around with the data

NOTE Confidence: 0.781731785555556

00:46:06.452 --> 00:46:08.845 just to make sure that you know.

NOTE Confidence: 0.781731785555556

00:46:08.850 --> 00:46:12.245 If we can use machine learning to

NOTE Confidence: 0.781731785555556

00:46:12.245 --> 00:46:14.815 differentiate between the group and

NOTE Confidence: 0.781731785555556

00:46:14.815 --> 00:46:17.395 that receive katamine Ahmed Aslam,

NOTE Confidence: 0.781731785555556

00:46:17.400 --> 00:46:19.759 we took the those area of interest

NOTE Confidence: 0.781731785555556

00:46:19.759 --> 00:46:22.404 here that amygdala and we looked at

NOTE Confidence: 0.781731785555556

00:46:22.404 --> 00:46:25.038 Vauxhall activation, so the you know,

NOTE Confidence: 0.781731785555556

00:46:25.038 --> 00:46:27.753 the extra amount of voxels in

NOTE Confidence: 0.781731785555556

00:46:27.753 --> 00:46:29.768 the amygdala that respond each

NOTE Confidence: 0.781731785555556

00:46:29.768 --> 00:46:32.549 one in a different in a patterns.

NOTE Confidence: 0.781731785555556

00:46:32.550 --> 00:46:36.120 And it's like a dance of each voxel that,

NOTE Confidence: 0.781731785555556

00:46:36.120 --> 00:46:39.510 in response to the trauma memory,

NOTE Confidence: 0.781731785555556

00:46:39.510 --> 00:46:41.267 so we wanted to see if the.

NOTE Confidence: 0.781731785555556

00:46:41.270 --> 00:46:43.650 Information learning that we can

NOTE Confidence: 0.781731785555556

00:46:43.650 --> 00:46:46.870 reliably say this is the way that.

NOTE Confidence: 0.781731785555556

00:46:46.870 --> 00:46:49.114 The amygdala respond,

NOTE Confidence: 0.781731785555556

00:46:49.114 --> 00:46:52.990 then sore to the rhythm of ketamin,

NOTE Confidence: 0.781731785555556

00:46:52.990 --> 00:46:53.814 versus midazolam,

NOTE Confidence: 0.781731785555556

00:46:53.814 --> 00:46:56.698 and we show that the machine learning

NOTE Confidence: 0.781731785555556

00:46:56.698 --> 00:46:59.488 was we were able to differentiate the

NOTE Confidence: 0.781731785555556

00:46:59.490 --> 00:47:01.645 reliably between those patterns of

NOTE Confidence: 0.781731785555556

00:47:01.645 --> 00:47:03.800 activation in the amygdala between

NOTE Confidence: 0.781731785555556

00:47:03.869 --> 00:47:05.649 the cattlemen and gasoline groups

NOTE Confidence: 0.781731785555556

00:47:05.649 --> 00:47:08.374 that know that they are responding in

NOTE Confidence: 0.781731785555556

00:47:08.374 --> 00:47:11.190 different ways to the trauma memory.

NOTE Confidence: 0.781731785555556

00:47:11.190 --> 00:47:12.645 A definite treatment.

NOTE Confidence: 0.781731785555556

00:47:12.650 --> 00:47:15.632 The same pattern analysis of the

NOTE Confidence: 0.781731785555556

00:47:15.632 --> 00:47:18.389 hippocampus responds to the trauma

NOTE Confidence: 0.781731785555556

00:47:18.389 --> 00:47:21.109 memory was differentiated reliably

NOTE Confidence: 0.781731785555556

00:47:21.110 --> 00:47:23.990 much above chance.

NOTE Confidence: 0.781731785555556

00:47:23.990 --> 00:47:27.812 There saying this is the hippocampus

NOTE Confidence: 0.781731785555556

00:47:27.812 --> 00:47:30.737 response while this subject was

NOTE Confidence: 0.781731785555556

00:47:30.737 --> 00:47:32.933 receiving midazolam versus ketamine

NOTE Confidence: 0.781731785555556

00:47:32.933 --> 00:47:35.799 at the end of treatment.

NOTE Confidence: 0.781731785555556

00:47:35.800 --> 00:47:38.936 So we didn't talk about the PTSD symptoms,

NOTE Confidence: 0.781731785555556

00:47:38.940 --> 00:47:43.440 so when we look at the PTSD symptoms can

NOTE Confidence: 0.781731785555556

00:47:43.440 --> 00:47:46.790 four days intensive psychotherapy work?

NOTE Confidence: 0.781731785555556

00:47:46.790 --> 00:47:50.794 So this is the PTSD symptoms overtime

NOTE Confidence: 0.781731785555556

00:47:50.794 --> 00:47:54.565 and we put a cut off line here in blue.

NOTE Confidence: 0.781731785555556

00:47:54.570 --> 00:47:57.408 So on average of course not.

NOTE Confidence: 0.781731785555556

00:47:57.410 --> 00:47:59.666 No one treatment works for everybody,

NOTE Confidence: 0.781731785555556

00:47:59.670 --> 00:48:03.358 but you see that at the end of

NOTE Confidence: 0.781731785555556

00:48:03.358 --> 00:48:06.479 treatment and this effects lasted.

NOTE Confidence: 0.781731785555556

00:48:06.480 --> 00:48:10.056 With 90 days and post treatment,

NOTE Confidence: 0.781731785555556

00:48:10.060 --> 00:48:13.786 the reduction of PTSD symptoms that

NOTE Confidence: 0.781731785555556

00:48:13.786 --> 00:48:16.270 were significantly and strong.

NOTE Confidence: 0.781731785555556

00:48:16.270 --> 00:48:17.940 This is the entire sample.

NOTE Confidence: 0.781731785555556

00:48:17.940 --> 00:48:19.188 If you look at the sample,

NOTE Confidence: 0.781731785555556

00:48:19.190 --> 00:48:21.270 even like in median level,

NOTE Confidence: 0.781731785555556

00:48:21.270 --> 00:48:22.539 it's more striking.

NOTE Confidence: 0.781731785555556

00:48:22.539 --> 00:48:27.247 You see that 50 the median score of the PCL.

NOTE Confidence: 0.781731785555556

00:48:27.250 --> 00:48:29.784 The PTSD checklist was 50 at the

NOTE Confidence: 0.781731785555556

00:48:29.784 --> 00:48:31.614 beginning of treatment at the end

NOTE Confidence: 0.781731785555556

00:48:31.614 --> 00:48:33.283 of treatment is was 32,

NOTE Confidence: 0.781731785555556

00:48:33.283 --> 00:48:39.530 remain 30 around 33 in 30 day follow up

NOTE Confidence: 0.781731785555556

00:48:39.530 --> 00:48:44.538 and down to 2790 day post treatment.

NOTE Confidence: 0.781731785555556

00:48:44.540 --> 00:48:45.053 However,

NOTE Confidence: 0.781731785555556

00:48:45.053 --> 00:48:48.131 we did not find any significant

NOTE Confidence: 0.781731785555556

00:48:48.131 --> 00:48:51.116 difference in the symptoms between

NOTE Confidence: 0.781731785555556

00:48:51.116 --> 00:48:53.828 the ketamine and medazzaland.

NOTE Confidence: 0.781731785555556

00:48:53.830 --> 00:48:56.254 And this is kind of raised a lot

NOTE Confidence: 0.781731785555556

00:48:56.254 --> 00:48:58.166 of questions because, you know,

NOTE Confidence: 0.781731785555556

00:48:58.166 --> 00:49:00.602 this is we when we ask subjective

NOTE Confidence: 0.781731785555556

00:49:00.602 --> 00:49:02.497 question about how people feel.

NOTE Confidence: 0.781731785555556

00:49:02.500 --> 00:49:06.442 It seems that they not reflect

NOTE Confidence: 0.781731785555556

00:49:06.442 --> 00:49:08.413 our biological biomolecule.

NOTE Confidence: 0.781731785555556

00:49:08.420 --> 00:49:10.436 And we don't know exactly how

NOTE Confidence: 0.781731785555556

00:49:10.436 --> 00:49:12.914 to reconcile it and and when I'm

NOTE Confidence: 0.781731785555556

00:49:12.914 --> 00:49:13.976 thinking about it,

NOTE Confidence: 0.781731785555556

00:49:13.980 --> 00:49:16.969 you can think about and this is

NOTE Confidence: 0.781731785555556

00:49:16.969 --> 00:49:19.340 significant move to move in NIH.

NOTE Confidence: 0.781731785555556

00:49:19.340 --> 00:49:22.296 We know the outlook into biomarkers

NOTE Confidence: 0.781731785555556

00:49:22.296 --> 00:49:26.540 and stay away from questionnaires

NOTE Confidence: 0.781731785555556

00:49:26.540 --> 00:49:31.040 and specifically the DSM file.

NOTE Confidence: 0.781731785555556

00:49:31.040 --> 00:49:33.110 And if I'm thinking about some

NOTE Confidence: 0.781731785555556

00:49:33.110 --> 00:49:34.971 two patient coming to emergency

NOTE Confidence: 0.781731785555556

00:49:34.971 --> 00:49:37.016 room with a cardiac arrest,

NOTE Confidence: 0.781731785555556

00:49:37.020 --> 00:49:41.619 they have both the same objective measure

NOTE Confidence: 0.781731785555556

00:49:41.619 --> 00:49:45.679 that indicated the medical condition.

NOTE Confidence: 0.650801761666667

00:49:45.680 --> 00:49:46.760 All the measure of the same,

NOTE Confidence: 0.650801761666667

00:49:46.760 --> 00:49:50.012 but one of them will say my chest

NOTE Confidence: 0.650801761666667

00:49:50.012 --> 00:49:52.912 pain is 9 and. Other one will

NOTE Confidence: 0.650801761666667

00:49:52.912 --> 00:49:56.020 say my chest pain is in level 6,

NOTE Confidence: 0.650801761666667

00:49:56.020 --> 00:49:58.996 so the subjective reporting of distress

NOTE Confidence: 0.650801761666667

00:49:58.996 --> 00:50:02.704 might be not always in full correlation

NOTE Confidence: 0.650801761666667

00:50:02.704 --> 00:50:05.434 with the biological bond market,

NOTE Confidence: 0.650801761666667

00:50:05.440 --> 00:50:08.456 and I don't know how to reconcile this.

NOTE Confidence: 0.650801761666667

00:50:08.460 --> 00:50:12.562 This is something that really interesting

NOTE Confidence: 0.650801761666667

00:50:12.562 --> 00:50:15.214 and needs further investigation we went.

NOTE Confidence: 0.650801761666667

00:50:15.220 --> 00:50:17.396 We also collected GSR and we say OK,

NOTE Confidence: 0.650801761666667

00:50:17.400 --> 00:50:20.470 GSR our behavioral biomarker that

NOTE Confidence: 0.650801761666667

00:50:20.470 --> 00:50:24.642 can reflect in level of distress and

NOTE Confidence: 0.650801761666667

00:50:24.642 --> 00:50:28.602 and when we look at the GSR data.

NOTE Confidence: 0.650801761666667

00:50:28.610 --> 00:50:34.380 In response to the trauma script.

NOTE Confidence: 0.650801761666667

00:50:34.380 --> 00:50:37.495 And compared baseline to end of treatment,

NOTE Confidence: 0.650801761666667

00:50:37.500 --> 00:50:40.057 we saw that people in the ketamine

NOTE Confidence: 0.650801761666667

00:50:40.057 --> 00:50:42.836 group had lower GSR response to the

NOTE Confidence: 0.650801761666667

00:50:42.840 --> 00:50:43.939 Trauma's group at the end of treatment.

NOTE Confidence: 0.650801761666667

00:50:43.940 --> 00:50:47.414 So we got another bomb of like a behavioral

NOTE Confidence: 0.650801761666667

00:50:47.414 --> 00:50:51.041 proxy that's also indicated that they are

NOTE Confidence: 0.650801761666667

00:50:51.041 --> 00:50:53.630 experienced something less than that.

NOTE Confidence: 0.650801761666667

00:50:53.630 --> 00:50:55.334 Less distressful, however,

NOTE Confidence: 0.650801761666667

00:50:55.334 --> 00:50:58.742 we didn't differentiate one able to

NOTE Confidence: 0.650801761666667

00:50:58.742 --> 00:51:01.258 differentiate on the symptom checklist.

NOTE Confidence: 0.650801761666667

00:51:01.260 --> 00:51:03.272 So this is something,

NOTE Confidence: 0.650801761666667

00:51:03.272 --> 00:51:05.980 of course, that.

NOTE Confidence: 0.650801761666667

00:51:05.980 --> 00:51:06.928 Is very.

NOTE Confidence: 0.650801761666667

00:51:06.928 --> 00:51:10.720 Important to think how and and what will

NOTE Confidence: 0.650801761666667

00:51:10.824 --> 00:51:14.695 be way to assess a successful treatment.

NOTE Confidence: 0.650801761666667

00:51:14.700 --> 00:51:17.465 Today there are 61 of course only

NOTE Confidence: 0.650801761666667

00:51:17.465 --> 00:51:19.718 require biomarker in order to move

NOTE Confidence: 0.650801761666667

00:51:19.718 --> 00:51:22.470 forward to an R33 for a clinical trial.

NOTE Confidence: 0.650801761666667

00:51:22.470 --> 00:51:24.240 They don't even interested in symptoms

NOTE Confidence: 0.650801761666667

00:51:24.240 --> 00:51:26.641 as long as you show the go no go

NOTE Confidence: 0.650801761666667

00:51:26.641 --> 00:51:28.125 criteria and this is the direction

NOTE Confidence: 0.650801761666667

00:51:28.125 --> 00:51:30.173 that we want to go with the study

NOTE Confidence: 0.650801761666667

00:51:30.173 --> 00:51:35.456 of course and our 61 or 33 combo.

NOTE Confidence: 0.650801761666667

00:51:35.460 --> 00:51:39.120 So to summarize.

NOTE Confidence: 0.650801761666667

00:51:39.120 --> 00:51:41.752 And I think what we showed that in

NOTE Confidence: 0.650801761666667

00:51:41.752 --> 00:51:44.920 our lab that individual was PTSD have

NOTE Confidence: 0.650801761666667

00:51:44.920 --> 00:51:47.846 really hard time learning safety and

NOTE Confidence: 0.650801761666667

00:51:47.846 --> 00:51:51.190 danger when there is a high level ambiguity.

NOTE Confidence: 0.650801761666667

00:51:51.190 --> 00:51:52.500 And we know that life,

NOTE Confidence: 0.650801761666667

00:51:52.500 --> 00:51:53.682 full of uncertainty,

NOTE Confidence: 0.650801761666667

00:51:53.682 --> 00:51:56.915 and this is in fact the way that

NOTE Confidence: 0.650801761666667

00:51:56.915 --> 00:51:59.617 how you you know you expect things

NOTE Confidence: 0.650801761666667

00:51:59.617 --> 00:52:01.380 and how you behave.

NOTE Confidence: 0.650801761666667

00:52:01.380 --> 00:52:04.272 In there in the environment and

NOTE Confidence: 0.650801761666667

00:52:04.272 --> 00:52:07.291 and that's something that we want

NOTE Confidence: 0.650801761666667

00:52:07.291 --> 00:52:10.285 to target through this window of

NOTE Confidence: 0.650801761666667

00:52:10.285 --> 00:52:12.390 opportunities that allow to get

NOTE Confidence: 0.650801761666667

00:52:12.390 --> 00:52:14.946 them in that catarman allows us.

NOTE Confidence: 0.650801761666667

00:52:14.946 --> 00:52:17.760 So we know that four days.

NOTE Confidence: 0.650801761666667

00:52:17.760 --> 00:52:18.252 Psychotherapy.

NOTE Confidence: 0.650801761666667

00:52:18.252 --> 00:52:18.744 Regardless,

NOTE Confidence: 0.650801761666667

00:52:18.744 --> 00:52:21.204 like controlling for medication works

NOTE Confidence: 0.650801761666667

00:52:21.204 --> 00:52:24.256 very well and there is like what

NOTE Confidence: 0.650801761666667

00:52:24.256 --> 00:52:26.146 is called written exposure therapy,

NOTE Confidence: 0.650801761666667

00:52:26.150 --> 00:52:28.802 that's another form of exposure therapy

NOTE Confidence: 0.650801761666667

00:52:28.802 --> 00:52:31.662 that people comes and write down the

NOTE Confidence: 0.650801761666667

00:52:31.662 --> 00:52:34.990 trauma and they do it five times once a week.

NOTE Confidence: 0.650801761666667

00:52:34.990 --> 00:52:39.990 So the idea is to evoke the re

NOTE Confidence: 0.650801761666667

00:52:39.990 --> 00:52:42.414 restart the reconsolidation process.

NOTE Confidence: 0.650801761666667

00:52:42.414 --> 00:52:47.004 We saw that four days seems to be a

NOTE Confidence: 0.650801761666667

00:52:47.004 --> 00:52:48.758 very meaningful intervention and has.

NOTE Confidence: 0.650801761666667

00:52:48.758 --> 00:52:51.398 All the potential and we can probably

NOTE Confidence: 0.650801761666667

00:52:51.398 --> 00:52:53.636 think about people coming and doing

NOTE Confidence: 0.650801761666667

00:52:53.636 --> 00:52:54.755 one week therapy.

NOTE Confidence: 0.650801761666667

00:52:54.760 --> 00:52:57.574 And taking a week off to deal

NOTE Confidence: 0.650801761666667

00:52:57.574 --> 00:52:59.280 with something like that,

NOTE Confidence: 0.650801761666667

00:52:59.280 --> 00:53:01.020 does ketamin enhance this

NOTE Confidence: 0.650801761666667

00:53:01.020 --> 00:53:02.760 effects of exposure therapy?

NOTE Confidence: 0.650801761666667

00:53:02.760 --> 00:53:04.050 Yes or no.

NOTE Confidence: 0.650801761666667

00:53:04.050 --> 00:53:06.850 So you know, it's not seems to be

NOTE Confidence: 0.650801761666667

00:53:06.850 --> 00:53:09.040 reported when we ask the symptoms.

NOTE Confidence: 0.650801761666667

00:53:09.040 --> 00:53:09.352 However,

NOTE Confidence: 0.650801761666667

00:53:09.352 --> 00:53:13.032 we when we look at the brain and the GSR we

NOTE Confidence: 0.650801761666667

00:53:13.032 --> 00:53:15.832 see a significant and meaningful effect here.

NOTE Confidence: 0.650801761666667

00:53:15.840 --> 00:53:19.218 In, in, in the cattleman group

NOTE Confidence: 0.650801761666667

00:53:19.218 --> 00:53:20.907 versus the MEDAZZALAND.

NOTE Confidence: 0.650801761666667

00:53:20.910 --> 00:53:23.110 So our design was tricky,

NOTE Confidence: 0.650801761666667

00:53:23.110 --> 00:53:24.530 and because if you remember

NOTE Confidence: 0.650801761666667

00:53:24.530 --> 00:53:25.950 when I showed the day

NOTE Confidence: 0.875672956363636

00:53:26.017 --> 00:53:28.782 two, we recall the memory,

NOTE Confidence: 0.875672956363636

00:53:28.782 --> 00:53:31.314 the trauma the said.

NOTE Confidence: 0.875672956363636

00:53:31.320 --> 00:53:35.028 And the neutral in the MRI.

NOTE Confidence: 0.875672956363636

00:53:35.030 --> 00:53:36.728 And after we finish doing it,

NOTE Confidence: 0.875672956363636

00:53:36.730 --> 00:53:39.790 we did a 40 minutes infusion.

NOTE Confidence: 0.875672956363636

00:53:39.790 --> 00:53:42.710 It was about you know half an hour

NOTE Confidence: 0.875672956363636

00:53:42.710 --> 00:53:45.558 between 15 minutes to half an hours.

NOTE Confidence: 0.856226738

00:53:47.850 --> 00:53:50.070 The range after we finish

NOTE Confidence: 0.856226738

00:53:50.070 --> 00:53:52.290 people listen to the memories.

NOTE Confidence: 0.856226738

00:53:52.290 --> 00:53:53.680 The question because we don't

NOTE Confidence: 0.856226738

00:53:53.680 --> 00:53:55.794 know how long memory we know that

NOTE Confidence: 0.856226738

00:53:55.794 --> 00:53:57.134 the reconciliation windows is

NOTE Confidence: 0.856226738

00:53:57.134 --> 00:53:58.850 already closed after six hours.

NOTE Confidence: 0.856226738

00:53:58.850 --> 00:54:01.316 But maybe those trauma memory we

NOTE Confidence: 0.856226738

00:54:01.316 --> 00:54:03.906 still in label state when they

NOTE Confidence: 0.856226738

00:54:03.906 --> 00:54:06.262 receive the middle and actually

NOTE Confidence: 0.856226738

00:54:06.262 --> 00:54:09.190 one single in middle and infusion

NOTE Confidence: 0.856226738

00:54:09.190 --> 00:54:10.990 maybe blocks the reconsolidation

NOTE Confidence: 0.856226738

00:54:10.990 --> 00:54:13.968 and we have some evidence to that.

NOTE Confidence: 0.856226738

00:54:13.970 --> 00:54:17.764 And had a positive therapeutic effect here,

NOTE Confidence: 0.856226738

00:54:17.770 --> 00:54:21.598 so that's why we see this

NOTE Confidence: 0.856226738

00:54:21.598 --> 00:54:24.567 symptoms improvement in the group.

NOTE Confidence: 0.856226738

00:54:24.567 --> 00:54:27.486 Maybe we need to change a placebo

NOTE Confidence: 0.856226738

00:54:27.490 --> 00:54:30.531 in the large clinical trial and

NOTE Confidence: 0.856226738

00:54:30.531 --> 00:54:33.636 there is a notion that.

NOTE Confidence: 0.856226738

00:54:33.640 --> 00:54:38.410 We are pushed by the NH officer here now

NOTE Confidence: 0.856226738

00:54:38.410 --> 00:54:41.679 to maybe to explore different those idols.

NOTE Confidence: 0.856226738

00:54:41.680 --> 00:54:43.510 .5 milligram of ketamin to kilogram

NOTE Confidence: 0.856226738

00:54:43.510 --> 00:54:45.499 and maybe going with a lower dose.

NOTE Confidence: 0.856226738

00:54:45.500 --> 00:54:47.708 That was the dose that toasted

NOTE Confidence: 0.856226738

00:54:47.708 --> 00:54:49.936 also by Charlie Abdalla and John

NOTE Confidence: 0.856226738

00:54:49.936 --> 00:54:53.060 Crystal in there in large clinical

NOTE Confidence: 0.856226738

00:54:53.060 --> 00:54:56.560 trial for KETAMIN for PTSD.

NOTE Confidence: 0.856226738

00:54:56.560 --> 00:54:59.096 And maybe we need more than one infusion.

NOTE Confidence: 0.856226738

00:54:59.100 --> 00:55:01.914 We know that seven days within seven

NOTE Confidence: 0.856226738

00:55:01.914 --> 00:55:05.018 days BDNF levels go back to the baseline.

NOTE Confidence: 0.856226738

00:55:05.020 --> 00:55:07.302 So maybe we need to increase the

NOTE Confidence: 0.856226738

00:55:07.302 --> 00:55:09.568 number of infusion and do two infusion

NOTE Confidence: 0.856226738

00:55:09.568 --> 00:55:11.860 within that week in order to really

NOTE Confidence: 0.856226738

00:55:11.860 --> 00:55:16.890 harvest the the positive neurogenesis.

NOTE Confidence: 0.856226738

00:55:16.890 --> 00:55:20.040 By created by the Ketamin group,

NOTE Confidence: 0.856226738

00:55:20.040 --> 00:55:23.498 so I want to thank everybody again.

NOTE Confidence: 0.856226738

00:55:23.500 --> 00:55:26.349 All the wonderful people at yelled at,

NOTE Confidence: 0.856226738

00:55:26.350 --> 00:55:27.050 you know,

NOTE Confidence: 0.856226738

00:55:27.050 --> 00:55:29.500 help me to do this research and

NOTE Confidence: 0.856226738

00:55:29.500 --> 00:55:30.970 my collaborator.

NOTE Confidence: 0.856226738

00:55:30.970 --> 00:55:34.156 And I'm open to questions now.