WEBVTT

NOTE duration:"01:02:38"

NOTE recognizability:0.940

NOTE language:en-us

NOTE Confidence: 0.9402536

00:00:05.040 --> 00:00:06.720 Good afternoon, everyone, and welcome

NOTE Confidence: 0.9402536

00:00:06.720 --> 00:00:09.060 to Grand Ryans and especially to

NOTE Confidence: 0.950987893333333

00:00:09.120 --> 00:00:10.800 everyone joining us on Zoom.

NOTE Confidence: 0.950987893333333

00:00:10.800 --> 00:00:12.680 And I'd like to remind you that for the Q&A,

NOTE Confidence: 0.950987893333333

00:00:12.680 --> 00:00:15.184 please feel free to put on your video

NOTE Confidence: 0.950987893333333

00:00:15.184 --> 00:00:17.480 cameras and we'll project you here on

NOTE Confidence: 0.950987893333333

00:00:17.480 --> 00:00:19.538 our screens here in the Cohen Auditorium

NOTE Confidence: 0.950987893333333

00:00:19.538 --> 00:00:21.760 and we'll hope for a lively discussion.

NOTE Confidence: 0.950987893333333

00:00:21.760 --> 00:00:23.176 Now as usual, we just want to preview

NOTE Confidence: 0.950987893333333

00:00:23.176 --> 00:00:24.596 a couple of our presentations that are

NOTE Confidence: 0.950987893333333

00:00:24.596 --> 00:00:26.280 coming up over the next couple of weeks.

NOTE Confidence: 0.950987893333333

00:00:26.280 --> 00:00:27.580 And so next Tuesday,

NOTE Confidence: 0.950987893333333

00:00:27.580 --> 00:00:30.090 we will hear from Doctor Jessica Cardena.

NOTE Confidence: 0.950987893333333

00:00:30.090 --> 00:00:32.064 And this is a very special by

NOTE Confidence: 0.950987893333333

00:00:32.064 --> 00:00:33.370 Ola Barnard lecture series.

NOTE Confidence: 0.950987893333333

00:00:33.370 --> 00:00:35.674 And so Doctor Cardeno will be talking to

NOTE Confidence: 0.950987893333333

00:00:35.674 --> 00:00:38.175 us about what we can learn from Latino

NOTE Confidence: 0.950987893333333

00:00:38.175 --> 00:00:40.306 mothers and what Latino mothers can

NOTE Confidence: 0.950987893333333

00:00:40.306 --> 00:00:42.642 teach clinicians about trauma and recovery.

NOTE Confidence: 0.950987893333333

00:00:42.642 --> 00:00:44.910 And then a special date for

NOTE Confidence: 0.950987893333333

00:00:44.980 --> 00:00:46.448 your diary on Monday.

NOTE Confidence: 0.950987893333333

00:00:46.450 --> 00:00:48.244 And we have Doctor Tracy Bale

NOTE Confidence: 0.950987893333333

00:00:48.244 --> 00:00:50.870 coming to give a seminar in the

NOTE Confidence: 0.950987893333333

00:00:50.870 --> 00:00:52.690 Division of Reproductive Sciences.

NOTE Confidence: 0.950987893333333

00:00:52.690 --> 00:00:54.770 So that's in the department of OB GYN,

NOTE Confidence: 0.950987893333333

00:00:54.770 --> 00:00:56.094 my other home department.

NOTE Confidence: 0.950987893333333

00:00:56.094 --> 00:00:58.649 And so on Monday from 12:00 to 1:00,

NOTE Confidence: 0.950987893333333

00:00:58.650 --> 00:01:00.533 Doctor Bale will be coming to talk

NOTE Confidence: 0.950987893333333

00:01:00.533 --> 00:01:02.185 to us about extracellular vesicles

NOTE Confidence: 0.950987893333333

00:01:02.185 --> 00:01:04.537 as a novel form of communication

NOTE Confidence: 0.950987893333333

00:01:04.537 --> 00:01:06.609 between the mother and the fetus.

NOTE Confidence: 0.950987893333333

00:01:06.610 --> 00:01:07.290 And as you'll all know,

NOTE Confidence: 0.950987893333333

00:01:07.290 --> 00:01:09.120 Doctor Bale has done some seminal

NOTE Confidence: 0.950987893333333

00:01:09.120 --> 00:01:11.309 work trying to uncover the molecular

NOTE Confidence: 0.950987893333333

00:01:11.309 --> 00:01:13.137 mechanisms that underpin the

NOTE Confidence: 0.950987893333333

00:01:13.137 --> 00:01:14.965 intergenerational transmission of stress.

NOTE Confidence: 0.950987893333333

00:01:14.970 --> 00:01:16.965 And now to our speaker for today,

NOTE Confidence: 0.950987893333333

00:01:16.970 --> 00:01:19.056 it is my distinct pleasure to welcome

NOTE Confidence: 0.950987893333333

00:01:19.056 --> 00:01:20.736 Doctor Hennington Meyer to the Child

NOTE Confidence: 0.950987893333333

00:01:20.736 --> 00:01:22.444 Study Center for the very first time,

NOTE Confidence: 0.950987893333333

00:01:22.450 --> 00:01:22.854 I'm told.

NOTE Confidence: 0.950987893333333

00:01:22.854 --> 00:01:24.735 And we did a little bit of history of

NOTE Confidence: 0.950987893333333

00:01:24.735 --> 00:01:26.487 the Child Study Center earlier on and a.

NOTE Confidence: 0.950987893333333

00:01:26.490 --> 00:01:28.863 Tour So Doctor Timmeyer is joining us

NOTE Confidence: 0.950987893333333

00:01:28.863 --> 00:01:31.447 from the Harvard School of Public Health,

NOTE Confidence: 0.950987893333333

00:01:31.450 --> 00:01:33.445 where he is the Professor of Social

NOTE Confidence: 0.950987893333333

00:01:33.445 --> 00:01:34.922 and Behavioral Science and holds

NOTE Confidence: 0.950987893333333

00:01:34.922 --> 00:01:36.347 the Sumner and Esther Feldberg

NOTE Confidence: 0.950987893333333

00:01:36.347 --> 00:01:38.088 Chair of Maternal and Child Health,

NOTE Confidence: 0.950987893333333

00:01:38.090 --> 00:01:40.016 where he also directs the Maternal

NOTE Confidence: 0.950987893333333

00:01:40.016 --> 00:01:42.130 and Child Center for Excellence at

NOTE Confidence: 0.950987893333333

00:01:42.130 --> 00:01:44.050 Harvard School of Public Health.

NOTE Confidence: 0.950987893333333

00:01:44.050 --> 00:01:44.902 And, of course, Dr.

NOTE Confidence: 0.950987893333333

00:01:44.902 --> 00:01:47.070 Timmeyer also holds a professorship at

NOTE Confidence: 0.950987893333333

00:01:47.070 --> 00:01:49.770 the Erasmus University in Rotterdam,

NOTE Confidence: 0.950987893333333

00:01:49.770 --> 00:01:51.366 where, as many of you know,

NOTE Confidence: 0.950987893333333

00:01:51.370 --> 00:01:54.450 he set up the Generation Rotterdam cohort,

NOTE Confidence: 0.950987893333333

00:01:54.450 --> 00:01:55.806 the Gen. R cohort.

NOTE Confidence: 0.950987893333333

00:01:55.806 --> 00:01:57.501 Which has made a tremendous

NOTE Confidence: 0.950987893333333

00:01:57.501 --> 00:01:59.583 contribution to our understanding of

NOTE Confidence: 0.950987893333333

00:01:59.583 --> 00:02:01.683 how the environment shapes individual

NOTE Confidence: 0.950987893333333

00:02:01.683 --> 00:02:03.370 differences in child development.

NOTE Confidence: 0.950987893333333

00:02:03.370 --> 00:02:04.434 And I hope we'll hear a little

NOTE Confidence: 0.950987893333333

00:02:04.434 --> 00:02:05.130 bit about that today,

NOTE Confidence: 0.950987893333333

00:02:05.130 --> 00:02:07.244 as well as many of the other

NOTE Confidence: 0.950987893333333

00:02:07.244 --> 00:02:08.882 initiatives that Doctor Tiamar is

NOTE Confidence: 0.950987893333333

00:02:08.882 --> 00:02:10.886 involved in since moving to Harvard.

NOTE Confidence: 0.950987893333333

00:02:10.890 --> 00:02:11.997 And of course,

NOTE Confidence: 0.950987893333333

00:02:11.997 --> 00:02:14.211 he has published prolifically and is

NOTE Confidence: 0.950987893333333

00:02:14.211 --> 00:02:16.018 regarded as a ISI highly cited researcher.

NOTE Confidence: 0.950987893333333

00:02:16.018 --> 00:02:17.710 So please join me in giving

NOTE Confidence: 0.950987893333333

00:02:17.770 --> 00:02:18.730 a warm child study.

NOTE Confidence: 0.950987893333333

00:02:18.730 --> 00:02:19.722 Welcome to Doctor Tiameyer.

NOTE Confidence: 0.950987893333333

00:02:19.722 --> 00:02:19.970 Thank

NOTE Confidence: 0.93019015

00:02:23.810 --> 00:02:26.812 you. Thank you very much.

NOTE Confidence: 0.93019015

00:02:26.812 --> 00:02:29.174 Let me put on my mic and thank

NOTE Confidence: 0.93019015

00:02:29.174 --> 00:02:31.471 you very much for the kind,

NOTE Confidence: 0.93019015

00:02:31.471 --> 00:02:33.526 very kind and warm introduction

NOTE Confidence: 0.93019015

00:02:33.526 --> 00:02:35.939 and the invitation to come here.

NOTE Confidence: 0.93019015

00:02:35.940 --> 00:02:38.138 Indeed, I'm quite proud to talk here.

NOTE Confidence: 0.93019015

00:02:38.140 --> 00:02:41.390 I should say that because just teach

NOTE Confidence: 0.93019015

00:02:41.390 --> 00:02:44.180 currently again the the course child

NOTE Confidence: 0.93019015

00:02:44.180 --> 00:02:46.514 Psychiatric EPI at Harvard and on

NOTE Confidence: 0.93019015

00:02:46.514 --> 00:02:49.337 my third slide there I show the Yale

NOTE Confidence: 0.93019015

00:02:49.337 --> 00:02:51.976 Study Center and the work of gazelle,

NOTE Confidence: 0.93019015

00:02:51.980 --> 00:02:55.826 which I think shaped longitudinal studies.

NOTE Confidence: 0.93019015

00:02:55.830 --> 00:02:58.674 More than many others or anybody

NOTE Confidence: 0.93019015

00:02:58.674 --> 00:03:00.170 else was that introduction.

NOTE Confidence: 0.93019015

00:03:00.170 --> 00:03:02.550 For those that are also interested in

NOTE Confidence: 0.93019015

00:03:02.611 --> 00:03:04.787 more recent work I'm doing or more other

NOTE Confidence: 0.93019015

00:03:04.787 --> 00:03:07.146 work on the maternal child space space,

NOTE Confidence: 0.93019015

00:03:07.150 --> 00:03:09.726 I must disappoint you or focus on

NOTE Confidence: 0.93019015

00:03:09.726 --> 00:03:11.748 generation R still doing much of my work.

NOTE Confidence: 0.93019015

00:03:11.750 --> 00:03:17.950 What I did is I okay is I selected work

NOTE Confidence: 0.93019015

00:03:17.950 --> 00:03:21.590 from ongoing studies or older studies even

NOTE Confidence: 0.93019015

00:03:21.590 --> 00:03:23.788 because I do much population or imaging.

NOTE Confidence: 0.93019015

00:03:23.790 --> 00:03:25.029 I'll show you.

NOTE Confidence: 0.93019015

00:03:25.029 --> 00:03:27.796 And the theme I thought was answering

NOTE Confidence: 0.93019015

00:03:27.796 --> 00:03:29.512 an all discussion saying this work

NOTE Confidence: 0.93019015

00:03:29.512 --> 00:03:31.392 should do now that you're at the

NOTE Confidence: 0.93019015

00:03:31.392 --> 00:03:33.176 School of public health is not really

NOTE Confidence: 0.93019015

00:03:33.176 --> 00:03:34.868 relevant to public health at all.

NOTE Confidence: 0.93019015

00:03:34.870 --> 00:03:37.786 And after 20 years or 30 years of imaging

NOTE Confidence: 0.93019015

00:03:37.786 --> 00:03:40.790 research, it's still not relevant.

NOTE Confidence: 0.93019015

00:03:40.790 --> 00:03:42.870 And that doesn't insult me.

NOTE Confidence: 0.93019015

00:03:42.870 --> 00:03:44.148 I think it's a fair critique,

NOTE Confidence: 0.93019015

00:03:44.150 --> 00:03:45.398 but at least I have to live with

NOTE Confidence: 0.93019015

00:03:45.398 --> 00:03:46.190 it and address it.

NOTE Confidence: 0.93019015

00:03:46.190 --> 00:03:47.226 And that's what I'm trying to do

NOTE Confidence: 0.93019015

00:03:47.226 --> 00:03:48.970 with you today. Discuss it with you.

NOTE Confidence: 0.93019015

00:03:48.970 --> 00:03:50.270 Could it be relevant?

NOTE Confidence: 0.93019015

00:03:50.270 --> 00:03:53.330 It's not so obvious.

NOTE Confidence: 0.93019015

00:03:53.330 --> 00:03:53.872 So yes,

NOTE Confidence: 0.93019015

00:03:53.872 --> 00:03:55.769 they asked me to do learning objectives.

NOTE Confidence: 0.93019015

00:03:55.770 --> 00:03:56.766 So here you are a bit,

NOTE Confidence: 0.93019015

00:03:56.770 --> 00:03:58.604 it's a bit about the prenet exposures,

NOTE Confidence: 0.93019015

00:03:58.610 --> 00:04:00.686 which I'll Kieran is working on.

NOTE Confidence: 0.93019015

00:04:00.690 --> 00:04:02.330 So I'll focus on that.

NOTE Confidence: 0.93019015

00:04:02.330 --> 00:04:04.410 And the question really is,

NOTE Confidence: 0.93019015

00:04:04.410 --> 00:04:05.220 is it identified?

NOTE Confidence: 0.93019015

00:04:05.220 --> 00:04:06.570 I don't think that's the

NOTE Confidence: 0.93019015

00:04:06.570 --> 00:04:07.728 learning objective to be honest.

NOTE Confidence: 0.93019015

00:04:07.730 --> 00:04:10.479 It would be discussed with me how

NOTE Confidence: 0.93019015

00:04:10.479 --> 00:04:13.024 child imaging might possibly in

NOTE Confidence: 0.93019015

00:04:13.024 --> 00:04:16.450 theory a bit impact public health.

NOTE Confidence: 0.93019015

00:04:16.450 --> 00:04:17.850 What am I talking about?

NOTE Confidence: 0.93019015

00:04:17.850 --> 00:04:19.776 I see Euroscience population of science

NOTE Confidence: 0.93019015

00:04:19.776 --> 00:04:22.820 not as broad as somebody like Thomas Powells.

NOTE Confidence: 0.93019015

00:04:22.820 --> 00:04:24.060 Thomas Powers, I would see.

NOTE Confidence: 0.93019015

00:04:24.060 --> 00:04:26.420 It's really the intersection of,

NOTE Confidence: 0.93019015

00:04:26.420 --> 00:04:27.566 if you wish,

NOTE Confidence: 0.93019015

00:04:27.566 --> 00:04:29.094 population research or etymology

NOTE Confidence: 0.93019015

00:04:29.100 --> 00:04:29.740 and neuroscience.

NOTE Confidence: 0.93019015

00:04:29.740 --> 00:04:31.660 Essentially that's what happened in genetics,

NOTE Confidence: 0.93019015

00:04:31.660 --> 00:04:34.708 that genetics has been now 1520 years really

NOTE Confidence: 0.93019015

00:04:34.708 --> 00:04:37.900 infused with genetics as we just talked,

NOTE Confidence: 0.93019015

00:04:37.900 --> 00:04:38.411 epidemiology,

NOTE Confidence: 0.93019015

00:04:38.411 --> 00:04:40.455 but now also influences

NOTE Confidence: 0.93019015

00:04:40.455 --> 00:04:42.499 epidemiology with new methods.

NOTE Confidence: 0.93019015

00:04:42.500 --> 00:04:45.097 And then I'll focus on prenatal exposures,

NOTE Confidence: 0.93019015

00:04:45.100 --> 00:04:46.279 psychosocial or chemicals.

NOTE Confidence: 0.93019015

00:04:46.279 --> 00:04:48.244 I've got one more chemical

NOTE Confidence: 0.93019015

00:04:48.244 --> 00:04:51.315 exposure pull that up after I met.

NOTE Confidence: 0.93019015

00:04:51.315 --> 00:04:53.130 Somebody yesterday night,

NOTE Confidence: 0.93019015

00:04:53.130 --> 00:04:54.048 I thought that's a good one,

NOTE Confidence: 0.95635504

00:04:56.850 --> 00:04:59.250 how that impacts child development.

NOTE Confidence: 0.95635504

00:04:59.250 --> 00:05:00.702 I'll start with what I think

NOTE Confidence: 0.95635504

00:05:00.702 --> 00:05:02.170 is not public health relevant.

NOTE Confidence: 0.95635504

00:05:02.170 --> 00:05:03.784 So I thought I'll start with

NOTE Confidence: 0.95635504

00:05:03.784 --> 00:05:05.330 something where I think it's not

NOTE Confidence: 0.944124138461539

00:05:07.610 --> 00:05:09.472 what imaging research is not and I

NOTE Confidence: 0.944124138461539

00:05:09.472 --> 00:05:11.410 start with not other people's work.

NOTE Confidence: 0.944124138461539

00:05:11.410 --> 00:05:12.402 That's not very cool.

NOTE Confidence: 0.944124138461539

00:05:12.402 --> 00:05:13.890 I start with my own work,

NOTE Confidence: 0.944124138461539

00:05:13.890 --> 00:05:15.710 so I'll show you my.

NOTE Confidence: 0.944124138461539

00:05:15.710 --> 00:05:17.025 Were my best publication last

NOTE Confidence: 0.944124138461539

00:05:17.025 --> 00:05:18.790 year or one of my nicest,

NOTE Confidence: 0.944124138461539

00:05:18.790 --> 00:05:21.142 but I don't think it is any

NOTE Confidence: 0.944124138461539

00:05:21.142 --> 00:05:22.150 public health relevance.

NOTE Confidence: 0.944124138461539

00:05:22.150 --> 00:05:25.542 It's answering the question child psychiatry.

NOTE Confidence: 0.944124138461539

00:05:25.542 --> 00:05:27.438 Really it's giving you an example

NOTE Confidence: 0.944124138461539

00:05:27.438 --> 00:05:29.300 of that because much of my work

NOTE Confidence: 0.944124138461539

00:05:29.300 --> 00:05:31.544 or all of my work was funded under

NOTE Confidence: 0.944124138461539

00:05:31.544 --> 00:05:34.030 the premise that it will inform in

NOTE Confidence: 0.944124138461539

00:05:34.030 --> 00:05:35.830 the prediction and the causality

NOTE Confidence: 0.944124138461539

00:05:35.830 --> 00:05:37.270 of child psychiatric disorders.

NOTE Confidence: 0.944124138461539

00:05:37.270 --> 00:05:40.588 And now 20, not 15 years later,

NOTE Confidence: 0.944124138461539

00:05:40.590 --> 00:05:42.754 what have we delivered?

NOTE Confidence: 0.944124138461539

00:05:42.754 --> 00:05:45.459 It's this type of work.

NOTE Confidence: 0.944124138461539

00:05:45.460 --> 00:05:47.460 Can we really predict adolescent

NOTE Confidence: 0.944124138461539

00:05:47.460 --> 00:05:48.660 hallucinations with imaging?

NOTE Confidence: 0.944124138461539

00:05:48.660 --> 00:05:50.196 Does it add anything?

NOTE Confidence: 0.944124138461539

00:05:50.196 --> 00:05:53.190 So last year we published work on

NOTE Confidence: 0.944124138461539

00:05:53.190 --> 00:05:55.140 this question, Public Health Relevant.

NOTE Confidence: 0.944124138461539

00:05:55.140 --> 00:05:56.220 You ask yourself,

NOTE Confidence: 0.944124138461539

00:05:56.220 --> 00:05:57.920 can we predict adolescent hallucinations

NOTE Confidence: 0.944124138461539

00:05:57.920 --> 00:05:59.942 would be very, very important.

NOTE Confidence: 0.944124138461539

00:05:59.942 --> 00:06:02.447 We measured that in Generation

NOTE Confidence: 0.944124138461539

00:06:02.447 --> 00:06:05.258 R at 10 and 14 years.

NOTE Confidence: 0.944124138461539

00:06:05.260 --> 00:06:06.976 It's actually quite easy to measure.

NOTE Confidence: 0.944124138461539

00:06:06.980 --> 00:06:08.696 You can ask the adolescents themselves,

NOTE Confidence: 0.944124138461539

00:06:08.700 --> 00:06:11.500 You can ask them to hear voices.

NOTE Confidence: 0.944124138461539

00:06:11.500 --> 00:06:12.700 You have strange thoughts.

NOTE Confidence: 0.936479825

00:06:14.710 --> 00:06:17.032 I don't know if anybody here has an idea

NOTE Confidence: 0.936479825

00:06:17.032 --> 00:06:19.586 how prevalent that is at age 10, At 14,

NOTE Confidence: 0.936479825

00:06:19.586 --> 00:06:21.970 Any idea if it's a fringe thing happening

NOTE Confidence: 0.936479825

00:06:22.039 --> 00:06:25.283 at 2% of the population or 10 or 15%?

NOTE Confidence: 0.936479825

00:06:25.283 --> 00:06:28.654 But actually if you ask them,

NOTE Confidence: 0.936479825

00:06:28.654 --> 00:06:31.738 do you hear voices, it's 25% easily.

NOTE Confidence: 0.936479825

00:06:31.738 --> 00:06:34.734 And that is not just waking up

NOTE Confidence: 0.936479825

00:06:34.734 --> 00:06:38.716 after dreaming, it is really work of

NOTE Confidence: 0.936479825

00:06:38.716 --> 00:06:41.614 Keleha and Mary Cannon in Ireland.

NOTE Confidence: 0.936479825

00:06:41.620 --> 00:06:43.696 Has shown it's somewhat less frequent,

NOTE Confidence: 0.936479825

00:06:43.700 --> 00:06:46.477 so it goes down to 15% if you wish.

NOTE Confidence: 0.936479825

00:06:46.477 --> 00:06:49.780 If you really get them bothered by voices,

NOTE Confidence: 0.936479825

00:06:49.780 --> 00:06:52.220 29 is really what you get with these

NOTE Confidence: 0.936479825

00:06:52.220 --> 00:06:53.976 population assessments if you do it crudely.

NOTE Confidence: 0.936479825

00:06:53.980 --> 00:06:56.722 But trust me, it is easily 15% at

NOTE Confidence: 0.936479825

00:06:56.722 --> 00:06:58.851 age 10 and then it drops to 12%.

NOTE Confidence: 0.936479825

00:06:58.851 --> 00:07:00.699 And again, if you do it more carefully,

NOTE Confidence: 0.936479825

00:07:00.700 --> 00:07:03.412 it would probably be six, 7% at age 14.

NOTE Confidence: 0.936479825

00:07:03.412 --> 00:07:04.576 That hear voices,

NOTE Confidence: 0.936479825

00:07:04.580 --> 00:07:06.620 which is huge, don't forget.

NOTE Confidence: 0.936479825

00:07:06.620 --> 00:07:08.820 Don't confuse that with schizophrenia.

NOTE Confidence: 0.936479825

00:07:08.820 --> 00:07:10.484 That's nowhere near schizophrenia.

NOTE Confidence: 0.936479825

00:07:10.484 --> 00:07:12.180 Actually, if you know their work,

NOTE Confidence: 0.936479825

00:07:12.180 --> 00:07:14.880 it predicts depression, anxiety,

NOTE Confidence: 0.936479825

00:07:14.880 --> 00:07:18.255 borderline much more than schizophrenia.

NOTE Confidence: 0.936479825

00:07:18.260 --> 00:07:19.070 And we did,

NOTE Confidence: 0.936479825

00:07:19.070 --> 00:07:20.420 so that's the special thing.

NOTE Confidence: 0.936479825

00:07:20.420 --> 00:07:23.741 We did repeated imaging at age 10 and age

NOTE Confidence: 0.936479825

00:07:23.741 --> 00:07:26.500 14 so we can show does the brain change.

NOTE Confidence: 0.936479825

00:07:26.500 --> 00:07:29.900 We can also say, can we predict it?

NOTE Confidence: 0.936479825

00:07:29.900 --> 00:07:31.635 In the paper in Biological

NOTE Confidence: 0.936479825

00:07:31.635 --> 00:07:33.370 Psychiatry last year we showed

NOTE Confidence: 0.936479825

00:07:33.432 --> 00:07:37.316 something after all lots of studies,

NOTE Confidence: 0.936479825

00:07:37.316 --> 00:07:38.260 different approaches,

NOTE Confidence: 0.936479825

00:07:38.260 --> 00:07:39.620 different work with the brains.

NOTE Confidence: 0.936479825

00:07:39.620 --> 00:07:44.460 What we found really is if you hire voices,

NOTE Confidence: 0.936479825

00:07:44.460 --> 00:07:47.060 then the typical decline,

NOTE Confidence: 0.936479825

00:07:47.060 --> 00:07:48.060 this is sort of exaggerated.

NOTE Confidence: 0.936479825

00:07:48.060 --> 00:07:48.860 This is a bad curve.

NOTE Confidence: 0.936479825

00:07:48.860 --> 00:07:50.204 It should be much more than sort

NOTE Confidence: 0.936479825

00:07:50.204 --> 00:07:50.780 of trajectory curve.

NOTE Confidence: 0.936479825

00:07:50.780 --> 00:07:53.104 But forgive me for that that the

NOTE Confidence: 0.936479825

00:07:53.104 --> 00:07:55.070 decline in Gray matter which.

NOTE Confidence: 0.936479825

00:07:55.070 --> 00:07:57.345 Originates probably much earlier than age 10,

NOTE Confidence: 0.936479825

00:07:57.350 --> 00:08:00.332 probably age 6 onwards is a tiny

NOTE Confidence: 0.936479825

00:08:00.332 --> 00:08:04.990 bit far faster in those that have

NOTE Confidence: 0.9402536

00:08:08.710 --> 00:08:12.830 new onset hallucinations at age 14.

NOTE Confidence: 0.941691228571429

00:08:15.470 --> 00:08:16.550 I'm showing this.

NOTE Confidence: 0.941691228571429

00:08:16.550 --> 00:08:17.990 It is an association.

NOTE Confidence: 0.941691228571429

00:08:17.990 --> 00:08:21.368 It has a tiny effect size.

NOTE Confidence: 0.941691228571429

00:08:21.370 --> 00:08:25.038 You need a few thousands 2000s to

NOTE Confidence: 0.941691228571429

00:08:25.038 --> 00:08:27.570 find it as a tiny effect size.

NOTE Confidence: 0.941691228571429

00:08:27.570 --> 00:08:29.558 It is a specific,

NOTE Confidence: 0.941691228571429

00:08:29.558 --> 00:08:32.672 it is much of your Gray matter,

NOTE Confidence: 0.941691228571429

00:08:32.672 --> 00:08:34.538 and actually it also maps on

NOTE Confidence: 0.941691228571429

00:08:34.538 --> 00:08:35.690 other psychiatric problems,

NOTE Confidence: 0.941691228571429

00:08:35.690 --> 00:08:38.602 so it would not be that very

NOTE Confidence: 0.941691228571429

00:08:38.602 --> 00:08:39.850 specific for hallucinations.

NOTE Confidence: 0.941691228571429

00:08:39.850 --> 00:08:42.226 You can also zoom in and find other

NOTE Confidence: 0.941691228571429

00:08:42.226 --> 00:08:43.370 structures, of course we did that.

NOTE Confidence: 0.941691228571429

00:08:43.370 --> 00:08:45.506 And the hippocampus,

NOTE Confidence: 0.941691228571429

00:08:45.506 --> 00:08:47.721 that's what the small A says

NOTE Confidence: 0.941691228571429

00:08:47.721 --> 00:08:50.547 it's The effect is again small.

NOTE Confidence: 0.941691228571429

00:08:50.550 --> 00:08:51.930 It survives multiple testing,

NOTE Confidence: 0.941691228571429

00:08:51.930 --> 00:08:53.310 correction for other structures.

NOTE Confidence: 0.941691228571429

00:08:53.310 --> 00:08:54.462 It's a tiny effect.

NOTE Confidence: 0.941691228571429

00:08:54.462 --> 00:08:56.385 Again, it is unspecific.

NOTE Confidence: 0.941691228571429

00:08:56.385 --> 00:08:59.110 The conclusion here is useless.

NOTE Confidence: 0.941691228571429

00:08:59.110 --> 00:09:00.163 As a predictor,

NOTE Confidence: 0.941691228571429

00:09:00.163 --> 00:09:03.165 I have little doubt over and above any

NOTE Confidence: 0.941691228571429

00:09:03.165 --> 00:09:05.505 prediction model which we published.

NOTE Confidence: 0.941691228571429

00:09:05.510 --> 00:09:07.270 These brain imaging does nothing.

NOTE Confidence: 0.941691228571429

00:09:07.270 --> 00:09:09.920 You can better do predict

NOTE Confidence: 0.941691228571429

00:09:09.920 --> 00:09:11.510 with socioeconomic factors,

NOTE Confidence: 0.941691228571429

00:09:11.510 --> 00:09:13.990 better predict with clinical factors.

NOTE Confidence: 0.941691228571429

00:09:13.990 --> 00:09:17.086 You can better predict with well-being.

NOTE Confidence: 0.941691228571429

00:09:17.090 --> 00:09:19.022 It does not predict and this is

NOTE Confidence: 0.941691228571429

00:09:19.022 --> 00:09:20.608 the biggest imaging study so far.

NOTE Confidence: 0.941691228571429

00:09:20.610 --> 00:09:22.617 So it may be that one day all of

NOTE Confidence: 0.941691228571429

00:09:22.617 --> 00:09:24.721 you will search for more specific

NOTE Confidence: 0.941691228571429

00:09:24.721 --> 00:09:26.494 markers and we'll do resting

NOTE Confidence: 0.941691228571429

00:09:26.494 --> 00:09:27.886 state analysis and whatever.

NOTE Confidence: 0.941691228571429

00:09:27.890 --> 00:09:29.918 But we had this unique data

NOTE Confidence: 0.941691228571429

00:09:29.918 --> 00:09:31.817 set with repeated imaging and

NOTE Confidence: 0.941691228571429

00:09:31.817 --> 00:09:33.254 repeated hallucinations over

NOTE Confidence: 0.941691228571429

00:09:33.254 --> 00:09:35.170 the really relevant period.

NOTE Confidence: 0.941691228571429

00:09:35.170 --> 00:09:38.122 I would give this a one out of five

NOTE Confidence: 0.941691228571429

00:09:38.122 --> 00:09:40.574 in population public health relevance.

NOTE Confidence: 0.941691228571429

00:09:40.574 --> 00:09:43.290 It does not add to any child

NOTE Confidence: 0.941691228571429

00:09:43.365 --> 00:09:45.049 psychiatric clinicians.

NOTE Confidence: 0.904444878571429

00:09:47.420 --> 00:09:48.756 Addiction, therapeutic,

NOTE Confidence: 0.904444878571429

00:09:48.756 --> 00:09:50.092 understanding model.

NOTE Confidence: 0.904444878571429

00:09:50.092 --> 00:09:52.520 I would say we've done

NOTE Confidence: 0.904444878571429

00:09:52.520 --> 00:09:53.780 lots of this type of work.

NOTE Confidence: 0.904444878571429

00:09:53.780 --> 00:09:55.492 It's fascinating, it's fun.

NOTE Confidence: 0.904444878571429

00:09:55.492 --> 00:09:58.060 I think it's important to understand

NOTE Confidence: 0.904444878571429

00:09:58.132 --> 00:09:59.937 that the brain can predict,

NOTE Confidence: 0.904444878571429

00:09:59.940 --> 00:10:02.460 but it is not clinically useful.

NOTE Confidence: 0.904444878571429

00:10:02.460 --> 00:10:05.380 Let me go on with transition to the work.

NOTE Confidence: 0.904444878571429

00:10:05.380 --> 00:10:07.612 I'm going to show where I think we can

NOTE Confidence: 0.904444878571429

00:10:07.612 --> 00:10:11.534 discuss public health relevance And again,

NOTE Confidence: 0.904444878571429

00:10:11.534 --> 00:10:14.276 this is a crude analysis, I know that.

NOTE Confidence: 0.904444878571429

00:10:14.276 --> 00:10:16.388 Actually more fine grain didn't predict,

NOTE Confidence: 0.904444878571429

00:10:16.390 --> 00:10:18.274 more if you do multiple testing

NOTE Confidence: 0.904444878571429

00:10:18.274 --> 00:10:20.590 correction and the prediction was small.

NOTE Confidence: 0.904444878571429

00:10:20.590 --> 00:10:22.264 This is a paper I'm not going to discuss,

NOTE Confidence: 0.904444878571429

00:10:22.270 --> 00:10:24.142 I'm just going to recommend it for your read.

NOTE Confidence: 0.904444878571429

00:10:24.150 --> 00:10:25.950 From last year we said thought

NOTE Confidence: 0.904444878571429

00:10:25.950 --> 00:10:27.845 it harder that the population of

NOTE Confidence: 0.904444878571429

00:10:27.845 --> 00:10:30.349 science is the best paper of the year

NOTE Confidence: 0.904444878571429

00:10:30.350 --> 00:10:33.350 and so it got our prize for that,

NOTE Confidence: 0.904444878571429

00:10:33.350 --> 00:10:35.296 whoever cares.

NOTE Confidence: 0.904444878571429

00:10:35.296 --> 00:10:39.606 And what it does is it uses the biggest

NOTE Confidence: 0.904444878571429

00:10:39.606 --> 00:10:41.845 databases like the UK Biobank and

NOTE Confidence: 0.904444878571429

00:10:41.845 --> 00:10:44.309 the ABCD studies and others to show.

NOTE Confidence: 0.904444878571429

00:10:44.310 --> 00:10:45.870 That for a

NOTE Confidence: 0.936659528571429

00:10:49.030 --> 00:10:51.806 if you don't zoom in on our ones

NOTE Confidence: 0.936659528571429

00:10:51.806 --> 00:10:54.588 but you take a broader approach

NOTE Confidence: 0.936659528571429

00:10:54.590 --> 00:10:58.647 for resting state and for volumes

NOTE Confidence: 0.936659528571429

00:10:58.647 --> 00:11:02.109 that you need to find anything.

NOTE Confidence: 0.936659528571429

00:11:02.110 --> 00:11:05.309 They say it's three to 6000 people in

NOTE Confidence: 0.936659528571429

00:11:05.309 --> 00:11:08.027 the general population to find anything

NOTE Confidence: 0.936659528571429

00:11:08.030 --> 00:11:10.382 you can argue in your clinical sample

NOTE Confidence: 0.936659528571429

00:11:10.382 --> 00:11:12.120 it's different there's a letter or.

NOTE Confidence: 0.936659528571429

00:11:12.120 --> 00:11:14.542 An answer to nature arguing that very

NOTE Confidence: 0.936659528571429

00:11:14.542 --> 00:11:16.133 recently I actually fundamentally

NOTE Confidence: 0.936659528571429

00:11:16.133 --> 00:11:18.077 disagree with that letter.

NOTE Confidence: 0.936659528571429

00:11:18.080 --> 00:11:20.198 I think they have it right.

NOTE Confidence: 0.936659528571429

00:11:20.200 --> 00:11:22.960 It's my own experience too,

NOTE Confidence: 0.936659528571429

00:11:22.960 --> 00:11:25.840 and the only thing I'm not so sure,

NOTE Confidence: 0.936659528571429

00:11:25.840 --> 00:11:27.880 and that's the judgment that's out.

NOTE Confidence: 0.936659528571429

00:11:27.880 --> 00:11:31.000 This analysis is clearly only cross-sectional

NOTE Confidence: 0.953671466666667

00:11:33.240 --> 00:11:35.880 and actually I'm not so interested

NOTE Confidence: 0.953671466666667

00:11:35.880 --> 00:11:37.200 in cross-sectional prediction.

NOTE Confidence: 0.953671466666667

00:11:37.200 --> 00:11:38.880 So we would have to move to longitudinal

NOTE Confidence: 0.953671466666667

00:11:38.880 --> 00:11:40.916 and if you've got repeated brain measures,

NOTE Confidence: 0.953671466666667

00:11:40.920 --> 00:11:43.584 I would argue because you control

NOTE Confidence: 0.953671466666667

00:11:43.584 --> 00:11:46.900 for quite a bit and you have change

NOTE Confidence: 0.953671466666667

00:11:46.900 --> 00:11:49.110 that could be different, although we

NOTE Confidence: 0.953671466666667

00:11:49.110 --> 00:11:51.120 don't know what's the interval change.

NOTE Confidence: 0.953671466666667

00:11:51.120 --> 00:11:53.796 Secondly, they have very poor phenotypes.

NOTE Confidence: 0.953671466666667

00:11:53.800 --> 00:11:54.625 You could argue,

NOTE Confidence: 0.953671466666667

00:11:54.625 --> 00:11:56.550 I think they should have used multiple

NOTE Confidence: 0.953671466666667

00:11:56.606 --> 00:11:58.890 informant and other approaches, but anyway,

NOTE Confidence: 0.953671466666667

00:11:58.890 --> 00:12:02.300 it was all that critique I think.

NOTE Confidence: 0.953671466666667

00:12:02.300 --> 00:12:04.148 It's very humbling that all of a sudden

NOTE Confidence: 0.953671466666667

00:12:04.148 --> 00:12:06.065 after so many years where we had studies

NOTE Confidence: 0.953671466666667

00:12:06.065 --> 00:12:08.778 of 1520 people and found big effects,

NOTE Confidence: 0.953671466666667

00:12:08.780 --> 00:12:10.868 we now have people that say if we want

NOTE Confidence: 0.953671466666667

00:12:10.868 --> 00:12:14.820 to do it well, we need 3 to 5000.

NOTE Confidence: 0.953671466666667

00:12:14.820 --> 00:12:17.871 So I would argue in child psychiatry so far

NOTE Confidence: 0.953671466666667

00:12:17.871 --> 00:12:20.736 without very few exceptions you can think of,

NOTE Confidence: 0.953671466666667

00:12:20.740 --> 00:12:23.938 you know, but very rare syndromes,

NOTE Confidence: 0.953671466666667

00:12:23.940 --> 00:12:26.180 not so sure OCD, there's some debate that

NOTE Confidence: 0.953671466666667

00:12:26.180 --> 00:12:29.450 that's quite specific, but otherwise.

NOTE Confidence: 0.953671466666667

00:12:29.450 --> 00:12:30.850 I think it's poor discrimination,

NOTE Confidence: 0.953671466666667

00:12:30.850 --> 00:12:32.790 poor specificity, poor sensitivity.

NOTE Confidence: 0.953671466666667

00:12:32.790 --> 00:12:34.730 We've done machine learning.

NOTE Confidence: 0.953671466666667

00:12:34.730 --> 00:12:36.090 I'm not talking about that.

NOTE Confidence: 0.953671466666667

00:12:36.090 --> 00:12:36.855 To overcome that,

NOTE Confidence: 0.953671466666667

00:12:36.855 --> 00:12:39.426 what we find is a very small signal and

NOTE Confidence: 0.953671466666667

00:12:39.426 --> 00:12:41.246 actually something we already knew.

NOTE Confidence: 0.953671466666667

00:12:41.250 --> 00:12:43.990 It's quite broad changes in

NOTE Confidence: 0.953671466666667

00:12:43.990 --> 00:12:45.086 externalizing behaviors,

NOTE Confidence: 0.953671466666667

00:12:45.090 --> 00:12:46.546 nothing very specific either.

NOTE Confidence: 0.953671466666667

00:12:46.546 --> 00:12:48.730 So I think in sharp psychiatry,

NOTE Confidence: 0.953671466666667

00:12:48.730 --> 00:12:51.385 my research has not contributed

NOTE Confidence: 0.953671466666667

00:12:51.385 --> 00:12:53.608 that much for public health.

NOTE Confidence: 0.943608015

00:12:55.870 --> 00:12:57.700 That does not mean it's useless, of course.

NOTE Confidence: 0.943608015

00:12:57.700 --> 00:12:59.905 I would like to discuss prenatal exposures,

NOTE Confidence: 0.943608015

00:12:59.910 --> 00:13:02.054 some old work and then zoom in more

NOTE Confidence: 0.943608015

00:13:02.054 --> 00:13:04.630 recent work, ongoing work even.

NOTE Confidence: 0.943608015

00:13:04.630 --> 00:13:07.060 And we identify important introduction

NOTE Confidence: 0.943608015

00:13:07.060 --> 00:13:08.630 influences on the Turtle Shine house.

NOTE Confidence: 0.943608015

00:13:08.630 --> 00:13:11.390 And we've done a lot over the years.

NOTE Confidence: 0.943608015

00:13:11.390 --> 00:13:13.958 We sort of in generation are measured as

NOTE Confidence: 0.943608015

00:13:13.958 --> 00:13:16.890 much as we could and we were quite creative.

NOTE Confidence: 0.943608015

00:13:16.890 --> 00:13:18.310 We've got environmental toxins,

NOTE Confidence: 0.943608015

00:13:18.310 --> 00:13:19.586 we've got thyroid poverty.

NOTE Confidence: 0.943608015

00:13:19.586 --> 00:13:22.126 That's the recent thing that I added to

NOTE Confidence: 0.943608015

00:13:22.126 --> 00:13:24.406 the list because I was interested in that.

NOTE Confidence: 0.943608015

00:13:24.410 --> 00:13:24.730 Depression.

NOTE Confidence: 0.943608015

00:13:24.730 --> 00:13:27.290 So the bold ones are zooming on today.

NOTE Confidence: 0.943608015

00:13:27.290 --> 00:13:30.441 One or two of you will know earlier work,

NOTE Confidence: 0.943608015

00:13:30.441 --> 00:13:33.220 but poverty is very recent and the

NOTE Confidence: 0.943608015

00:13:33.303 --> 00:13:36.749 environmental stuff is just out last year.

NOTE Confidence: 0.943608015

00:13:36.749 --> 00:13:38.168 So that's cool.

NOTE Confidence: 0.943608015

00:13:38.170 --> 00:13:40.538 Discuss with me what you think is the

NOTE Confidence: 0.943608015

00:13:40.538 --> 00:13:42.970 role of imaging, which is so well funded.

NOTE Confidence: 0.943608015

00:13:42.970 --> 00:13:45.077 You know, if you take the European

NOTE Confidence: 0.943608015

00:13:45.077 --> 00:13:46.850 funding in the neuroscience,

NOTE Confidence: 0.943608015

00:13:46.850 --> 00:13:49.850 probably 1/2 goes to brain imaging,

NOTE Confidence: 0.943608015

00:13:49.850 --> 00:13:52.139 which is shoot.

NOTE Confidence: 0.943608015

00:13:52.140 --> 00:13:54.006 Not as much in the US

NOTE Confidence: 0.943608015

00:13:54.006 --> 00:13:54.939 interestingly relatively speaking,

NOTE Confidence: 0.943608015

00:13:54.940 --> 00:13:58.810 but a lot Okay just a bit about

NOTE Confidence: 0.943608015

00:13:58.810 --> 00:14:00.380 Generation R as a prospective cohort.

NOTE Confidence: 0.943608015

00:14:00.380 --> 00:14:02.389 It started in early fetal life but

NOTE Confidence: 0.943608015

00:14:02.389 --> 00:14:03.864 early the inclusion we promised

NOTE Confidence: 0.943608015

00:14:03.864 --> 00:14:05.538 and we had funding for 10,000,

NOTE Confidence: 0.943608015

00:14:05.540 --> 00:14:06.667 I don't know for whatever reason the

NOTE Confidence: 0.943608015

00:14:06.667 --> 00:14:08.180 end of the year came and we had to stop.

NOTE Confidence: 0.943608015

00:14:08.180 --> 00:14:09.788 So we didn't manage the 10,000

NOTE Confidence: 0.943608015

00:14:09.788 --> 00:14:10.860 but we got close,

NOTE Confidence: 0.943608015

00:14:10.860 --> 00:14:12.855 it's 10,000 if you know who's active.

NOTE Confidence: 0.943608015

00:14:12.860 --> 00:14:15.188 It's still more than 5000 are

NOTE Confidence: 0.943608015

00:14:15.188 --> 00:14:16.740 contributing participating 6000 which

NOTE Confidence: 0.943608015

00:14:16.798 --> 00:14:18.940 is very good if you start prenatally.

NOTE Confidence: 0.943608015

00:14:18.940 --> 00:14:20.604 I think it's much better in a way

NOTE Confidence: 0.943608015

00:14:20.604 --> 00:14:22.574 than ABCD because they have a 15%

NOTE Confidence: 0.943608015

00:14:22.574 --> 00:14:24.938 response rate at baseline or lower.

NOTE Confidence: 0.943608015

00:14:24.940 --> 00:14:27.633 So this is a 62% response rate

NOTE Confidence: 0.943608015

00:14:27.633 --> 00:14:29.739 and then the Dutch majority group,

NOTE Confidence: 0.943608015

00:14:29.740 --> 00:14:31.018 it's actually 70%.

NOTE Confidence: 0.943608015

00:14:31.018 --> 00:14:33.574 So it's more selective in minorities,

NOTE Confidence: 0.943608015

00:14:33.580 --> 00:14:35.617 it's urban and multiethnic and I do

NOTE Confidence: 0.943608015

00:14:35.617 --> 00:14:38.007 because I have a slide later on this

NOTE Confidence: 0.943608015

00:14:38.007 --> 00:14:40.340 ethnicity normally I sort of gloss over it.

NOTE Confidence: 0.943608015

00:14:40.340 --> 00:14:41.540 Note that if you're on Rotterdam,

NOTE Confidence: 0.943608015

00:14:41.540 --> 00:14:45.520 it's not much different than in many of

NOTE Confidence: 0.943608015

00:14:45.520 --> 00:14:48.130 the Americans cities that about half.

NOTE Confidence: 0.943608015

00:14:48.130 --> 00:14:52.543 Of the population is Dutch means

NOTE Confidence: 0.943608015

00:14:52.543 --> 00:14:55.608 that has Dutch ancestry origin

NOTE Confidence: 0.943608015

00:14:55.610 --> 00:14:57.050 10% would be other Europeans,

NOTE Confidence: 0.943608015

00:14:57.050 --> 00:14:59.690 So that's expats largely.

NOTE Confidence: 0.943608015

00:14:59.690 --> 00:15:01.684 And then you've got both migrant

NOTE Confidence: 0.943608015

00:15:01.684 --> 00:15:03.568 or guest worker I should say,

NOTE Confidence: 0.943608015

00:15:03.570 --> 00:15:05.646 which are the Turkish for example,

NOTE Confidence: 0.943608015

00:15:05.650 --> 00:15:06.649 and the Moroccans.

NOTE Confidence: 0.943608015

00:15:06.649 --> 00:15:08.647 And then you've got colonial history,

NOTE Confidence: 0.943608015

00:15:08.650 --> 00:15:10.850 people like tsunamis, Cape roses,

NOTE Confidence: 0.943608015

00:15:10.850 --> 00:15:12.029 also guest workers,

NOTE Confidence: 0.943608015

00:15:12.029 --> 00:15:13.208 but Dutch Antilles.

NOTE Confidence: 0.943608015

00:15:13.210 --> 00:15:16.059 Are ex colonies of the Netherlands where

NOTE Confidence: 0.943608015

00:15:16.059 --> 00:15:18.688 people could migrate easily into meaning.

NOTE Confidence: 0.943608015

00:15:18.690 --> 00:15:20.130 It's a very dangerous city.

NOTE Confidence: 0.943608015

00:15:20.130 --> 00:15:24.278 And yeah, that's important because we'll

NOTE Confidence: 0.943608015

00:15:24.278 --> 00:15:28.330 talk about poverty just about the measures.

NOTE Confidence: 0.943608015

00:15:28.330 --> 00:15:29.130 I have no pointer,

NOTE Confidence: 0.943608015

00:15:29.130 --> 00:15:30.130 but I have a cursor,

NOTE Confidence: 0.943608015

00:15:30.130 --> 00:15:30.690 I'm told,

NOTE Confidence: 0.943608015

00:15:30.690 --> 00:15:32.930 so I don't want to go through measures.

NOTE Confidence: 0.943608015

00:15:32.930 --> 00:15:34.178 Nothing is more boring than telling

NOTE Confidence: 0.943608015

00:15:34.178 --> 00:15:35.530 you what we measured in the study,

NOTE Confidence: 0.943608015

00:15:35.530 --> 00:15:37.402 but we measured a lot ultrasound

NOTE Confidence: 0.943608015

00:15:37.402 --> 00:15:38.650 in the beginning questionnaires,

NOTE Confidence: 0.943608015

00:15:38.650 --> 00:15:40.966 lots of motor development was exciting.

NOTE Confidence: 0.943608015

00:15:40.970 --> 00:15:42.636 We have IQ measures but also actually

NOTE Confidence: 0.943608015

00:15:42.636 --> 00:15:44.369 of the parents which are the mother.

NOTE Confidence: 0.943608015

00:15:44.370 --> 00:15:46.395 It's very important to control

NOTE Confidence: 0.943608015

00:15:46.395 --> 00:15:47.576 for baseline confounding.

NOTE Confidence: 0.943608015

00:15:47.576 --> 00:15:49.406 If you have intrauterine infectors,

NOTE Confidence: 0.946962533333333

00:15:49.410 --> 00:15:52.040 what is sort of genetic

NOTE Confidence: 0.946962533333333

00:15:52.040 --> 00:15:53.774 background and then the imaging,

NOTE Confidence: 0.946962533333333

00:15:53.774 --> 00:15:55.580 I'll focus much of my talk.

NOTE Confidence: 0.946962533333333

00:15:55.580 --> 00:15:58.177 On the imaging at age 9 to

NOTE Confidence: 0.946962533333333

00:15:58.177 --> 00:16:00.860 10 which is at 4000 people.

NOTE Confidence: 0.946962533333333

00:16:00.860 --> 00:16:03.357 I have one study later where we do a

NOTE Confidence: 0.946962533333333

00:16:03.357 --> 00:16:05.413 follow up of the imaging which we have.

NOTE Confidence: 0.946962533333333

00:16:05.420 --> 00:16:06.380 This is actually a typo.

NOTE Confidence: 0.946962533333333

00:16:06.380 --> 00:16:07.916 It shouldn't be 4050.

NOTE Confidence: 0.946962533333333

00:16:07.916 --> 00:16:09.836 This should be 3 thousands

NOTE Confidence: 0.946962533333333

00:16:09.836 --> 00:16:11.474 and 52 hundred 3200.

NOTE Confidence: 0.946962533333333

00:16:11.474 --> 00:16:14.400 Just copy pasted the wrong thing here.

NOTE Confidence: 0.946962533333333

00:16:14.400 --> 00:16:15.822 So we have now three wave

NOTE Confidence: 0.946962533333333

00:16:15.822 --> 00:16:17.480 completed and the 4th wave ongoing.

NOTE Confidence: 0.946962533333333

00:16:17.480 --> 00:16:19.923 In total it would be 6000 different

NOTE Confidence: 0.946962533333333

00:16:19.923 --> 00:16:21.653 individuals that have been scanned

NOTE Confidence: 0.946962533333333

00:16:21.653 --> 00:16:24.067 of 5500 and the overlap is not that

NOTE Confidence: 0.946962533333333

00:16:24.067 --> 00:16:27.190 big but it is there to do nice multi

NOTE Confidence: 0.946962533333333

00:16:27.190 --> 00:16:29.679 level analysis over three waves already.

NOTE Confidence: 0.946962533333333

00:16:29.680 --> 00:16:31.157 I would like to start with my

NOTE Confidence: 0.946962533333333

00:16:31.157 --> 00:16:32.575 classical one of my classical

NOTE Confidence: 0.946962533333333

00:16:32.575 --> 00:16:33.676 papers maternal depression.

NOTE Confidence: 0.946962533333333

00:16:33.680 --> 00:16:35.592 So I think there we can learn a

NOTE Confidence: 0.946962533333333

00:16:35.592 --> 00:16:37.267 bit about public health relevance

NOTE Confidence: 0.946962533333333

00:16:37.267 --> 00:16:39.541 and actually I'm saying that also

NOTE Confidence: 0.946962533333333

00:16:39.541 --> 00:16:41.524 because it informed a study or

NOTE Confidence: 0.946962533333333

00:16:41.524 --> 00:16:43.069 work that I'm doing currently.

NOTE Confidence: 0.946962533333333

00:16:43.070 --> 00:16:45.626 Maternal depression from fetal life forward.

NOTE Confidence: 0.946962533333333

00:16:45.630 --> 00:16:48.332 What I'm trying to show you is

NOTE Confidence: 0.946962533333333

00:16:48.332 --> 00:16:50.190 that we've measured maternal

NOTE Confidence: 0.946962533333333

00:16:50.190 --> 00:16:52.690 depressive symptoms at three time

NOTE Confidence: 0.946962533333333

00:16:52.690 --> 00:16:54.190 points during pregnancy.

NOTE Confidence: 0.946962533333333

00:16:54.190 --> 00:16:56.140 This would have been forgive me

NOTE Confidence: 0.946962533333333

00:16:56.140 --> 00:16:58.108 that the error is not quite good.

NOTE Confidence: 0.946962533333333

00:16:58.110 --> 00:17:00.390 It should be after birth at two months,

NOTE Confidence: 0.946962533333333

00:17:00.390 --> 00:17:02.630 after birth at three years.

NOTE Confidence: 0.946962533333333

00:17:02.630 --> 00:17:04.275 We didn't use that and we used

NOTE Confidence: 0.946962533333333

00:17:04.275 --> 00:17:05.790 it at 9 to 10 years.

NOTE Confidence: 0.946962533333333

00:17:05.790 --> 00:17:09.125 So 4 measures of maternal depression 1/2

NOTE Confidence: 0.946962533333333

00:17:09.125 --> 00:17:13.085 just after birth in the early childhood and.

NOTE Confidence: 0.946962533333333

00:17:13.090 --> 00:17:13.650 At 10,

NOTE Confidence: 0.946962533333333

00:17:13.650 --> 00:17:14.770 why is 10 interesting?

NOTE Confidence: 0.946962533333333

00:17:14.770 --> 00:17:16.050 That is interesting because that

NOTE Confidence: 0.946962533333333

00:17:16.050 --> 00:17:17.330 is cross-sectional if you wish.

NOTE Confidence: 0.946962533333333

00:17:17.330 --> 00:17:18.730 Was the brain imaging,

NOTE Confidence: 0.946962533333333

00:17:18.730 --> 00:17:20.830 focusing on the brain imaging at

NOTE Confidence: 0.946962533333333

00:17:20.900 --> 00:17:22.570 10 years when we measured 4000

NOTE Confidence: 0.946962533333333

00:17:22.570 --> 00:17:24.310 children and not all in study

NOTE Confidence: 0.946962533333333

00:17:24.376 --> 00:17:26.133 at the end there will always be

NOTE Confidence: 0.946962533333333

00:17:26.133 --> 00:17:27.967 only 2000 or 3000 in the study,

NOTE Confidence: 0.946962533333333

00:17:27.970 --> 00:17:30.562 but that's at that time a very big study.

NOTE Confidence: 0.946962533333333

00:17:30.570 --> 00:17:33.770 Certainly the biggest study was

NOTE Confidence: 0.946962533333333

00:17:33.770 --> 00:17:36.146 prenatal exposure assessment,

NOTE Confidence: 0.946962533333333

00:17:36.146 --> 00:17:39.618 prospective prenatal exposure assessment.

NOTE Confidence: 0.946962533333333

00:17:39.620 --> 00:17:41.572 And I always ask when I see the

NOTE Confidence: 0.946962533333333

00:17:41.572 --> 00:17:43.698 slides and those who have not seen it,

NOTE Confidence: 0.946962533333333

00:17:43.700 --> 00:17:48.525 what time is there a strongest relation

NOTE Confidence: 0.946962533333333

00:17:48.525 --> 00:17:50.864 of maternal depressive symptoms to

NOTE Confidence: 0.946962533333333

00:17:50.864 --> 00:17:54.140 the brain of a child measured at age 10?

NOTE Confidence: 0.90635554

00:17:56.980 --> 00:18:00.356 So we've got it at during pregnancy,

NOTE Confidence: 0.90635554

00:18:00.356 --> 00:18:04.214 just after birth, early childhood

NOTE Confidence: 0.90635554

00:18:04.214 --> 00:18:08.399 and cross-sectional with the MRI.

NOTE Confidence: 0.90635554

00:18:08.400 --> 00:18:11.420 And the question is when?

NOTE Confidence: 0.90635554

00:18:11.420 --> 00:18:15.140 Is there a relation between the

NOTE Confidence: 0.90635554

00:18:15.140 --> 00:18:17.000 maternal depressive symptoms

NOTE Confidence: 0.90635554

00:18:17.000 --> 00:18:20.732 and the volume and connectivity

NOTE Confidence: 0.90635554

00:18:20.732 --> 00:18:24.120 of the child brain at age 10?

NOTE Confidence: 0.90635554

00:18:24.120 --> 00:18:26.745 So is there a long term influence

NOTE Confidence: 0.90635554

00:18:26.745 --> 00:18:28.520 from prenatal life forward?

NOTE Confidence: 0.90635554

00:18:28.520 --> 00:18:32.374 Is there an influence of early

NOTE Confidence: 0.90635554

00:18:32.374 --> 00:18:36.430 after birth perinatal depression?

NOTE Confidence: 0.90635554

00:18:36.430 --> 00:18:38.788 Is an influence of childhood depression

NOTE Confidence: 0.90635554

00:18:38.790 --> 00:18:43.930 or an influence of cross-sectional just

NOTE Confidence: 0.90635554

00:18:43.930 --> 00:18:47.230 concurrent depression to the mother?

NOTE Confidence: 0.90635554

00:18:47.230 --> 00:18:48.740 Talk about structure of the

NOTE Confidence: 0.90635554

00:18:48.740 --> 00:18:50.750 brain of the child at age 10.

NOTE Confidence: 0.905031707142857

00:18:54.670 --> 00:18:55.909 So I'm not, as I sometimes do,

NOTE Confidence: 0.905031707142857

00:18:55.910 --> 00:18:57.350 pull somebody up and say what

NOTE Confidence: 0.905031707142857

00:18:57.350 --> 00:18:59.028 do you think I'll do it myself.

NOTE Confidence: 0.905031707142857

00:18:59.030 --> 00:19:02.934 You can think many people would think

NOTE Confidence: 0.905031707142857

00:19:02.934 --> 00:19:04.780 it's either prenatal depression.

NOTE Confidence: 0.905031707142857

00:19:04.780 --> 00:19:07.265 That has a big effect because that's

NOTE Confidence: 0.905031707142857

00:19:07.265 --> 00:19:09.106 when the child is in the womb.

NOTE Confidence: 0.905031707142857

00:19:09.110 --> 00:19:12.014 So you would think that the mother's

NOTE Confidence: 0.905031707142857

00:19:12.014 --> 00:19:14.523 depression influences her Physiology,

NOTE Confidence: 0.905031707142857

00:19:14.523 --> 00:19:17.588 and that impacts the child.

NOTE Confidence: 0.905031707142857

00:19:17.590 --> 00:19:21.230 You could argue for just after the birth,

NOTE Confidence: 0.905031707142857

00:19:21.230 --> 00:19:25.066 because that's a key period of attachment.

NOTE Confidence: 0.905031707142857

00:19:25.070 --> 00:19:26.445 You could even argue somewhat

NOTE Confidence: 0.905031707142857

00:19:26.445 --> 00:19:27.545 less for the childhood,

NOTE Confidence: 0.905031707142857

00:19:27.550 --> 00:19:30.259 but you could argue for that because it's a

NOTE Confidence: 0.905031707142857

00:19:30.259 --> 00:19:32.843 long period of childhood upbringing anyway.

NOTE Confidence: 0.905031707142857

00:19:32.843 --> 00:19:34.508 If you look at this,

NOTE Confidence: 0.905031707142857

00:19:34.510 --> 00:19:36.030 this is just very broad.

NOTE Confidence: 0.905031707142857

00:19:36.030 --> 00:19:38.350 Total measures, Total white measure.

NOTE Confidence: 0.905031707142857

00:19:38.350 --> 00:19:39.283 Total Gray measure.

NOTE Confidence: 0.905031707142857

00:19:39.283 --> 00:19:40.527 Because we start with

NOTE Confidence: 0.905031707142857

00:19:40.527 --> 00:19:41.149 hierarchical approaches,

NOTE Confidence: 0.905031707142857

00:19:41.150 --> 00:19:42.860 doing big parts of the brain

NOTE Confidence: 0.905031707142857

00:19:42.860 --> 00:19:44.764 and then zooming in on specific

NOTE Confidence: 0.905031707142857

00:19:44.764 --> 00:19:46.504 regions if we find something.

NOTE Confidence: 0.905031707142857

00:19:46.510 --> 00:19:48.750 You can look at these small effects.

NOTE Confidence: 0.905031707142857

00:19:48.750 --> 00:19:51.510 They're actually translatable in centimeters.

NOTE Confidence: 0.905031707142857

00:19:51.510 --> 00:19:52.030 Cubic.

NOTE Confidence: 0.941371755555556

00:19:55.350 --> 00:19:56.880 You can see nothing was

NOTE Confidence: 0.941371755555556

00:19:56.880 --> 00:19:58.104 the white matter much.

NOTE Confidence: 0.941371755555556

00:19:58.110 --> 00:20:00.718 And if you look at the Gray matter.

NOTE Confidence: 0.941371755555556

00:20:00.720 --> 00:20:01.776 There is a period,

NOTE Confidence: 0.941371755555556

00:20:01.776 --> 00:20:04.190 two months where there is an effect and

NOTE Confidence: 0.941371755555556

00:20:04.190 --> 00:20:06.115 again that survives multiple testing.

NOTE Confidence: 0.941371755555556

00:20:06.120 --> 00:20:08.920 So if you want an answer from this,

NOTE Confidence: 0.941371755555556

00:20:08.920 --> 00:20:09.718 it is not.

NOTE Confidence: 0.941371755555556

00:20:09.718 --> 00:20:11.314 And I've said that many times,

NOTE Confidence: 0.941371755555556

00:20:11.320 --> 00:20:12.391 for me, this is one of the

NOTE Confidence: 0.941371755555556

00:20:12.391 --> 00:20:13.638 big it's a few years old now,

NOTE Confidence: 0.941371755555556

00:20:13.640 --> 00:20:16.436 four years ago we published it.

NOTE Confidence: 0.941371755555556

00:20:16.440 --> 00:20:16.880 It's

NOTE Confidence: 0.9224557725

00:20:19.240 --> 00:20:21.634 not the prenatal exposure that is most

NOTE Confidence: 0.9224557725

00:20:21.634 --> 00:20:24.278 important and we see that in some of this,

NOTE Confidence: 0.9224557725

00:20:24.280 --> 00:20:28.186 it is actually just after birth.

NOTE Confidence: 0.9224557725

00:20:28.190 --> 00:20:30.446 Where we see an effect and

NOTE Confidence: 0.9224557725

00:20:30.446 --> 00:20:31.950 that's actually very consistent.

NOTE Confidence: 0.9224557725

00:20:31.950 --> 00:20:35.586 So there's two ways to look at the data.

NOTE Confidence: 0.9224557725

00:20:35.590 --> 00:20:38.621 One is prenatal is not everything and

NOTE Confidence: 0.9224557725

00:20:38.621 --> 00:20:41.710 sometimes the Doha people would tell you.

NOTE Confidence: 0.9224557725

00:20:41.710 --> 00:20:46.565 Secondly, effects are small and if anything

NOTE Confidence: 0.9224557725

00:20:46.565 --> 00:20:49.940 that is a small effect postnatal depression,

NOTE Confidence: 0.9224557725

00:20:49.940 --> 00:20:53.390 which makes sense if you know

NOTE Confidence: 0.9224557725

00:20:53.390 --> 00:20:54.702 the literature and attachment,

NOTE Confidence: 0.9224557725

00:20:54.702 --> 00:20:56.870 maternal bonding and how important it is.

NOTE Confidence: 0.9224557725

00:20:56.870 --> 00:20:59.229 To have and how that is impacted

NOTE Confidence: 0.9224557725

00:20:59.229 --> 00:21:00.790 in clinically depressed mothers.

NOTE Confidence: 0.9224557725

00:21:00.790 --> 00:21:02.509 If you look at and I'll show later some,

NOTE Confidence: 0.9224557725

00:21:02.510 --> 00:21:03.630 I think some more DTI.

NOTE Confidence: 0.9224557725

00:21:03.630 --> 00:21:05.870 This is a slide of how we look at DTI.

NOTE Confidence: 0.9224557725

00:21:05.870 --> 00:21:08.145 We sort of don't integrate it all.

NOTE Confidence: 0.9224557725

00:21:08.150 --> 00:21:09.510 We look at different tracts

NOTE Confidence: 0.9224557725

00:21:09.510 --> 00:21:10.870 which we then sometimes sum.

NOTE Confidence: 0.9224557725

00:21:10.870 --> 00:21:12.790 So this would be the connectivity

NOTE Confidence: 0.9224557725

00:21:12.790 --> 00:21:14.070 in the white matter.

NOTE Confidence: 0.9224557725

00:21:14.070 --> 00:21:16.662 You measure that with two measures FA or MD,

NOTE Confidence: 0.9224557725

00:21:16.670 --> 00:21:18.290 but it essentially shows you

NOTE Confidence: 0.9224557725

00:21:18.290 --> 00:21:20.566 the integrity of the in these.

NOTE Confidence: 0.9224557725

00:21:20.566 --> 00:21:21.542 Different tracts.

NOTE Confidence: 0.9224557725

00:21:21.542 --> 00:21:23.355 We measured that. Well,

NOTE Confidence: 0.9224557725

00:21:23.355 --> 00:21:25.770 that was just the global brain measures.

NOTE Confidence: 0.9224557725

00:21:25.770 --> 00:21:28.038 And I can tell you this effect is

NOTE Confidence: 0.9224557725

00:21:28.038 --> 00:21:30.530 quite broad across parts of the brain.

NOTE Confidence: 0.9224557725

00:21:30.530 --> 00:21:31.671 So it's not just in the temporal

NOTE Confidence: 0.9224557725

00:21:31.671 --> 00:21:32.690 lobe or the frontal lobe.

NOTE Confidence: 0.9224557725

00:21:32.690 --> 00:21:35.210 We find it a global effect.

NOTE Confidence: 0.9224557725

00:21:35.210 --> 00:21:36.939 And then we also looked at the

NOTE Confidence: 0.9224557725

00:21:36.939 --> 00:21:38.610 DTI and what is interesting,

NOTE Confidence: 0.9224557725

00:21:38.610 --> 00:21:39.570 that's not so surprising.

NOTE Confidence: 0.9224557725

00:21:39.570 --> 00:21:42.407 Well, there was nothing in the white matter.

NOTE Confidence: 0.9224557725

00:21:42.410 --> 00:21:45.815 We saw that the tracts, the general tracts,

NOTE Confidence: 0.9224557725

00:21:45.815 --> 00:21:47.690 the integrity of the tracts.

NOTE Confidence: 0.9224557725

00:21:47.690 --> 00:21:51.122 Again, depression at 2:00.

NOTE Confidence: 0.9224557725

00:21:51.122 --> 00:21:53.692 Months Postnatally there was

NOTE Confidence: 0.9224557725

00:21:53.692 --> 00:21:55.722 less integrity of these tracts

NOTE Confidence: 0.9224557725

00:21:55.722 --> 00:21:57.654 together and trust me there's not

NOTE Confidence: 0.9224557725

00:21:57.654 --> 00:21:59.438 a single track that does it.

NOTE Confidence: 0.9224557725

00:21:59.440 --> 00:22:03.199 These global integrity of tracts is less,

NOTE Confidence: 0.9224557725

00:22:03.200 --> 00:22:06.476 is less clear is there's less

NOTE Confidence: 0.9224557725

00:22:06.480 --> 00:22:07.880 integrity in these tracts.

NOTE Confidence: 0.9224557725

00:22:07.880 --> 00:22:10.760 And then in fact was the depression at

NOTE Confidence: 0.9224557725

00:22:10.760 --> 00:22:13.884 two months on the child brain of 10 years.

NOTE Confidence: 0.9224557725

00:22:13.884 --> 00:22:15.936 So it's different exposure times was

NOTE Confidence: 0.9224557725

00:22:15.936 --> 00:22:18.098 one outcome time always at 10 years.

NOTE Confidence: 0.9224557725

00:22:18.100 --> 00:22:19.465 So you see the effect and there's

NOTE Confidence: 0.9224557725

00:22:19.465 --> 00:22:19.855 nothing Again,

NOTE Confidence: 0.9224557725

00:22:19.860 --> 00:22:20.740 there's prenatal

NOTE Confidence: 0.936899133333333

00:22:24.820 --> 00:22:29.188 If we discuss public health relevance,

NOTE Confidence: 0.936899133333333

00:22:29.188 --> 00:22:33.124 you will not want me to say we now

NOTE Confidence: 0.936899133333333

00:22:33.124 --> 00:22:34.984 found that maternal depression is

NOTE Confidence: 0.936899133333333

00:22:34.984 --> 00:22:36.723 important because there's fifty years

NOTE Confidence: 0.936899133333333

00:22:36.723 --> 00:22:38.979 or 100 years of research to show that.

NOTE Confidence: 0.936899133333333

00:22:38.980 --> 00:22:41.500 You might want to say, wow, he has a

NOTE Confidence: 0.95635504

00:22:44.180 --> 00:22:48.410 way of finding sensitive periods.

NOTE Confidence: 0.95635504

00:22:48.410 --> 00:22:50.608 And that's why I would think perhaps,

NOTE Confidence: 0.95635504

00:22:50.610 --> 00:22:53.564 but really, honestly, I don't think so.

NOTE Confidence: 0.95635504

00:22:53.570 --> 00:22:58.030 And I'll tell you why I tell you that.

NOTE Confidence: 0.95635504

00:22:58.030 --> 00:23:00.836 And I know people in everywhere think

NOTE Confidence: 0.95635504

00:23:00.836 --> 00:23:03.314 differently that you can with Social

NOTE Confidence: 0.95635504

00:23:03.314 --> 00:23:07.284 adversity study sensitive periods.

NOTE Confidence: 0.95635504

00:23:07.284 --> 00:23:09.643 I actually have tried to do that

NOTE Confidence: 0.95635504

00:23:09.643 --> 00:23:11.426 now with measure of homelessness

NOTE Confidence: 0.95635504

00:23:11.426 --> 00:23:13.490 and other work in my group.

NOTE Confidence: 0.95635504

00:23:13.490 --> 00:23:16.538 We feel that is largely flawed.

NOTE Confidence: 0.95635504

00:23:16.540 --> 00:23:18.780 Because of the following thing,

NOTE Confidence: 0.95635504

00:23:18.780 --> 00:23:21.125 depression in mothers does not

NOTE Confidence: 0.95635504

00:23:21.125 --> 00:23:23.940 occur in isolate meaning over time.

NOTE Confidence: 0.95635504

00:23:23.940 --> 00:23:25.948 What I mean is that is a mother

NOTE Confidence: 0.95635504

00:23:25.948 --> 00:23:28.025 that is depressed at two months

NOTE Confidence: 0.95635504

00:23:28.025 --> 00:23:30.956 after birth has likely some elevated

NOTE Confidence: 0.95635504

00:23:30.956 --> 00:23:32.919 symptoms already during pregnancy.

NOTE Confidence: 0.95635504

00:23:32.919 --> 00:23:35.608 Not only likely, very likely,

NOTE Confidence: 0.95635504

00:23:35.608 --> 00:23:41.060 meaning that all these poverty, abuse,

NOTE Confidence: 0.95635504

00:23:41.060 --> 00:23:43.180 depression, all these risk factors,

NOTE Confidence: 0.95635504

00:23:43.180 --> 00:23:45.880 all these social adversities are studying.

NOTE Confidence: 0.95635504

00:23:45.880 --> 00:23:49.788 Have a high carry over and we cannot

NOTE Confidence: 0.95635504

00:23:49.788 --> 00:23:53.680 validly or have seen very little studies

NOTE Confidence: 0.95635504

00:23:53.790 --> 00:23:56.268 to validly study the period specific

NOTE Confidence: 0.95635504

00:23:56.268 --> 00:23:57.924 exposure because then you would have

NOTE Confidence: 0.95635504

00:23:57.924 --> 00:23:59.831 to have people that have it only in

NOTE Confidence: 0.95635504

00:23:59.831 --> 00:24:01.399 this period and not in the others.

NOTE Confidence: 0.95635504

00:24:01.400 --> 00:24:03.647 And if you see how carefully they

NOTE Confidence: 0.95635504

00:24:03.647 --> 00:24:05.599 account for the other periods,

NOTE Confidence: 0.95635504

00:24:05.600 --> 00:24:08.080 I can tell you in most models I've

NOTE Confidence: 0.95635504

00:24:08.080 --> 00:24:10.617 seen that is flawed, including my own.

NOTE Confidence: 0.95635504

00:24:10.617 --> 00:24:13.270 So I'll show you why it's flawed

NOTE Confidence: 0.95635504

00:24:13.350 --> 00:24:15.550 and this is the trajectories.

NOTE Confidence: 0.95635504

00:24:15.550 --> 00:24:17.338 It's flawed because the mothers who

NOTE Confidence: 0.95635504

00:24:17.338 --> 00:24:19.297 have that peak of depressive symptoms

NOTE Confidence: 0.95635504

00:24:19.297 --> 00:24:21.421 at two months were actually those

NOTE Confidence: 0.95635504

00:24:21.421 --> 00:24:23.427 that were on average as a group.

NOTE Confidence: 0.95635504

00:24:23.430 --> 00:24:24.798 If we just do these trajectories

NOTE Confidence: 0.95635504

00:24:24.798 --> 00:24:26.190 and we classify them in groups

NOTE Confidence: 0.95635504

00:24:26.190 --> 00:24:27.265 and we forget about that,

NOTE Confidence: 0.95635504

00:24:27.270 --> 00:24:28.910 this is of course a continuum, this,

NOTE Confidence: 0.95635504

00:24:28.910 --> 00:24:30.870 this series of continuum on that level.

NOTE Confidence: 0.95635504

00:24:30.870 --> 00:24:32.270 But if we do them in four groups,

NOTE Confidence: 0.95635504

00:24:32.270 --> 00:24:33.859 we see this group that actually I

NOTE Confidence: 0.95635504

00:24:33.859 --> 00:24:35.589 can tell you carries the results,

NOTE Confidence: 0.95635504

00:24:35.590 --> 00:24:36.938 has high levels here,

NOTE Confidence: 0.95635504

00:24:36.938 --> 00:24:39.330 super high levels here and then keeps

NOTE Confidence: 0.95635504

00:24:39.330 --> 00:24:41.706 on in the all these ten years after.

NOTE Confidence: 0.949059075

00:24:43.780 --> 00:24:46.120 Assessments to be reasonably high because

NOTE Confidence: 0.949059075

00:24:46.120 --> 00:24:49.024 this is 0.7 is exactly where the clinical

NOTE Confidence: 0.949059075

00:24:49.024 --> 00:24:51.460 line of clinical severity would have been,

NOTE Confidence: 0.949059075

00:24:51.460 --> 00:24:53.292 meaning that there is a group that has

NOTE Confidence: 0.949059075

00:24:53.292 --> 00:24:54.860 clinical symptoms but they're high all over.

NOTE Confidence: 0.949059075

00:24:54.860 --> 00:24:56.080 And of course there are

NOTE Confidence: 0.949059075

00:24:56.080 --> 00:24:57.300 some that have only high.

NOTE Confidence: 0.949059075

00:24:57.300 --> 00:24:59.148 When the children get older, only in

NOTE Confidence: 0.949059075

00:24:59.148 --> 00:25:01.416 sort of childhood life they develop it.

NOTE Confidence: 0.949059075

00:25:01.420 --> 00:25:03.140 It's a small group actually,

NOTE Confidence: 0.949059075

00:25:03.140 --> 00:25:06.578 but the important thing is that.

NOTE Confidence: 0.949059075

00:25:06.580 --> 00:25:07.732 These are so tied,

NOTE Confidence: 0.949059075

00:25:07.732 --> 00:25:10.648 So to say that this is the unique effect

NOTE Confidence: 0.949059075

00:25:10.648 --> 00:25:13.748 of this episode when they're far be above

NOTE Confidence: 0.949059075

00:25:13.748 --> 00:25:16.695 clinical levels and others makes no sense.

NOTE Confidence: 0.949059075

00:25:16.700 --> 00:25:19.100 It is because it's not like an infection.

NOTE Confidence: 0.949059075

00:25:19.100 --> 00:25:20.871 It's not like a COVID infection where

NOTE Confidence: 0.949059075

00:25:20.871 --> 00:25:22.757 you can say that during pregnancy

NOTE Confidence: 0.949059075

00:25:22.757 --> 00:25:24.893 because you don't have continuous COVID,

NOTE Confidence: 0.949059075

00:25:24.900 --> 00:25:26.720 well, not the infection probably

NOTE Confidence: 0.949059075

00:25:26.720 --> 00:25:28.540 over 10 years is different.

NOTE Confidence: 0.949059075

00:25:28.540 --> 00:25:29.580 I think it doesn't work.

NOTE Confidence: 0.949059075

00:25:29.580 --> 00:25:31.836 We've done it with homelessness and then we

NOTE Confidence: 0.949059075

00:25:31.836 --> 00:25:34.318 have a set where people experience only.

NOTE Confidence: 0.949059075

00:25:34.320 --> 00:25:35.958 Short time and then find housing again

NOTE Confidence: 0.949059075

00:25:35.958 --> 00:25:37.841 and if you have very detailed data I

NOTE Confidence: 0.949059075

00:25:37.841 --> 00:25:39.639 think you can do that with poverty.

NOTE Confidence: 0.949059075

00:25:39.640 --> 00:25:42.769 But people who are really below the

NOTE Confidence: 0.949059075

00:25:42.769 --> 00:25:45.348 poverty line will have been mostly

NOTE Confidence: 0.949059075

00:25:45.348 --> 00:25:48.840 in a tough spot a year or two later

NOTE Confidence: 0.949059075

00:25:48.939 --> 00:25:51.159 or a year or two before.

NOTE Confidence: 0.949059075

00:25:51.160 --> 00:25:52.680 So indeed that was consistent.

NOTE Confidence: 0.949059075

00:25:52.680 --> 00:25:55.480 So there is this carry over effects,

NOTE Confidence: 0.949059075

00:25:55.480 --> 00:25:57.280 there is these.

NOTE Confidence: 0.949059075

00:25:57.280 --> 00:25:58.664 Perhaps there's a biological

NOTE Confidence: 0.949059075

00:25:58.664 --> 00:26:00.048 rapid development post natally

NOTE Confidence: 0.949059075

00:26:00.048 --> 00:26:01.600 there are sensitive peers,

NOTE Confidence: 0.949059075

00:26:01.600 --> 00:26:02.284 there's good ideas.

NOTE Confidence: 0.949059075

00:26:02.284 --> 00:26:04.319 I think we might be able to do that.

NOTE Confidence: 0.949059075

00:26:04.320 --> 00:26:05.766 I'll show you later something with

NOTE Confidence: 0.949059075

00:26:05.766 --> 00:26:07.202 the thyroid hormones where we managed

NOTE Confidence: 0.949059075

00:26:07.202 --> 00:26:08.480 to do that with sensitive peers.

NOTE Confidence: 0.949059075

00:26:08.480 --> 00:26:10.655 I think with social adversities

NOTE Confidence: 0.949059075

00:26:10.655 --> 00:26:12.395 we cannot do that.

NOTE Confidence: 0.949059075

00:26:12.400 --> 00:26:14.944 So if you judge this study

NOTE Confidence: 0.949059075

00:26:14.944 --> 00:26:16.640 against public health relevance,

NOTE Confidence: 0.949059075

00:26:16.640 --> 00:26:19.763 give me a two out of five because I

NOTE Confidence: 0.949059075

00:26:19.763 --> 00:26:22.580 think the carry sort of the sensitive

NOTE Confidence: 0.949059075

00:26:22.580 --> 00:26:25.440 period effects which I marketed as.

NOTE Confidence: 0.949059075

00:26:25.440 --> 00:26:27.920 Don't convince me myself,

NOTE Confidence: 0.949059075

00:26:27.920 --> 00:26:29.355 and I hope I don't convince you.

NOTE Confidence: 0.944726222222222

00:26:31.400 --> 00:26:32.190 It's interesting,

NOTE Confidence: 0.944726222222222

00:26:32.190 --> 00:26:34.955 but I don't think it should guide.

NOTE Confidence: 0.944726222222222

00:26:34.960 --> 00:26:35.720 It did for a while,

NOTE Confidence: 0.944726222222222

00:26:35.720 --> 00:26:37.252 influenced me that I thought, you know,

NOTE Confidence: 0.944726222222222

00:26:37.252 --> 00:26:39.520 I have to put more of my research

NOTE Confidence: 0.944726222222222

00:26:39.520 --> 00:26:41.160 time into very early depression.

NOTE Confidence: 0.944726222222222

00:26:41.160 --> 00:26:42.960 I think that's still valid,

NOTE Confidence: 0.944726222222222

00:26:42.960 --> 00:26:45.840 but I'm not so sure that we need

NOTE Confidence: 0.944726222222222

00:26:45.840 --> 00:26:47.600 imaging research to show that.

NOTE Confidence: 0.944726222222222

00:26:47.600 --> 00:26:49.472 I'll show you because it's very

NOTE Confidence: 0.944726222222222

00:26:49.472 --> 00:26:52.058 popular now to do imaging and poverty.

NOTE Confidence: 0.944726222222222

00:26:52.060 --> 00:26:54.108 I'll show you a bit of that result

NOTE Confidence: 0.944726222222222

00:26:54.108 --> 00:26:56.180 and then an angle I tried to take

NOTE Confidence: 0.944726222222222

00:26:56.180 --> 00:26:57.996 and I'm trying to hear your thoughts

NOTE Confidence: 0.944726222222222

00:26:57.996 --> 00:27:00.232 or at least look at you whether it

NOTE Confidence: 0.944726222222222

00:27:00.232 --> 00:27:02.136 might convince you what we did there.

NOTE Confidence: 0.944726222222222

00:27:02.140 --> 00:27:04.805 So household income has been

NOTE Confidence: 0.944726222222222

00:27:04.805 --> 00:27:06.937 associated with brain morphology.

NOTE Confidence: 0.944726222222222

00:27:06.940 --> 00:27:10.166 We had this data prospectively from it.

NOTE Confidence: 0.944726222222222

00:27:10.166 --> 00:27:12.934 Life again that's a sort of marketing trick.

NOTE Confidence: 0.944726222222222

00:27:12.940 --> 00:27:16.054 So we show you that we did that and.

NOTE Confidence: 0.944726222222222

00:27:16.060 --> 00:27:18.328 I was interested in two things, the timing.

NOTE Confidence: 0.944726222222222

00:27:18.328 --> 00:27:21.100 So is it different if it's prenatal or later?

NOTE Confidence: 0.944726222222222

00:27:21.100 --> 00:27:23.151 And I was also interested if it's

NOTE Confidence: 0.944726222222222

00:27:23.151 --> 00:27:24.364 different in minority majority

NOTE Confidence: 0.944726222222222

00:27:24.364 --> 00:27:26.580 and I'll come to that why I'm so

NOTE Confidence: 0.944726222222222

00:27:26.580 --> 00:27:27.978 interested in that in a minute.

NOTE Confidence: 0.944726222222222

00:27:27.980 --> 00:27:30.143 So if we have 2000 children against

NOTE Confidence: 0.944726222222222

00:27:30.143 --> 00:27:32.658 imaging at 10 years poverty defined as

NOTE Confidence: 0.944726222222222

00:27:32.660 --> 00:27:34.580 national low income threshold in the

NOTE Confidence: 0.944726222222222

00:27:34.580 --> 00:27:36.400 Netherlands, that's nicely defined.

NOTE Confidence: 0.944726222222222

00:27:36.400 --> 00:27:39.872 So you get different analyses, you can do it.

NOTE Confidence: 0.944726222222222

00:27:39.872 --> 00:27:41.780 Never low income and ever low income.

NOTE Confidence: 0.944726222222222

00:27:41.780 --> 00:27:43.775 Note that we have repeatedly assessed income,

NOTE Confidence: 0.944726222222222

00:27:43.780 --> 00:27:46.490 So what people? You can just simply do it.

NOTE Confidence: 0.944726222222222

00:27:46.490 --> 00:27:48.765 Have you ever in any period been

NOTE Confidence: 0.944726222222222

00:27:48.770 --> 00:27:50.968 poor and we can do that chronic

NOTE Confidence: 0.944726222222222

00:27:50.968 --> 00:27:53.210 or for example in pregnancy only.

NOTE Confidence: 0.944726222222222

00:27:53.210 --> 00:27:56.896 And what you see is just the

NOTE Confidence: 0.944726222222222

00:27:56.896 --> 00:27:58.689 distribution which made it for me,

NOTE Confidence: 0.944726222222222

00:27:58.690 --> 00:28:03.328 made this a very complicated distribution

NOTE Confidence: 0.944726222222222

00:28:03.330 --> 00:28:06.954 because in the Netherlands and you

NOTE Confidence: 0.944726222222222

00:28:06.954 --> 00:28:09.130 see a very similar pattern in the US,

NOTE Confidence: 0.944726222222222

00:28:09.130 --> 00:28:11.657 it's just not immigrant.

NOTE Confidence: 0.944726222222222

00:28:11.657 --> 00:28:13.598 Or non western,

NOTE Confidence: 0.944726222222222

00:28:13.598 --> 00:28:17.342 it's just classified as white and non white.

NOTE Confidence: 0.944726222222222

00:28:17.342 --> 00:28:19.550 You would see a very similar pattern

NOTE Confidence: 0.944726222222222

00:28:19.550 --> 00:28:23.598 that those that are poor are very often

NOTE Confidence: 0.944726222222222

00:28:23.598 --> 00:28:25.950 from here from a non western background.

NOTE Confidence: 0.944726222222222

00:28:25.950 --> 00:28:28.830 So there is a racial ethnic patterning

NOTE Confidence: 0.944726222222222

00:28:28.830 --> 00:28:30.830 of poverty in the Netherlands.

NOTE Confidence: 0.944726222222222

00:28:30.830 --> 00:28:33.630 There's a racial ethnic pattern

NOTE Confidence: 0.944726222222222

00:28:33.630 --> 00:28:37.838 of poverty in the in America.

NOTE Confidence: 0.944726222222222

00:28:37.840 --> 00:28:39.800 So you see that of the four hundreds,

NOTE Confidence: 0.944726222222222

00:28:39.800 --> 00:28:41.156 quite a few that were poor,

NOTE Confidence: 0.944726222222222

00:28:41.160 --> 00:28:45.110 so 20% were poor at one time a

NOTE Confidence: 0.944726222222222

00:28:45.110 --> 00:28:47.260 majority would have been from

NOTE Confidence: 0.944726222222222

00:28:47.260 --> 00:28:48.892 long Western and then we have,

NOTE Confidence: 0.944726222222222

00:28:48.892 --> 00:28:50.346 you can see the numbers 100 people

NOTE Confidence: 0.944726222222222

00:28:50.346 --> 00:28:51.596 that were poor in pregnancy,

NOTE Confidence: 0.944726222222222

00:28:51.600 --> 00:28:54.440 100 and 200 that were poor at any one time.

NOTE Confidence: 0.944726222222222

00:28:54.440 --> 00:28:55.718 So you can see the breakdown

NOTE Confidence: 0.944726222222222

00:28:55.718 --> 00:28:56.357 of these numbers.

NOTE Confidence: 0.915885225

00:28:58.760 --> 00:29:01.560 Here is so how it looks at truth.

NOTE Confidence: 0.915885225

00:29:01.560 --> 00:29:02.928 You can see all the different

NOTE Confidence: 0.915885225

00:29:02.928 --> 00:29:03.840 results that you know.

NOTE Confidence: 0.915885225

00:29:03.840 --> 00:29:05.280 If you analyze, you get,

NOTE Confidence: 0.915885225

00:29:05.280 --> 00:29:07.384 even if you take this broad approach of

NOTE Confidence: 0.915885225

00:29:07.384 --> 00:29:09.291 total brain volume and Gray volume and

NOTE Confidence: 0.915885225

00:29:09.291 --> 00:29:10.980 then the typical hippocampus, amygdala.

NOTE Confidence: 0.915885225

00:29:10.980 --> 00:29:14.480 If you do this mix of global and

NOTE Confidence: 0.915885225

00:29:14.480 --> 00:29:16.417 to specific areas, researchers,

NOTE Confidence: 0.915885225

00:29:16.417 --> 00:29:18.679 regions of interest, you see with

NOTE Confidence: 0.915885225

00:29:18.679 --> 00:29:20.800 these many poverty categorizations,

NOTE Confidence: 0.915885225

00:29:20.800 --> 00:29:24.448 you see all these patterns and then you

NOTE Confidence: 0.915885225

00:29:24.448 --> 00:29:26.926 can look where there's significance.

NOTE Confidence: 0.915885225

00:29:26.926 --> 00:29:28.810 And honestly, you could find,

NOTE Confidence: 0.915885225

00:29:28.810 --> 00:29:30.770 that's why I had it in red,

NOTE Confidence: 0.915885225

00:29:30.770 --> 00:29:32.350 some association between the

NOTE Confidence: 0.915885225

00:29:32.350 --> 00:29:33.930 amygdala volume and poverty.

NOTE Confidence: 0.915885225

00:29:33.930 --> 00:29:35.085 And if you look at it carefully,

NOTE Confidence: 0.915885225

00:29:35.090 --> 00:29:36.570 this is the reference group.

NOTE Confidence: 0.915885225

00:29:36.570 --> 00:29:37.926 Never. Then you see what's this?

NOTE Confidence: 0.915885225

00:29:37.930 --> 00:29:39.568 This is the low income childhood only.

NOTE Confidence: 0.915885225

00:29:39.570 --> 00:29:40.890 There seems to be no effect.

NOTE Confidence: 0.915885225

00:29:40.890 --> 00:29:43.450 But if you're chronically poor,

NOTE Confidence: 0.915885225

00:29:43.450 --> 00:29:46.824 if you're chronic poor, or if you're.

NOTE Confidence: 0.915885225

00:29:46.830 --> 00:29:48.030 So ever low income is cost,

NOTE Confidence: 0.915885225

00:29:48.030 --> 00:29:48.486 a combination,

NOTE Confidence: 0.915885225

00:29:48.486 --> 00:29:49.854 but it's really by low income

NOTE Confidence: 0.915885225

00:29:49.854 --> 00:29:51.028 and pregnancy or chronic force.

NOTE Confidence: 0.915885225

00:29:51.030 --> 00:29:53.420 So it really seems to be, if anything,

NOTE Confidence: 0.915885225

00:29:53.420 --> 00:29:56.030 the pregnancy that might drive it,

NOTE Confidence: 0.915885225

00:29:56.030 --> 00:29:56.674 the amygdala.

NOTE Confidence: 0.915885225

00:29:56.674 --> 00:29:59.250 But I can truthfully tell you that this

NOTE Confidence: 0.915885225

00:29:59.319 --> 00:30:01.389 does not survive multiple testing.

NOTE Confidence: 0.915885225

00:30:01.390 --> 00:30:02.698 So there would be,

NOTE Confidence: 0.915885225

00:30:02.698 --> 00:30:05.110 if anything overall in the total group,

NOTE Confidence: 0.915885225

00:30:05.110 --> 00:30:06.350 no real.

NOTE Confidence: 0.96440576

00:30:10.690 --> 00:30:13.130 Convincing or strong consistent effect?

NOTE Confidence: 0.96440576

00:30:13.130 --> 00:30:15.090 Not on the global measures for sure

NOTE Confidence: 0.96440576

00:30:15.090 --> 00:30:16.326 and on these regions of interest.

NOTE Confidence: 0.96440576

00:30:16.330 --> 00:30:18.460 Well, if you find it somewhere

NOTE Confidence: 0.96440576

00:30:18.460 --> 00:30:19.525 just borderline significant,

NOTE Confidence: 0.96440576

00:30:19.530 --> 00:30:23.130 you should probably discount it.

NOTE Confidence: 0.96440576

00:30:23.130 --> 00:30:25.248 However, we had very good data

NOTE Confidence: 0.96440576

00:30:25.248 --> 00:30:27.672 from Child IQ that certainly the

NOTE Confidence: 0.96440576

00:30:27.672 --> 00:30:30.012 pregnancy was very different in

NOTE Confidence: 0.96440576

00:30:30.012 --> 00:30:32.650 minority groups and majority groups,

NOTE Confidence: 0.96440576

00:30:32.650 --> 00:30:35.116 so we had reason from that

NOTE Confidence: 0.96440576

00:30:35.116 --> 00:30:37.749 paper to stratify a sample in.

NOTE Confidence: 0.96440576

00:30:37.750 --> 00:30:39.710 Let me call it Western or Nonwestern.

NOTE Confidence: 0.96440576

00:30:39.710 --> 00:30:41.824 That's the Dutch, Dutch language in America.

NOTE Confidence: 0.96440576

00:30:41.830 --> 00:30:43.355 Western on Western is not

NOTE Confidence: 0.96440576

00:30:43.355 --> 00:30:44.270 really cool anymore,

NOTE Confidence: 0.96440576

00:30:44.270 --> 00:30:45.750 So I'd rather should say

NOTE Confidence: 0.950316896

00:30:48.030 --> 00:30:49.422 it's not immigrants,

NOTE Confidence: 0.950316896

00:30:49.422 --> 00:30:52.206 it's people whose ancestors were born

NOTE Confidence: 0.950316896

00:30:52.206 --> 00:30:54.620 in probably not high income countries

NOTE Confidence: 0.950316896

00:30:54.620 --> 00:30:57.445 and came to the Netherlands for colonial

NOTE Confidence: 0.950316896

00:30:57.445 --> 00:30:59.465 history reasons or work reasons,

NOTE Confidence: 0.950316896

00:30:59.470 --> 00:31:04.134 and the Dutch and the Dutch and European.

NOTE Confidence: 0.950316896

00:31:04.134 --> 00:31:06.774 Community on the other hand,

NOTE Confidence: 0.950316896

00:31:06.780 --> 00:31:09.412 and why do I think that's a very

NOTE Confidence: 0.950316896

00:31:09.412 --> 00:31:10.820 important difference in poverty?

NOTE Confidence: 0.950316896

00:31:10.820 --> 00:31:12.740 Not only did we have some prior results,

NOTE Confidence: 0.950316896

00:31:12.740 --> 00:31:15.099 but also we know that if you're

NOTE Confidence: 0.950316896

00:31:15.099 --> 00:31:16.465 financially strained and you

NOTE Confidence: 0.950316896

00:31:16.465 --> 00:31:18.217 have a network in the country,

NOTE Confidence: 0.950316896

00:31:18.220 --> 00:31:19.996 that's a different thing if your

NOTE Confidence: 0.950316896

00:31:19.996 --> 00:31:21.982 family lives there than if you come

NOTE Confidence: 0.950316896

00:31:21.982 --> 00:31:23.718 as an immigrant from the Cape Verin

NOTE Confidence: 0.950316896

00:31:23.779 --> 00:31:25.417 Islands to work in the harbour.

NOTE Confidence: 0.950316896

00:31:25.420 --> 00:31:28.093 If you're then out of job then you're really,

NOTE Confidence: 0.950316896

00:31:28.100 --> 00:31:29.628 it really is tough.

NOTE Confidence: 0.950316896

00:31:29.628 --> 00:31:31.538 So that's why we stratified

NOTE Confidence: 0.950316896

00:31:31.538 --> 00:31:33.648 for these groups and then.

NOTE Confidence: 0.950316896

00:31:33.650 --> 00:31:35.505 We see if we do that and

NOTE Confidence: 0.950316896

00:31:35.505 --> 00:31:37.089 this is only the Dutch,

NOTE Confidence: 0.950316896

00:31:37.090 --> 00:31:39.372 we actually all of a sudden saw

NOTE Confidence: 0.950316896

00:31:39.372 --> 00:31:41.548 very broad effects on cerebral and

NOTE Confidence: 0.950316896

00:31:41.548 --> 00:31:43.810 other broad parameters of the brain.

NOTE Confidence: 0.950316896

00:31:43.810 --> 00:31:48.248 So taking out this big group of

NOTE Confidence: 0.950316896

00:31:48.250 --> 00:31:50.418 non Dutch ancestry participants,

NOTE Confidence: 0.950316896

00:31:50.418 --> 00:31:54.120 let's call it that way, not Dutch ancestry,

NOTE Confidence: 0.950316896

00:31:54.120 --> 00:31:56.430 but taking them out shoulders all of

NOTE Confidence: 0.950316896

00:31:56.498 --> 00:32:00.310 a sudden we had a strong effect in.

NOTE Confidence: 0.950316896

00:32:00.310 --> 00:32:01.674 The overall brain volume.

NOTE Confidence: 0.950316896

00:32:01.674 --> 00:32:03.720 But what was perhaps more interesting

NOTE Confidence: 0.950316896

00:32:03.775 --> 00:32:04.747 in the numb Dutch.

NOTE Confidence: 0.950316896

00:32:04.750 --> 00:32:06.110 So this was the Dutch.

NOTE Confidence: 0.950316896

00:32:06.110 --> 00:32:07.510 This is the numb Dutch.

NOTE Confidence: 0.950316896

00:32:07.510 --> 00:32:09.268 We didn't see any global parameters,

NOTE Confidence: 0.950316896

00:32:09.270 --> 00:32:11.790 but we see very consistently

NOTE Confidence: 0.946004114285714

00:32:14.190 --> 00:32:16.864 the effects of in pregnancy or chronic,

NOTE Confidence: 0.946004114285714

00:32:16.870 --> 00:32:18.250 which also means in pregnancy

NOTE Confidence: 0.946004114285714

00:32:18.250 --> 00:32:19.630 and later on as well.

NOTE Confidence: 0.946004114285714

00:32:19.630 --> 00:32:21.542 If you pull that group to sort of

NOTE Confidence: 0.946004114285714

00:32:21.542 --> 00:32:24.206 ever in pregnancy, we get a very.

NOTE Confidence: 0.946004114285714

00:32:24.206 --> 00:32:26.510 Very significant effect on consistent because

NOTE Confidence: 0.946004114285714

00:32:26.577 --> 00:32:29.454 it's significant in both of the subgroupings.

NOTE Confidence: 0.946004114285714

00:32:29.460 --> 00:32:31.168 If you pull it, it gets very

NOTE Confidence: 0.946004114285714

00:32:31.168 --> 00:32:32.740 significant in effect on the amygdala.

NOTE Confidence: 0.946004114285714

00:32:32.740 --> 00:32:34.819 So we get a very different pattern.

NOTE Confidence: 0.946004114285714

00:32:34.820 --> 00:32:37.740 So we get a much more stress related

NOTE Confidence: 0.946004114285714

00:32:37.740 --> 00:32:41.264 grain poverty pattern in the non Dutch

NOTE Confidence: 0.946004114285714

00:32:41.264 --> 00:32:43.938 ancestry group and a very global effect.

NOTE Confidence: 0.946004114285714

00:32:43.940 --> 00:32:46.500 It's very hard to think what that means.

NOTE Confidence: 0.946004114285714

00:32:46.500 --> 00:32:47.229 Does that valid?

NOTE Confidence: 0.946004114285714

00:32:47.229 --> 00:32:48.687 I can tell you I immediately

NOTE Confidence: 0.946004114285714

00:32:48.687 --> 00:32:49.896 looked at the ABCD data.

NOTE Confidence: 0.946004114285714

00:32:49.896 --> 00:32:52.122 Does it also fall apart in similar

NOTE Confidence: 0.946004114285714

00:32:52.122 --> 00:32:54.430 patterning and again of course that would be.

NOTE Confidence: 0.946004114285714

00:32:54.430 --> 00:32:56.386 Would be none, white and white,

NOTE Confidence: 0.946004114285714

00:32:56.390 --> 00:32:57.950 probably what you could do.

NOTE Confidence: 0.946004114285714

00:32:57.950 --> 00:32:58.823 And it's interesting,

NOTE Confidence: 0.946004114285714

00:32:58.823 --> 00:33:00.860 we saw the same similar different complicated

NOTE Confidence: 0.946004114285714

00:33:00.905 --> 00:33:02.470 pattern for the behavioral outcomes,

NOTE Confidence: 0.946004114285714

00:33:02.470 --> 00:33:04.227 but not so much for the brain.

NOTE Confidence: 0.946004114285714

00:33:04.230 --> 00:33:07.200 So there is some reason to think that if

NOTE Confidence: 0.946004114285714

00:33:07.200 --> 00:33:09.668 poverty comes with different stresses,

NOTE Confidence: 0.946004114285714

00:33:09.670 --> 00:33:10.870 it could have a different

NOTE Confidence: 0.946004114285714

00:33:10.870 --> 00:33:11.830 meaning for the brain.

NOTE Confidence: 0.946004114285714

00:33:11.830 --> 00:33:13.606 We see that very clearly for

NOTE Confidence: 0.946004114285714

00:33:13.606 --> 00:33:15.150 the behaviour also in ABCD,

NOTE Confidence: 0.946004114285714

00:33:15.150 --> 00:33:16.550 but not for the brain.

NOTE Confidence: 0.946004114285714

00:33:16.550 --> 00:33:19.077 And I haven't looked at the amygdala.

NOTE Confidence: 0.946004114285714

00:33:19.080 --> 00:33:20.928 As they make that and actually in the

NOTE Confidence: 0.946004114285714

00:33:20.928 --> 00:33:22.479 Dutch this really predicted school

NOTE Confidence: 0.946004114285714

00:33:22.479 --> 00:33:24.199 performance so it was meaningful.

NOTE Confidence: 0.946004114285714

00:33:24.200 --> 00:33:26.912 So if you summarize early in life poverty

NOTE Confidence: 0.946004114285714

00:33:26.912 --> 00:33:29.600 and pre adolescent brain morphology,

NOTE Confidence: 0.946004114285714

00:33:29.600 --> 00:33:31.630 there is an association but they really

NOTE Confidence: 0.946004114285714

00:33:31.630 --> 00:33:33.518 differ from majority and minority groups.

NOTE Confidence: 0.946004114285714

00:33:33.520 --> 00:33:35.571 And was all the caveats that you

NOTE Confidence: 0.946004114285714

00:33:35.571 --> 00:33:37.394 hate this subtyping of majority and

NOTE Confidence: 0.946004114285714

00:33:37.394 --> 00:33:39.680 minority that's up to you to dislike it.

NOTE Confidence: 0.946004114285714

00:33:39.680 --> 00:33:42.150 I think that is some evidence that we do it.

NOTE Confidence: 0.946004114285714

00:33:42.150 --> 00:33:42.532 In America,

NOTE Confidence: 0.946004114285714

00:33:42.532 --> 00:33:44.060 I would say we should do it to

NOTE Confidence: 0.946004114285714

00:33:44.106 --> 00:33:45.781 some extent because poverty and

NOTE Confidence: 0.946004114285714

00:33:45.781 --> 00:33:46.786 discrimination go together,

NOTE Confidence: 0.946004114285714

00:33:46.790 --> 00:33:49.548 which makes a very different terrible mix.

NOTE Confidence: 0.946004114285714

00:33:49.550 --> 00:33:51.727 In the Netherlands it is also discrimination

NOTE Confidence: 0.946004114285714

00:33:51.727 --> 00:33:54.269 and stress of surviving financial strength.

NOTE Confidence: 0.946004114285714

00:33:54.270 --> 00:33:56.318 So there is some reason to do that

NOTE Confidence: 0.946004114285714

00:33:56.318 --> 00:33:58.508 and this I think what that reflects,

NOTE Confidence: 0.946004114285714

00:33:58.510 --> 00:33:59.323 I'll be very,

NOTE Confidence: 0.946004114285714

00:33:59.323 --> 00:34:00.949 very careful to speculate about that.

NOTE Confidence: 0.946004114285714

00:34:00.950 --> 00:34:02.588 I think it could also be

NOTE Confidence: 0.946004114285714

00:34:02.590 --> 00:34:03.758 genetically associated,

NOTE Confidence: 0.946004114285714

00:34:03.758 --> 00:34:05.510 we don't know,

NOTE Confidence: 0.946004114285714

00:34:05.510 --> 00:34:09.426 but in the in the minority groups

NOTE Confidence: 0.946004114285714

00:34:09.426 --> 00:34:11.460 as I call them here or.

NOTE Confidence: 0.946004114285714

00:34:11.460 --> 00:34:13.014 If you want the real nice terminology,

NOTE Confidence: 0.946004114285714

00:34:13.020 --> 00:34:16.050 I think the exact terminology the

NOTE Confidence: 0.946004114285714

00:34:16.050 --> 00:34:17.873 non Dutch and ancestry group.

NOTE Confidence: 0.946004114285714

00:34:17.873 --> 00:34:19.499 I think it is likely stressed

NOTE Confidence: 0.946004114285714

00:34:19.499 --> 00:34:21.107 by discrimination and because we

NOTE Confidence: 0.946004114285714

00:34:21.107 --> 00:34:23.259 have that variable in the model I

NOTE Confidence: 0.946004114285714

00:34:23.259 --> 00:34:25.512 can tell you pull it in and it's

NOTE Confidence: 0.946004114285714

00:34:25.512 --> 00:34:27.776 substantially weakened the association.

NOTE Confidence: 0.946004114285714

00:34:27.780 --> 00:34:29.495 So it's not a real mediation analysis,

NOTE Confidence: 0.946004114285714

00:34:29.500 --> 00:34:31.012 but there is.

NOTE Confidence: 0.946004114285714

00:34:31.012 --> 00:34:33.020 About 30% of the association and

NOTE Confidence: 0.946004114285714

00:34:33.020 --> 00:34:34.860 that was a very crude measure of

NOTE Confidence: 0.946004114285714

00:34:34.860 --> 00:34:35.724 discrimination disappeared once

NOTE Confidence: 0.946004114285714

00:34:35.724 --> 00:34:37.452 we put that in the model.

NOTE Confidence: 0.946004114285714

00:34:37.460 --> 00:34:39.140 So I think there's real reason to

NOTE Confidence: 0.946004114285714

00:34:39.140 --> 00:34:40.950 think that could be different and we

NOTE Confidence: 0.946004114285714

00:34:40.950 --> 00:34:42.504 have to think more carefully about

NOTE Confidence: 0.946004114285714

00:34:42.560 --> 00:34:44.099 our neurodevelopmental measures.

NOTE Confidence: 0.946004114285714

00:34:44.100 --> 00:34:47.156 I'll do the thyroid and then another,

NOTE Confidence: 0.946004114285714

00:34:47.156 --> 00:34:48.820 I'll do that quickly.

NOTE Confidence: 0.946004114285714

00:34:48.820 --> 00:34:50.578 I've presented that for many times.

NOTE Confidence: 0.946004114285714

00:34:50.580 --> 00:34:55.920 So what would that be in if you give me.

NOTE Confidence: 0.946004114285714

00:34:55.920 --> 00:34:57.168 My sort of scale,

NOTE Confidence: 0.946004114285714

00:34:57.168 --> 00:34:59.040 my own scales is rating your

NOTE Confidence: 0.90946515

00:34:59.109 --> 00:35:00.960 own work. But let's do it critical.

NOTE Confidence: 0.90946515

00:35:00.960 --> 00:35:03.174 I think we're still only at a three out

NOTE Confidence: 0.90946515

00:35:03.174 --> 00:35:06.010 of five of public health because to

NOTE Confidence: 0.90946515

00:35:06.010 --> 00:35:09.235 think that poverty measures mentioned

NOTE Confidence: 0.90946515

00:35:09.240 --> 00:35:11.120 poverty matters for the brain,

NOTE Confidence: 0.90946515

00:35:11.120 --> 00:35:14.153 I don't think we need too much brain imaging.

NOTE Confidence: 0.90946515

00:35:14.160 --> 00:35:17.170 But, you know, to carefully dissect the

NOTE Confidence: 0.90946515

00:35:17.170 --> 00:35:19.728 effects of minority groups again, Well,

NOTE Confidence: 0.90946515

00:35:19.728 --> 00:35:21.712 really, do we need the imaging for that?

NOTE Confidence: 0.945742648181818

00:35:23.850 --> 00:35:25.638 Although I think that it has

NOTE Confidence: 0.945742648181818

00:35:25.638 --> 00:35:27.290 lasting effects on child brains,

NOTE Confidence: 0.945742648181818

00:35:27.290 --> 00:35:30.020 that it what is it affects is

NOTE Confidence: 0.945742648181818

00:35:30.020 --> 00:35:32.460 associated with child brains may be

NOTE Confidence: 0.945742648181818

00:35:32.460 --> 00:35:34.285 very different How it associates

NOTE Confidence: 0.945742648181818

00:35:34.285 --> 00:35:36.807 with the brain where you come from,

NOTE Confidence: 0.945742648181818

00:35:36.810 --> 00:35:39.058 It's at least makes us think so give

NOTE Confidence: 0.945742648181818

00:35:39.058 --> 00:35:41.780 me a three out of five perhaps we want

NOTE Confidence: 0.945742648181818

00:35:41.780 --> 00:35:43.716 to go to four out of five, don't we?

NOTE Confidence: 0.945742648181818

00:35:43.716 --> 00:35:45.954 So here's thyroid where I think

NOTE Confidence: 0.945742648181818

00:35:45.954 --> 00:35:47.569 we can manage thyroid.

NOTE Confidence: 0.945742648181818

00:35:47.569 --> 00:35:50.440 Old work of mine and it was one recent

NOTE Confidence: 0.945742648181818

00:35:50.514 --> 00:35:53.370 update which is I think quite spectacular.

NOTE Confidence: 0.945742648181818

00:35:53.370 --> 00:35:54.746 Thyroid of the brain,

NOTE Confidence: 0.945742648181818

00:35:54.746 --> 00:35:57.250 So note that the maternal thyroid brain.

NOTE Confidence: 0.945742648181818

00:35:57.250 --> 00:35:59.026 So maternal thyroid hormones are very

NOTE Confidence: 0.945742648181818

00:35:59.026 --> 00:36:00.850 important for the brain development.

NOTE Confidence: 0.945742648181818

00:36:00.850 --> 00:36:02.850 Animal work has shown convincingly

NOTE Confidence: 0.945742648181818

00:36:02.850 --> 00:36:04.450 that actually it's fascinating

NOTE Confidence: 0.945742648181818

00:36:04.450 --> 00:36:06.687 that the neurogenesis and it's

NOTE Confidence: 0.945742648181818

00:36:06.687 --> 00:36:08.467 particularly the neuro neuromigration

NOTE Confidence: 0.945742648181818

00:36:08.467 --> 00:36:10.450 which actually comes from around,

NOTE Confidence: 0.945742648181818

00:36:10.450 --> 00:36:12.030 you know the central,

NOTE Confidence: 0.945742648181818

00:36:12.030 --> 00:36:14.570 the ventricles and then the neurons

NOTE Confidence: 0.945742648181818

00:36:14.570 --> 00:36:16.970 migrate out to your cortex.

NOTE Confidence: 0.945742648181818

00:36:16.970 --> 00:36:19.230 Obviously that's where they are

NOTE Confidence: 0.945742648181818

00:36:19.230 --> 00:36:22.429 in our brains that is guided by.

NOTE Confidence: 0.945742648181818

00:36:22.430 --> 00:36:26.130 Thyroid hormones that happens in

NOTE Confidence: 0.945742648181818

00:36:26.130 --> 00:36:30.355 early embryonic life when the embryo

NOTE Confidence: 0.945742648181818

00:36:30.355 --> 00:36:34.950 is reliant on the maternal thyroid.

NOTE Confidence: 0.945742648181818

00:36:34.950 --> 00:36:37.310 So much of the neurodevelopment.

NOTE Confidence: 0.945742648181818

00:36:37.310 --> 00:36:39.298 So the nature is seem sort of

NOTE Confidence: 0.945742648181818

00:36:39.298 --> 00:36:39.866 very pasimonious.

NOTE Confidence: 0.945742648181818

00:36:39.870 --> 00:36:41.290 It has only 10 mechanisms

NOTE Confidence: 0.945742648181818

00:36:41.290 --> 00:36:42.710 and what does you know,

NOTE Confidence: 0.945742648181818

00:36:42.710 --> 00:36:44.565 vitamin D does something and

NOTE Confidence: 0.945742648181818

00:36:44.565 --> 00:36:46.420 serotonin do something very different

NOTE Confidence: 0.945742648181818

00:36:46.483 --> 00:36:48.577 in the fetal life they're much

NOTE Confidence: 0.945742648181818

00:36:48.577 --> 00:36:49.973 more neurodevelopmental than in

NOTE Confidence: 0.945742648181818

00:36:50.030 --> 00:36:51.098 us where they have.

NOTE Confidence: 0.945742648181818

00:36:51.100 --> 00:36:52.316 Very new endocrine function,

NOTE Confidence: 0.945742648181818

00:36:52.316 --> 00:36:53.836 but they have very new

NOTE Confidence: 0.945742648181818

00:36:53.836 --> 00:36:54.660 developmental functions.

NOTE Confidence: 0.945742648181818

00:36:54.660 --> 00:36:57.498 All these systems and in particular

NOTE Confidence: 0.945742648181818

00:36:57.498 --> 00:37:00.211 thyroid in pregnancy and only in

NOTE Confidence: 0.945742648181818

00:37:00.211 --> 00:37:02.801 week 14 does then the fetus produce

NOTE Confidence: 0.945742648181818

00:37:02.801 --> 00:37:05.776 its own thyroid and only by week 20,

NOTE Confidence: 0.945742648181818

00:37:05.780 --> 00:37:08.264 so sometime later does it produce

NOTE Confidence: 0.945742648181818

00:37:08.264 --> 00:37:10.700 somewhat sufficient levels and takes over.

NOTE Confidence: 0.945742648181818

00:37:10.700 --> 00:37:13.364 So in that time the mother

NOTE Confidence: 0.945742648181818

00:37:13.364 --> 00:37:14.696 supplies the thyroid.

NOTE Confidence: 0.945742648181818

00:37:14.700 --> 00:37:17.049 In that time many women who have a low

NOTE Confidence: 0.945742648181818

00:37:17.049 --> 00:37:19.267 thyroid function actually become a bit

NOTE Confidence: 0.945742648181818

00:37:19.267 --> 00:37:21.167 hyperthyroid because they need more.

NOTE Confidence: 0.945742648181818

00:37:21.170 --> 00:37:22.034 There's very good graphs.

NOTE Confidence: 0.945742648181818

00:37:22.034 --> 00:37:23.573 I haven't got them with me because

NOTE Confidence: 0.945742648181818

00:37:23.573 --> 00:37:25.125 I do a short version of this talk.

NOTE Confidence: 0.945742648181818

00:37:25.130 --> 00:37:27.090 But trust me, there's very good work,

NOTE Confidence: 0.945742648181818

00:37:27.090 --> 00:37:28.170 mostly animal work,

NOTE Confidence: 0.945742648181818

00:37:28.170 --> 00:37:30.330 very consistent that we need the

NOTE Confidence: 0.945742648181818

00:37:30.330 --> 00:37:32.610 thyroid levels for a brain development.

NOTE Confidence: 0.945742648181818

00:37:32.610 --> 00:37:34.914 And what we showed in the very early

NOTE Confidence: 0.945742648181818

00:37:34.914 --> 00:37:36.730 publications, nearly ten years ago now,

NOTE Confidence: 0.945742648181818

00:37:36.730 --> 00:37:39.410 is that if you take the total sample,

NOTE Confidence: 0.945742648181818

00:37:39.410 --> 00:37:44.106 and this is the measure of s s.

NOTE Confidence: 0.945742648181818

00:37:44.110 --> 00:37:44.448 SRS,

NOTE Confidence: 0.945742648181818

00:37:44.448 --> 00:37:46.138 the social responsiveness of good

NOTE Confidence: 0.945742648181818

00:37:46.138 --> 00:37:47.910 population trait measure of autism,

NOTE Confidence: 0.945742648181818

00:37:47.910 --> 00:37:49.440 you see that the people with

NOTE Confidence: 0.945742648181818

00:37:49.440 --> 00:37:50.950 good levels of the mothers,

NOTE Confidence: 0.945742648181818

00:37:50.950 --> 00:37:53.344 the offspring of mothers with normal

NOTE Confidence: 0.945742648181818

00:37:53.344 --> 00:37:55.794 levels of thyroid hormone have much

NOTE Confidence: 0.945742648181818

00:37:55.794 --> 00:37:58.545 lower levels than those that have subautimal.

NOTE Confidence: 0.945742648181818

00:37:58.550 --> 00:37:59.686 And this is subclinical,

NOTE Confidence: 0.945742648181818

00:37:59.686 --> 00:38:01.390 we're not talking about a clinical,

NOTE Confidence: 0.945742648181818

00:38:01.390 --> 00:38:03.918 this is untreated hypothics,

NOTE Confidence: 0.945742648181818

00:38:03.918 --> 00:38:05.206 thyroxinemia, you can do severe,

NOTE Confidence: 0.945742648181818

00:38:05.206 --> 00:38:06.026 you can do less severe,

NOTE Confidence: 0.945742648181818

00:38:06.030 --> 00:38:08.002 but it's all subclinical,

NOTE Confidence: 0.945742648181818

00:38:08.002 --> 00:38:10.467 so it's just low levels.

NOTE Confidence: 0.945742648181818

00:38:10.470 --> 00:38:12.090 Of thyroid hormone in the mother

NOTE Confidence: 0.945742648181818

00:38:12.090 --> 00:38:13.785 and you saw that association which

NOTE Confidence: 0.945742648181818

00:38:13.785 --> 00:38:15.717 we showed and then we move on

NOTE Confidence: 0.945742648181818

00:38:15.717 --> 00:38:16.990 to more recent work,

NOTE Confidence: 0.9452853

00:38:19.270 --> 00:38:22.324 a first Lancet endocrinology paper where

NOTE Confidence: 0.9452853

00:38:22.324 --> 00:38:26.384 we showed that if we take the levels

NOTE Confidence: 0.9452853

00:38:26.384 --> 00:38:28.734 continuous now FT-4 that's the thyroid.

NOTE Confidence: 0.9452853

00:38:28.734 --> 00:38:30.464 So this means more thyroid,

NOTE Confidence: 0.9452853

00:38:30.470 --> 00:38:32.014 this means less thyroid.

NOTE Confidence: 0.9452853

00:38:32.014 --> 00:38:33.944 We showed actually a a

NOTE Confidence: 0.9452853

00:38:33.944 --> 00:38:35.708 curvilinear association with IQ.

NOTE Confidence: 0.9452853

00:38:35.710 --> 00:38:37.875 It's most robust in the

NOTE Confidence: 0.9452853

00:38:37.875 --> 00:38:39.607 low thyroid levels here.

NOTE Confidence: 0.9452853

00:38:39.610 --> 00:38:40.666 And then this is a quite

NOTE Confidence: 0.9452853

00:38:40.666 --> 00:38:41.370 a wide confident role,

NOTE Confidence: 0.9452853

00:38:41.370 --> 00:38:44.088 but you see some significant down decline.

NOTE Confidence: 0.9452853

00:38:44.088 --> 00:38:46.314 So there is a tightly regulated level

NOTE Confidence: 0.9452853

00:38:46.314 --> 00:38:48.287 and that's where most mothers are.

NOTE Confidence: 0.9452853

00:38:48.290 --> 00:38:49.564 If you see the distribution of hormones,

NOTE Confidence: 0.9452853

00:38:49.570 --> 00:38:52.258 it would be just most people are in

NOTE Confidence: 0.9452853

00:38:52.258 --> 00:38:54.650 this space, some are in the low,

NOTE Confidence: 0.9452853

00:38:54.650 --> 00:38:55.810 some are in the high.

NOTE Confidence: 0.9452853

00:38:55.810 --> 00:38:59.634 And we saw a very robust relation with IQ.

NOTE Confidence: 0.9452853

00:38:59.634 --> 00:39:01.930 And later we've replicated this in 2-3

NOTE Confidence: 0.9452853

00:39:01.997 --> 00:39:04.167 other cohorts where I must be honest,

NOTE Confidence: 0.9452853

00:39:04.170 --> 00:39:07.800 this ups this low levels of and the

NOTE Confidence: 0.9452853

00:39:07.800 --> 00:39:09.725 relation to low IQ is extremely robust.

NOTE Confidence: 0.9452853

00:39:09.730 --> 00:39:11.650 This in other cars looks more like this,

NOTE Confidence: 0.9452853

00:39:11.650 --> 00:39:13.408 going sort of much more flat.

NOTE Confidence: 0.9452853

00:39:13.410 --> 00:39:15.050 There's not such a decline,

NOTE Confidence: 0.9452853

00:39:15.050 --> 00:39:19.313 but there is a very robust association

NOTE Confidence: 0.9452853

00:39:19.313 --> 00:39:22.889 between prenatal thyroid hormones and I Q.

NOTE Confidence: 0.9452853

00:39:22.890 --> 00:39:26.112 And then we move to another

NOTE Confidence: 0.9452853

00:39:26.112 --> 00:39:27.723 hormone thyroid parameter.

NOTE Confidence: 0.9452853

00:39:27.730 --> 00:39:28.483 So be careful.

NOTE Confidence: 0.9452853

00:39:28.483 --> 00:39:29.487 This is now thyroid,

NOTE Confidence: 0.9452853

00:39:29.490 --> 00:39:30.642 thyroid stimulating hormone.

NOTE Confidence: 0.9452853

00:39:30.642 --> 00:39:33.330 This means that now you'd beware that

NOTE Confidence: 0.9452853

00:39:33.391 --> 00:39:35.587 higher levels of the stimulating hormones

NOTE Confidence: 0.9452853

00:39:35.587 --> 00:39:38.050 means lower levels of thyroid hormone.

NOTE Confidence: 0.9452853

00:39:38.050 --> 00:39:38.522 It's flipped.

NOTE Confidence: 0.9452853

00:39:38.522 --> 00:39:40.822 I think you have to be a doctor or

NOTE Confidence: 0.9452853

00:39:40.822 --> 00:39:42.246 an endocrinologist or physiologist

NOTE Confidence: 0.9452853

00:39:42.246 --> 00:39:43.670 who immediately get it.

NOTE Confidence: 0.9452853

00:39:43.670 --> 00:39:47.478 But trust me whereas we had easy more

NOTE Confidence: 0.9452853

00:39:47.478 --> 00:39:49.470 hormone is we thought better but this

NOTE Confidence: 0.9452853

00:39:49.470 --> 00:39:51.349 is not the case because it gets worse here.

NOTE Confidence: 0.9452853

00:39:51.350 --> 00:39:52.830 But this is more hormones.

NOTE Confidence: 0.9452853

00:39:52.830 --> 00:39:54.530 This is less hormones and

NOTE Confidence: 0.9452853

00:39:54.530 --> 00:39:56.230 less hormones means lower IQ.

NOTE Confidence: 0.9452853

00:39:56.230 --> 00:39:58.946 Here it is two different things modeled.

NOTE Confidence: 0.9452853

00:39:58.950 --> 00:40:00.708 It's not IQ, it's Gray matter.

NOTE Confidence: 0.9452853

00:40:00.710 --> 00:40:02.426 So it's not a brain parameter.

NOTE Confidence: 0.9452853

00:40:02.430 --> 00:40:05.510 And you see this is essentially flipped.

NOTE Confidence: 0.9452853

00:40:05.510 --> 00:40:07.022 So this means.

NOTE Confidence: 0.9452853

00:40:07.022 --> 00:40:08.030 Less hormones.

NOTE Confidence: 0.9452853

00:40:08.030 --> 00:40:09.670 This would mean more hormones,

NOTE Confidence: 0.9452853

00:40:09.670 --> 00:40:12.436 but I'm presenting at the stimulating

NOTE Confidence: 0.9452853

00:40:12.436 --> 00:40:15.413 axis hormone and what you see is

NOTE Confidence: 0.9452853

00:40:15.413 --> 00:40:17.632 the same similar inverted U-shaped

NOTE Confidence: 0.9452853

00:40:17.632 --> 00:40:20.537 curve tightly regulated on all

NOTE Confidence: 0.9452853

00:40:20.537 --> 00:40:23.921 levels of the thyroid between the

NOTE Confidence: 0.9452853

00:40:23.921 --> 00:40:26.820 brain and the between the brain.

NOTE Confidence: 0.9452853

00:40:26.820 --> 00:40:29.070 And the thyroid hormone and

NOTE Confidence: 0.9452853

00:40:29.070 --> 00:40:30.980 it's highly significant.

NOTE Confidence: 0.9452853

00:40:30.980 --> 00:40:33.059 So it's 2000 children at age 10,

NOTE Confidence: 0.9452853

00:40:33.060 --> 00:40:34.524 it's their prenatal,

NOTE Confidence: 0.9452853

00:40:34.524 --> 00:40:36.964 their mothers in the early

NOTE Confidence: 0.9452853

00:40:36.964 --> 00:40:39.140 mostly around week 10 to 14,

NOTE Confidence: 0.9452853

00:40:39.140 --> 00:40:41.140 it's their thyroid hormone levels.

NOTE Confidence: 0.9452853

00:40:41.140 --> 00:40:42.694 And this has led to some guidelines

NOTE Confidence: 0.9452853

00:40:42.694 --> 00:40:43.860 and discussion and guidelines.

NOTE Confidence: 0.9452853

00:40:43.860 --> 00:40:45.950 Should we measure more thyroid

NOTE Confidence: 0.9452853

00:40:45.950 --> 00:40:48.458 hormones in women that have no

NOTE Confidence: 0.9452853

00:40:48.458 --> 00:40:50.725 symptoms and no history of and there

NOTE Confidence: 0.9452853

00:40:50.725 --> 00:40:52.300 have been trials based on this work

NOTE Confidence: 0.9452853

00:40:52.300 --> 00:40:54.089 which it have to have been largely

NOTE Confidence: 0.9452853

00:40:54.089 --> 00:40:55.374 negative or very small effects.

NOTE Confidence: 0.9452853

00:40:55.380 --> 00:40:56.952 So they're sort of.

NOTE Confidence: 0.9452853

00:40:56.952 --> 00:40:58.917 Equivocal trials have been done,

NOTE Confidence: 0.9452853

00:40:58.920 --> 00:41:00.032 so we don't know,

NOTE Confidence: 0.9452853

00:41:00.032 --> 00:41:02.400 but there is some evidence that it is

NOTE Confidence: 0.9452853

00:41:02.400 --> 00:41:04.314 a very important parameter to regulate.

NOTE Confidence: 0.9452853

00:41:04.320 --> 00:41:07.080 And now comes the recent work.

NOTE Confidence: 0.9452853

00:41:07.080 --> 00:41:07.737 I don't know,

NOTE Confidence: 0.9452853

00:41:07.737 --> 00:41:09.270 I don't have a date when that

NOTE Confidence: 0.9452853

00:41:09.326 --> 00:41:10.957 was published 2 years or so ago,

NOTE Confidence: 0.9452853

00:41:10.960 --> 00:41:12.672 which is very fascinating.

NOTE Confidence: 0.9452853

00:41:12.672 --> 00:41:13.956 We did that.

NOTE Confidence: 0.9452853

00:41:13.960 --> 00:41:16.096 We just realized this data because

NOTE Confidence: 0.9452853

00:41:16.096 --> 00:41:18.874 we had the idea what actually we

NOTE Confidence: 0.9452853

00:41:18.874 --> 00:41:21.436 included the women at different ages.

NOTE Confidence: 0.941371755555556

00:41:21.440 --> 00:41:25.472 So we can model always in about 200 women.

NOTE Confidence: 0.941371755555556

00:41:25.480 --> 00:41:27.604 The curve essentially continuously

NOTE Confidence: 0.941371755555556

00:41:27.604 --> 00:41:31.717 moving the curve with a time interaction

NOTE Confidence: 0.941371755555556

00:41:31.717 --> 00:41:34.144 variable across the inclusion period.

NOTE Confidence: 0.941371755555556

00:41:34.144 --> 00:41:36.520 So the first women came to

NOTE Confidence: 0.941371755555556

00:41:36.599 --> 00:41:38.801 generation out to be included and

NOTE Confidence: 0.941371755555556

00:41:38.801 --> 00:41:41.358 we took the blood at week seven.

NOTE Confidence: 0.941371755555556

00:41:41.360 --> 00:41:43.310 The latest that we included

NOTE Confidence: 0.941371755555556

00:41:43.310 --> 00:41:44.480 were week eighteen.

NOTE Confidence: 0.941371755555556

00:41:44.480 --> 00:41:46.034 Note these are not the same women.

NOTE Confidence: 0.941371755555556

00:41:46.040 --> 00:41:49.264 This is the first blood assessment we

NOTE Confidence: 0.941371755555556

00:41:49.264 --> 00:41:51.840 had where we did the thyroid hormones.

NOTE Confidence: 0.941371755555556

00:41:51.840 --> 00:41:54.528 So what we modeled it as a

NOTE Confidence: 0.941371755555556

00:41:54.528 --> 00:41:56.115 sort of continuous model,

NOTE Confidence: 0.941371755555556

00:41:56.115 --> 00:41:59.160 but then cut it for the doing

NOTE Confidence: 0.941371755555556

00:41:59.160 --> 00:42:00.572 essentially the intercept for

NOTE Confidence: 0.941371755555556

00:42:00.572 --> 00:42:02.516 the different week 7 to 18.

NOTE Confidence: 0.941371755555556

00:42:02.520 --> 00:42:07.740 And what we see is that this curvy linear

NOTE Confidence: 0.941371755555556

00:42:07.740 --> 00:42:10.560 pattern which is very remarked up to age,

NOTE Confidence: 0.941371755555556

00:42:10.560 --> 00:42:13.074 then sort of disappears at the

NOTE Confidence: 0.941371755555556

00:42:13.074 --> 00:42:15.400 end of this inclusion period.

NOTE Confidence: 0.941371755555556

00:42:15.400 --> 00:42:17.600 And this was still 200 women on average.

NOTE Confidence: 0.9402536

00:42:19.760 --> 00:42:22.434 Time period per week and what this

NOTE Confidence: 0.9402536

00:42:22.434 --> 00:42:24.940 shows you I think is convincingly

NOTE Confidence: 0.9402536

00:42:24.940 --> 00:42:27.115 a sensitive period because it

NOTE Confidence: 0.9402536

00:42:27.115 --> 00:42:30.659 is in the same study measured at

NOTE Confidence: 0.9402536

00:42:30.659 --> 00:42:32.679 different time points specifically.

NOTE Confidence: 0.9402536

00:42:32.680 --> 00:42:34.276 And why is that so credible?

NOTE Confidence: 0.9402536

00:42:34.280 --> 00:42:35.880 Because the reviews they sort

NOTE Confidence: 0.9402536

00:42:35.880 --> 00:42:37.160 of were extremely excited.

NOTE Confidence: 0.9402536

00:42:37.160 --> 00:42:39.036 I've never got anything in that sort

NOTE Confidence: 0.9402536

00:42:39.036 --> 00:42:40.877 of Lancet like paper that easily

NOTE Confidence: 0.9402536

00:42:40.877 --> 00:42:42.517 because as in chronologist said,

NOTE Confidence: 0.9402536

00:42:42.520 --> 00:42:44.725 I've done animal work and I showed

NOTE Confidence: 0.9402536

00:42:44.725 --> 00:42:46.904 by week 15 the child produces

NOTE Confidence: 0.9402536

00:42:46.904 --> 00:42:49.232 on thyroid and thus the mother.

NOTE Confidence: 0.9402536

00:42:49.240 --> 00:42:52.516 Thyroid is just not informative anymore.

NOTE Confidence: 0.9402536

00:42:52.520 --> 00:42:56.176 So while I marketed as a final we

NOTE Confidence: 0.9402536

00:42:56.176 --> 00:42:59.638 got their sensitive period study,

NOTE Confidence: 0.9402536

00:42:59.640 --> 00:43:02.132 the reviewer toned it down to saying

NOTE Confidence: 0.9402536

00:43:02.132 --> 00:43:04.245 it's really showing that the measure

NOTE Confidence: 0.9402536

00:43:04.245 --> 00:43:06.195 is not informative At age 15.

NOTE Confidence: 0.9402536

00:43:06.200 --> 00:43:07.718 It may still influence the brain,

NOTE Confidence: 0.9402536

00:43:07.720 --> 00:43:09.838 but you're measuring the wrong parameter.

NOTE Confidence: 0.9402536

00:43:09.840 --> 00:43:12.234 So this is getting closer to the

NOTE Confidence: 0.9402536

00:43:12.234 --> 00:43:13.608 sensitive period. Holy Grail.

NOTE Confidence: 0.9402536

00:43:13.608 --> 00:43:15.328 That's all these Doha epinologists

NOTE Confidence: 0.9402536

00:43:15.328 --> 00:43:17.479 want to get to, but even there,

NOTE Confidence: 0.9402536

00:43:17.479 --> 00:43:19.237 a very careful reviewer can tell.

NOTE Confidence: 0.9402536

00:43:19.240 --> 00:43:20.680 Tell you you're not there.

NOTE Confidence: 0.9402536

00:43:20.680 --> 00:43:23.312 It just means that from week 14 onwards

NOTE Confidence: 0.9402536

00:43:23.312 --> 00:43:25.040 you're measuring the wrong person,

NOTE Confidence: 0.9402536

00:43:25.040 --> 00:43:27.476 essentially like having the wrong informant.

NOTE Confidence: 0.9402536

00:43:27.480 --> 00:43:30.000 But what does it tell you?

NOTE Confidence: 0.9402536

00:43:30.000 --> 00:43:32.040 It tells you what.

NOTE Confidence: 0.9402536

00:43:32.040 --> 00:43:36.470 I think that this is valid because how

NOTE Confidence: 0.9402536

00:43:36.470 --> 00:43:39.322 could it's if you then have the right

NOTE Confidence: 0.9402536

00:43:39.322 --> 00:43:41.478 measure and you find what you expected,

NOTE Confidence: 0.9402536

00:43:41.480 --> 00:43:43.874 perhaps that's sort of a circumvential say.

NOTE Confidence: 0.9402536

00:43:43.880 --> 00:43:45.950 I don't think it proves causality.

NOTE Confidence: 0.9402536

00:43:45.950 --> 00:43:47.525 But it's getting better that

NOTE Confidence: 0.9402536

00:43:47.525 --> 00:43:48.785 this is quite credible.

NOTE Confidence: 0.9402536

00:43:48.790 --> 00:43:51.254 So I do think in all honesty there

NOTE Confidence: 0.9402536

00:43:51.254 --> 00:43:53.889 is a true curvilinear relationship

NOTE Confidence: 0.9402536

00:43:53.889 --> 00:43:57.004 between thyroid hormone and the brain.

NOTE Confidence: 0.9402536

00:43:57.004 --> 00:43:58.606 I do think given the biology

NOTE Confidence: 0.9402536

00:43:58.606 --> 00:44:00.390 it is likely to be causal.

NOTE Confidence: 0.9402536

00:44:00.390 --> 00:44:02.310 Whether that's amenable for

NOTE Confidence: 0.9402536

00:44:02.310 --> 00:44:04.230 intervention is another study.

NOTE Confidence: 0.9402536

00:44:04.230 --> 00:44:06.030 I've got the wrong slides.

NOTE Confidence: 0.9402536

00:44:06.030 --> 00:44:08.318 I was going to ask you so

NOTE Confidence: 0.9402536

00:44:08.318 --> 00:44:09.790 transition to new results.

NOTE Confidence: 0.9402536

00:44:09.790 --> 00:44:11.960 I missed my transition slide because I

NOTE Confidence: 0.9402536

00:44:11.960 --> 00:44:14.537 pulled it up yesterday night after the.

NOTE Confidence: 0.9402536

00:44:14.540 --> 00:44:16.500 Chemical exposure for the colleague.

NOTE Confidence: 0.9402536

00:44:16.500 --> 00:44:17.858 I hope she's there on the zoom.

NOTE Confidence: 0.94654315375

00:44:20.660 --> 00:44:22.780 Does anybody know what trans fatty acids are?

NOTE Confidence: 0.9335446

00:44:24.900 --> 00:44:26.574 Take a sip of coffee while you tell me.

NOTE Confidence: 0.951754571428572

00:44:30.540 --> 00:44:33.774 Is that forgotten? You're not bisphosals and

NOTE Confidence: 0.883993432

00:44:38.100 --> 00:44:38.500 organophosphates?

NOTE Confidence: 0.883993432

00:44:38.500 --> 00:44:40.100 Which are about what?

NOTE Confidence: 0.883993432

00:44:40.100 --> 00:44:41.004 Does anybody still know

NOTE Confidence: 0.883993432

00:44:41.004 --> 00:44:42.134 what trans fatty acids are?

NOTE Confidence: 0.9452853

00:44:47.190 --> 00:44:49.188 I'll tell you, trans fatty assets

NOTE Confidence: 0.941691228571429

00:44:51.310 --> 00:44:55.069 in the Netherlands were a big scandal,

NOTE Confidence: 0.941691228571429

00:44:55.070 --> 00:44:57.387 a public health scandal of big proportions.

NOTE Confidence: 0.941691228571429

00:44:57.390 --> 00:45:01.386 Why? Because in the 1990s eighties,

NOTE Confidence: 0.941691228571429

00:45:01.390 --> 00:45:02.986 I don't know, to that time,

NOTE Confidence: 0.941691228571429

00:45:02.990 --> 00:45:05.696 your grandparents wouldn't have eaten butter.

NOTE Confidence: 0.941691228571429

00:45:05.700 --> 00:45:06.380 Which they would have

NOTE Confidence: 0.941691228571429

00:45:06.380 --> 00:45:07.060 lived in these countries.

NOTE Confidence: 0.941691228571429

00:45:07.060 --> 00:45:09.013 And then there comes the introduction of

NOTE Confidence: 0.941691228571429

00:45:09.013 --> 00:45:11.057 margarines which is better for public health?

NOTE Confidence: 0.941691228571429

00:45:11.060 --> 00:45:13.678 Okay, it's better for your fat because

NOTE Confidence: 0.941691228571429

00:45:13.678 --> 00:45:15.500 it's unsaturated and saturated.

NOTE Confidence: 0.941691228571429

00:45:15.500 --> 00:45:17.858 Fatty Acids in butter versus margarine.

NOTE Confidence: 0.941691228571429

00:45:17.860 --> 00:45:18.856 And these are people that eat,

NOTE Confidence: 0.941691228571429

00:45:18.860 --> 00:45:21.900 you know bread butter and I don't know cheese

NOTE Confidence: 0.928177448

00:45:24.020 --> 00:45:26.708 on twice a day.

NOTE Confidence: 0.928177448

00:45:26.708 --> 00:45:30.350 And so the problem was that these

NOTE Confidence: 0.928177448

00:45:30.350 --> 00:45:32.100 margarines where fatty acids,

NOTE Confidence: 0.928177448

00:45:32.100 --> 00:45:34.760 but they also had trans fatty acids.

NOTE Confidence: 0.928177448

00:45:34.760 --> 00:45:36.620 Meaning these are industrial fatty

NOTE Confidence: 0.928177448

00:45:36.620 --> 00:45:38.900 acids which come with the production

NOTE Confidence: 0.928177448

00:45:38.900 --> 00:45:41.336 of fat and essentially if you produce

NOTE Confidence: 0.928177448

00:45:41.336 --> 00:45:43.982 fat and if you have sort of a if you

NOTE Confidence: 0.928177448

00:45:43.982 --> 00:45:46.310 fry your French fries and you have very

NOTE Confidence: 0.928177448

00:45:46.377 --> 00:45:48.596 poor fat in one of these, I don't know,

NOTE Confidence: 0.928177448

00:45:48.596 --> 00:45:50.640 I don't want to point at any cart here,

NOTE Confidence: 0.928177448

00:45:50.640 --> 00:45:51.996 but if you have very poor,

NOTE Confidence: 0.928177448

00:45:52.000 --> 00:45:54.387 you get trans fatty acids in them.

NOTE Confidence: 0.928177448

00:45:54.390 --> 00:45:55.750 And those were really,

NOTE Confidence: 0.928177448

00:45:55.750 --> 00:45:57.790 it turned out to be terrible

NOTE Confidence: 0.928177448

00:45:57.857 --> 00:45:59.588 for cardiovascular health,

NOTE Confidence: 0.928177448

00:45:59.590 --> 00:46:02.208 actually so bad so that the whole

NOTE Confidence: 0.928177448

00:46:02.208 --> 00:46:04.661 benefit of eating margarine was offset

NOTE Confidence: 0.928177448

00:46:04.661 --> 00:46:07.587 by the effect of trans fatty assets.

NOTE Confidence: 0.928177448

00:46:07.590 --> 00:46:10.510 It was a real scandal in the 1990s.

NOTE Confidence: 0.928177448

00:46:10.510 --> 00:46:12.950 OK, It's sort of forgotten.

NOTE Confidence: 0.928177448

00:46:12.950 --> 00:46:13.666 And I don't know,

NOTE Confidence: 0.928177448

00:46:13.666 --> 00:46:15.310 and I don't know anything much about America.

NOTE Confidence: 0.928177448

00:46:15.310 --> 00:46:16.870 My work is mostly from Europe.

NOTE Confidence: 0.928177448

00:46:16.870 --> 00:46:18.820 So there what happened is

NOTE Confidence: 0.928177448

00:46:18.820 --> 00:46:19.990 there were countries.

NOTE Confidence: 0.928177448

00:46:19.990 --> 00:46:21.454 It's already interesting to see what

NOTE Confidence: 0.928177448

00:46:21.454 --> 00:46:22.750 happens in countries once that's,

NOTE Confidence: 0.928177448

00:46:22.750 --> 00:46:23.406 you know.

NOTE Confidence: 0.928177448

00:46:23.406 --> 00:46:25.702 Detected that Hans very as a mouse

NOTE Confidence: 0.928177448

00:46:25.702 --> 00:46:28.159 models and humans and observational and

NOTE Confidence: 0.928177448

00:46:28.160 --> 00:46:31.440 is really bad and sort of kills you

NOTE Confidence: 0.928177448

00:46:31.440 --> 00:46:33.396 the there's countries that forbid it.

NOTE Confidence: 0.928177448

00:46:33.400 --> 00:46:35.308 Okay Denmark said gone two years

NOTE Confidence: 0.928177448

00:46:35.308 --> 00:46:37.838 and we phase it out of production.

NOTE Confidence: 0.928177448

00:46:37.840 --> 00:46:39.352 It's easy you can just make

NOTE Confidence: 0.928177448

00:46:39.352 --> 00:46:42.160 a bit more expensive oils.

NOTE Confidence: 0.928177448

00:46:42.160 --> 00:46:44.596 The Dutch you might not know them

NOTE Confidence: 0.928177448

00:46:44.596 --> 00:46:46.530 are sort of compromising country

NOTE Confidence: 0.928177448

00:46:46.530 --> 00:46:49.200 so they say to the industry

NOTE Confidence: 0.928177448

00:46:49.200 --> 00:46:51.500 you know it would be good.

NOTE Confidence: 0.928177448

00:46:51.500 --> 00:46:53.192 If you reduced it in your

NOTE Confidence: 0.928177448

00:46:53.192 --> 00:46:55.059 products in the next five years,

NOTE Confidence: 0.928177448

00:46:55.060 --> 00:46:57.031 we do that on a voluntary basis and we

NOTE Confidence: 0.928177448

00:46:57.031 --> 00:46:59.136 will also do a bit of shaming and naming.

NOTE Confidence: 0.928177448

00:46:59.140 --> 00:47:01.100 So there is some pressure.

NOTE Confidence: 0.928177448

00:47:01.100 --> 00:47:02.220 That's the Dutch approach.

NOTE Confidence: 0.928177448

00:47:02.220 --> 00:47:04.260 Now you would laugh about the Dutch,

NOTE Confidence: 0.928177448

00:47:04.260 --> 00:47:07.418 but they do get it done so slowly, by slowly.

NOTE Confidence: 0.928177448

00:47:07.418 --> 00:47:07.936 Uni Lever,

NOTE Confidence: 0.928177448

00:47:07.936 --> 00:47:10.020 whom you know from the Dove products,

NOTE Confidence: 0.928177448

00:47:10.020 --> 00:47:12.460 is a real big you know you Lever

NOTE Confidence: 0.928177448

00:47:12.460 --> 00:47:14.624 is the modern maker in that time.

NOTE Confidence: 0.928177448

00:47:14.624 --> 00:47:16.871 I don't know if they still do it and

NOTE Confidence: 0.928177448

00:47:16.871 --> 00:47:19.464 they phased it out, which leaves.

NOTE Confidence: 0.928177448

00:47:19.464 --> 00:47:22.317 Other products like um,

NOTE Confidence: 0.928177448

00:47:22.317 --> 00:47:24.279 cheap bakery products where it's still

NOTE Confidence: 0.928177448

00:47:24.279 --> 00:47:26.350 used because they couldn't care less.

NOTE Confidence: 0.928177448

00:47:26.350 --> 00:47:27.622 You know, that's the fringe market

NOTE Confidence: 0.928177448

00:47:27.622 --> 00:47:28.470 and they couldn't care.

NOTE Confidence: 0.928177448

00:47:28.470 --> 00:47:29.790 It's cheap to do that.

NOTE Confidence: 0.928177448

00:47:29.790 --> 00:47:34.028 So what we found, um, so here is.

NOTE Confidence: 0.928177448

00:47:34.030 --> 00:47:35.918 If you want to know trans and sis

NOTE Confidence: 0.928177448

00:47:35.918 --> 00:47:38.148 fatty acids, so this is the big difference.

NOTE Confidence: 0.928177448

00:47:38.150 --> 00:47:40.950 Industrial fatty acids like trans would have

NOTE Confidence: 0.928177448

00:47:40.950 --> 00:47:43.468 the hydrogen here instead of like this.

NOTE Confidence: 0.928177448

00:47:43.470 --> 00:47:44.910 Wow, you think that's the difference?

NOTE Confidence: 0.928177448

00:47:44.910 --> 00:47:45.496 That's it.

NOTE Confidence: 0.928177448

00:47:45.496 --> 00:47:46.668 Yes, that's the difference.

NOTE Confidence: 0.928177448

00:47:46.670 --> 00:47:47.270 That's it.

NOTE Confidence: 0.928177448

00:47:47.270 --> 00:47:48.470 And where are they?

NOTE Confidence: 0.928177448

00:47:48.470 --> 00:47:49.630 They're found in fried foods,

NOTE Confidence: 0.928177448

00:47:49.630 --> 00:47:50.918 commercial bakers and processions.

NOTE Confidence: 0.928177448

00:47:50.918 --> 00:47:53.150 But what happens in the statcha pros?

NOTE Confidence: 0.928177448

00:47:53.150 --> 00:47:54.790 There was not a law to stop them,

NOTE Confidence: 0.928177448

00:47:54.790 --> 00:47:55.704 but really,

NOTE Confidence: 0.928177448

00:47:55.704 --> 00:47:59.268 in the early 2000s in this country, this.

NOTE Confidence: 0.928177448

00:47:59.268 --> 00:48:02.132 And the changes in the Netherlands went down

NOTE Confidence: 0.928177448

00:48:02.132 --> 00:48:05.130 in vegetable oils and fat in those years.

NOTE Confidence: 0.928177448

00:48:05.130 --> 00:48:08.170 The production went down dramatically.

NOTE Confidence: 0.928177448

00:48:08.170 --> 00:48:08.658 So without,

NOTE Confidence: 0.928177448

00:48:08.658 --> 00:48:10.366 I'm not saying that's the best approach,

NOTE Confidence: 0.928177448

00:48:10.370 --> 00:48:12.290 but both in the Netherlands

NOTE Confidence: 0.928177448

00:48:12.290 --> 00:48:14.210 and Denmark and other countries

NOTE Confidence: 0.946962533333333

00:48:14.279 --> 00:48:16.810 in Europe, they reduce these fatty acids.

NOTE Confidence: 0.946962533333333

00:48:16.810 --> 00:48:18.666 And why is that? Why am I telling

NOTE Confidence: 0.946962533333333

00:48:18.666 --> 00:48:20.607 you all this in an imaging study?

NOTE Confidence: 0.946962533333333

00:48:20.610 --> 00:48:23.290 I'll tell you why.

NOTE Confidence: 0.946962533333333

00:48:23.290 --> 00:48:24.226 It's really fascinating.

NOTE Confidence: 0.946962533333333

00:48:24.226 --> 00:48:27.550 I saw this once and I thought these are.

NOTE Confidence: 0.946962533333333

00:48:27.550 --> 00:48:32.110 The inclusion years of the Generation R study

NOTE Confidence: 0.946962533333333

00:48:32.110 --> 00:48:39.670 we included from 2003 to actually to 2007,

NOTE Confidence: 0.946962533333333

00:48:39.670 --> 00:48:43.310 we included in exactly the years when

NOTE Confidence: 0.946962533333333

00:48:43.310 --> 00:48:48.974 trans fatty acids disappeared in the in

NOTE Confidence: 0.946962533333333

00:48:48.974 --> 00:48:51.902 the food industry in the Netherlands.

NOTE Confidence: 0.946962533333333

00:48:51.910 --> 00:48:54.639 That means we can look at.

NOTE Confidence: 0.946962533333333

00:48:54.639 --> 00:48:57.502 The blood levels of women who came

NOTE Confidence: 0.946962533333333

00:48:57.502 --> 00:49:00.088 at different times in those years,

NOTE Confidence: 0.946962533333333

00:49:00.090 --> 00:49:01.086 and we did. And you know,

NOTE Confidence: 0.946962533333333

00:49:01.090 --> 00:49:03.370 you'd think you'd see the same exact curve,

NOTE Confidence: 0.946962533333333

00:49:03.370 --> 00:49:04.408 But you know,

NOTE Confidence: 0.946962533333333

00:49:04.408 --> 00:49:08.542 we saw a 10/10 a quarter of decline,

NOTE Confidence: 0.946962533333333

00:49:08.542 --> 00:49:10.194 which for anything in

NOTE Confidence: 0.946962533333333

00:49:10.194 --> 00:49:12.249 biology is quite dramatic.

NOTE Confidence: 0.946962533333333

00:49:12.250 --> 00:49:13.519 So in 2000,

NOTE Confidence: 0.946962533333333

00:49:13.519 --> 00:49:17.320 the people who included in 2005 had only 3/4

NOTE Confidence: 0.946962533333333

00:49:17.320 --> 00:49:20.810 of the levels of those included in 2002.

NOTE Confidence: 0.946962533333333

00:49:20.810 --> 00:49:25.070 So it indeed related to a.

NOTE Confidence: 0.946962533333333

00:49:25.070 --> 00:49:28.534 Reduction in the blood of a women and

NOTE Confidence: 0.946962533333333

00:49:28.534 --> 00:49:30.486 I don't know if they knew and they

NOTE Confidence: 0.946962533333333

00:49:30.486 --> 00:49:32.368 didn't change their eating behavior,

NOTE Confidence: 0.946962533333333

00:49:32.370 --> 00:49:34.422 they just ate the same bread

NOTE Confidence: 0.946962533333333

00:49:34.422 --> 00:49:36.370 and French fries as before,

NOTE Confidence: 0.946962533333333

00:49:36.370 --> 00:49:37.966 but they got less of this.

NOTE Confidence: 0.946962533333333

00:49:37.970 --> 00:49:40.580 Which means if we can relate

NOTE Confidence: 0.946962533333333

00:49:40.580 --> 00:49:43.210 this to a child outcome,

NOTE Confidence: 0.946962533333333

00:49:43.210 --> 00:49:45.856 we have something which we call

NOTE Confidence: 0.946962533333333

00:49:45.856 --> 00:49:47.179 instrumental barrel approach

NOTE Confidence: 0.946962533333333

00:49:47.179 --> 00:49:49.116 because it is a policy change.

NOTE Confidence: 0.946962533333333

00:49:49.120 --> 00:49:51.160 That is related to biology

NOTE Confidence: 0.946962533333333

00:49:51.160 --> 00:49:53.200 in the blood of people.

NOTE Confidence: 0.946962533333333

00:49:53.200 --> 00:49:54.514 And so we published that last

NOTE Confidence: 0.946962533333333

00:49:54.514 --> 00:49:56.004 year after sort of after I had

NOTE Confidence: 0.946962533333333

00:49:56.004 --> 00:49:57.313 what I don't know how I came.

NOTE Confidence: 0.946962533333333

00:49:57.320 --> 00:49:59.039 I come from a Baker's family to be honest,

NOTE Confidence: 0.946962533333333

00:49:59.040 --> 00:49:59.560 I was, I don't know,

NOTE Confidence: 0.946962533333333

00:49:59.560 --> 00:50:01.832 reading this in the sort of Baker thing

NOTE Confidence: 0.946962533333333

00:50:01.832 --> 00:50:03.658 digest and I was quite fascinated

NOTE Confidence: 0.946962533333333

00:50:03.658 --> 00:50:06.040 and I thought, yes, you can do that.

NOTE Confidence: 0.946962533333333

00:50:06.040 --> 00:50:07.970 And so we did the.

NOTE Confidence: 0.946962533333333

00:50:07.970 --> 00:50:10.091 Trans fatty acids in the blood and

NOTE Confidence: 0.946962533333333

00:50:10.091 --> 00:50:12.111 then we showed and you know you

NOTE Confidence: 0.946962533333333

00:50:12.111 --> 00:50:14.183 this is a very bad slides taken

NOTE Confidence: 0.946962533333333

00:50:14.183 --> 00:50:15.967 directly from the publication.

NOTE Confidence: 0.946962533333333

00:50:15.970 --> 00:50:17.446 But you can see a highly,

NOTE Confidence: 0.946962533333333

00:50:17.450 --> 00:50:19.778 highly significant association of

NOTE Confidence: 0.946962533333333

00:50:19.778 --> 00:50:23.970 trans fatty acids with fetal head growth.

NOTE Confidence: 0.946962533333333

00:50:23.970 --> 00:50:25.368 And this is true head growth.

NOTE Confidence: 0.946962533333333

00:50:25.370 --> 00:50:27.162 This is the change from fetal head

NOTE Confidence: 0.946962533333333

00:50:27.162 --> 00:50:29.009 size from one point to the other.

NOTE Confidence: 0.946962533333333

00:50:29.010 --> 00:50:30.826 It's not just growth and you say birth

NOTE Confidence: 0.946962533333333

00:50:30.826 --> 00:50:32.566 weight is a measure of fetal growth.

NOTE Confidence: 0.946962533333333

00:50:32.570 --> 00:50:34.145 This is really fetal growth

NOTE Confidence: 0.946962533333333

00:50:34.145 --> 00:50:36.150 as it is a change from.

NOTE Confidence: 0.946962533333333

00:50:36.150 --> 00:50:37.766 2nd to 3rd trimester,

NOTE Confidence: 0.946962533333333

00:50:37.766 --> 00:50:40.742 there was no effect when the head is very,

NOTE Confidence: 0.946962533333333

00:50:40.742 --> 00:50:42.090 very small, but when it expands,

NOTE Confidence: 0.946962533333333

00:50:42.090 --> 00:50:43.070 when it gets big,

NOTE Confidence: 0.946962533333333

00:50:43.070 --> 00:50:44.066 that's where all the growth is.

NOTE Confidence: 0.946962533333333

00:50:44.070 --> 00:50:46.611 And that second to third end of

NOTE Confidence: 0.946962533333333

00:50:46.611 --> 00:50:48.430 trimester and 6000 children.

NOTE Confidence: 0.946962533333333

00:50:48.430 --> 00:50:49.590 So that's a good inclusion.

NOTE Confidence: 0.946962533333333

00:50:49.590 --> 00:50:51.606 We see super significant associations and

NOTE Confidence: 0.946962533333333

00:50:51.606 --> 00:50:53.988 then we can actually do the same trick.

NOTE Confidence: 0.946962533333333

00:50:53.990 --> 00:50:55.670 We can only do the, the,

NOTE Confidence: 0.946962533333333

00:50:55.670 --> 00:50:58.070 the, the TFA measures.

NOTE Confidence: 0.946962533333333

00:50:58.070 --> 00:50:59.659 We can do that with the high

NOTE Confidence: 0.946962533333333

00:50:59.659 --> 00:51:01.230 and see very clear patterns,

NOTE Confidence: 0.946962533333333

00:51:01.230 --> 00:51:05.054 but we can see that this calendar time.

NOTE Confidence: 0.946962533333333

00:51:05.060 --> 00:51:07.635 There is an association of

NOTE Confidence: 0.946962533333333

00:51:07.635 --> 00:51:11.460 calendar time with fetal growth,

NOTE Confidence: 0.946962533333333

00:51:11.460 --> 00:51:15.060 meaning that in the course of

NOTE Confidence: 0.946962533333333

00:51:15.060 --> 00:51:18.072 that studies the the heads of

NOTE Confidence: 0.946962533333333

00:51:18.072 --> 00:51:20.496 the children became a tiny bit.

NOTE Confidence: 0.946962533333333

00:51:20.500 --> 00:51:22.019 I must admit it's a tiny bit,

NOTE Confidence: 0.946962533333333

00:51:22.020 --> 00:51:24.780 but fetal measures in 6000 are very precise,

NOTE Confidence: 0.9603804

00:51:24.780 --> 00:51:28.372 bigger and we think and we can show that

NOTE Confidence: 0.9603804

00:51:28.372 --> 00:51:30.260 was an instrumental viral approach,

NOTE Confidence: 0.9603804

00:51:30.260 --> 00:51:31.795 which is a different sort

NOTE Confidence: 0.9603804

00:51:31.795 --> 00:51:32.716 of statistical technique.

NOTE Confidence: 0.9603804

00:51:32.720 --> 00:51:37.048 We can show that the association is

NOTE Confidence: 0.9603804

00:51:37.048 --> 00:51:41.024 driven by the reduction and the policy

NOTE Confidence: 0.9603804

00:51:41.024 --> 00:51:43.616 change and that is something I've been

NOTE Confidence: 0.9603804

00:51:43.616 --> 00:51:46.160 working 20 years towards and never got done.

NOTE Confidence: 0.9603804

00:51:46.160 --> 00:51:50.472 So that we show that policy translates

NOTE Confidence: 0.9603804

00:51:50.472 --> 00:51:53.585 into biology and sad thing is we didn't

NOTE Confidence: 0.9603804

00:51:53.585 --> 00:51:55.326 get it to behaviour, so bigger heads.

NOTE Confidence: 0.9603804

00:51:55.326 --> 00:51:57.330 And I'm not really much related to behavior

NOTE Confidence: 0.9603804

00:51:57.330 --> 00:51:59.434 and then it becomes very messy and noisy.

NOTE Confidence: 0.9603804

00:51:59.440 --> 00:52:00.196 But you know,

NOTE Confidence: 0.9603804

00:52:00.196 --> 00:52:01.960 the journal loved it that it was.

NOTE Confidence: 0.9603804

00:52:01.960 --> 00:52:03.500 And why does it have

NOTE Confidence: 0.9603804

00:52:03.500 --> 00:52:06.000 clinical health relevance?

NOTE Confidence: 0.9603804

00:52:06.000 --> 00:52:07.278 Well, first of all, it does.

NOTE Confidence: 0.9603804

00:52:07.280 --> 00:52:08.459 This is causality,

NOTE Confidence: 0.9603804

00:52:08.459 --> 00:52:09.638 not only policy,

NOTE Confidence: 0.9603804

00:52:09.640 --> 00:52:10.840 it is quite a causal approach,

NOTE Confidence: 0.9603804

00:52:10.840 --> 00:52:11.734 but really interesting.

NOTE Confidence: 0.9603804

00:52:11.734 --> 00:52:13.522 If you look at the production

NOTE Confidence: 0.9603804

00:52:13.522 --> 00:52:15.320 of East Europe and South Asia,

NOTE Confidence: 0.9603804

00:52:15.320 --> 00:52:17.095 that's the Indian region and

NOTE Confidence: 0.9603804

00:52:17.095 --> 00:52:18.870 the East European region where

NOTE Confidence: 0.9603804

00:52:18.938 --> 00:52:21.308 there's nobody cares about this,

NOTE Confidence: 0.9603804

00:52:21.308 --> 00:52:24.230 The levels are still shockingly high.

NOTE Confidence: 0.9603804

00:52:24.230 --> 00:52:25.430 So I think it's still relevant,

NOTE Confidence: 0.9603804

00:52:25.430 --> 00:52:27.998 although for us it's a historic

NOTE Confidence: 0.9603804

00:52:27.998 --> 00:52:29.710 study to be honest.

NOTE Confidence: 0.9603804

00:52:29.710 --> 00:52:32.250 And do I do one more or should I do

NOTE Confidence: 0.9603804

00:52:32.331 --> 00:52:34.310 for questions. This is a good ending.

NOTE Confidence: 0.9603804

00:52:34.310 --> 00:52:35.850 So I could do a physical activity

NOTE Confidence: 0.9603804

00:52:35.850 --> 00:52:36.510 in the brain,

NOTE Confidence: 0.9603804

00:52:36.510 --> 00:52:36.790 but

NOTE Confidence: 0.93622814

00:52:41.190 --> 00:52:42.390 good, then I'll wrap up.

NOTE Confidence: 0.93622814

00:52:42.390 --> 00:52:44.040 So I'll leave away that

NOTE Confidence: 0.93622814

00:52:44.040 --> 00:52:45.690 there is an association with.

NOTE Confidence: 0.93622814

00:52:45.690 --> 00:52:47.270 Brain change that I should

NOTE Confidence: 0.93622814

00:52:47.270 --> 00:52:48.850 I just do one slide?

NOTE Confidence: 0.93622814

00:52:48.850 --> 00:52:49.726 No, I don't do one slide.

NOTE Confidence: 0.93622814

00:52:49.730 --> 00:52:50.210 It doesn't work.

NOTE Confidence: 0.93622814

00:52:50.210 --> 00:52:52.684 I do the, I do the IT doesn't work.

NOTE Confidence: 0.93622814

00:52:52.684 --> 00:52:55.554 I just tell you it is we show that

NOTE Confidence: 0.93622814

00:52:55.554 --> 00:52:56.562 would have been the last one.

NOTE Confidence: 0.93622814

00:52:56.570 --> 00:52:58.448 I sort of did too much

NOTE Confidence: 0.93622814

00:52:58.450 --> 00:53:01.770 fatty acids carried away.

NOTE Confidence: 0.93622814

00:53:01.770 --> 00:53:03.989 I was going to show you that

NOTE Confidence: 0.93622814

00:53:03.989 --> 00:53:06.188 we can show that physical

NOTE Confidence: 0.93622814

00:53:06.188 --> 00:53:08.210 activity is related not just to

NOTE Confidence: 0.93622814

00:53:08.210 --> 00:53:09.650 brain size and brain volume,

NOTE Confidence: 0.93622814

00:53:09.650 --> 00:53:12.697 but it is related to the volume

NOTE Confidence: 0.93622814

00:53:12.697 --> 00:53:15.478 change over adolescence.

NOTE Confidence: 0.93622814

00:53:15.480 --> 00:53:17.304 Which is quite a bit more and that's

NOTE Confidence: 0.93622814

00:53:17.304 --> 00:53:18.439 essentially an answer to the,

NOTE Confidence: 0.93622814

00:53:18.440 --> 00:53:19.994 you know we need bigger studies

NOTE Confidence: 0.93622814

00:53:19.994 --> 00:53:21.600 or we need studies of change.

NOTE Confidence: 0.93622814

00:53:21.600 --> 00:53:23.520 We've now got the first studies of change.

NOTE Confidence: 0.93622814

00:53:23.520 --> 00:53:24.400 If you want to show,

NOTE Confidence: 0.93622814

00:53:24.400 --> 00:53:25.600 just show the result,

NOTE Confidence: 0.962393194

00:53:27.760 --> 00:53:30.240 it's total physical activity really,

NOTE Confidence: 0.962393194

00:53:30.240 --> 00:53:33.166 not just the the also quite a

NOTE Confidence: 0.962393194

00:53:33.166 --> 00:53:36.728 bit of the hippocampus grows or.

NOTE Confidence: 0.962393194

00:53:36.730 --> 00:53:39.266 Grows a bit faster if you do physical

NOTE Confidence: 0.962393194

00:53:39.266 --> 00:53:40.891 activity and it's interesting

NOTE Confidence: 0.962393194

00:53:40.891 --> 00:53:42.743 because it's consistent across

NOTE Confidence: 0.962393194

00:53:42.743 --> 00:53:45.057 parent and child reported physical

NOTE Confidence: 0.962393194

00:53:45.057 --> 00:53:47.445 activity reports Okay I'll wrap up.

NOTE Confidence: 0.962393194

00:53:47.450 --> 00:53:51.300 So the dominant force in research is

NOTE Confidence: 0.962393194

00:53:51.300 --> 00:53:54.398 the is the know you're imaging a lot

NOTE Confidence: 0.962393194

00:53:54.398 --> 00:53:57.435 in autism and a DHDI would challenge

NOTE Confidence: 0.962393194

00:53:57.435 --> 00:53:59.676 or like to discuss with people who say

NOTE Confidence: 0.962393194

00:53:59.676 --> 00:54:01.538 it's made a change in our clinical

NOTE Confidence: 0.962393194

00:54:01.538 --> 00:54:03.740 treatment or in our public health

NOTE Confidence: 0.962393194

00:54:03.740 --> 00:54:06.280 understanding of autism and brain I think.

NOTE Confidence: 0.962393194

00:54:06.280 --> 00:54:08.520 It did a lot for understanding the disease.

NOTE Confidence: 0.962393194

00:54:08.520 --> 00:54:12.055 I'm not so sure it did a lot for how we

NOTE Confidence: 0.962393194

00:54:12.055 --> 00:54:14.760 treat disease, which is a big difference.

NOTE Confidence: 0.962393194

00:54:14.760 --> 00:54:17.336 I would say The effect sizes are often

NOTE Confidence: 0.962393194

00:54:17.336 --> 00:54:20.400 small and often correlational and not causal.

NOTE Confidence: 0.962393194

00:54:20.400 --> 00:54:22.208 There's a real problem which I didn't show

NOTE Confidence: 0.962393194

00:54:22.208 --> 00:54:23.994 you, but we've struggled with that a lot.

NOTE Confidence: 0.962393194

00:54:24.000 --> 00:54:27.920 Can we reproduce imaging results?

NOTE Confidence: 0.962393194

00:54:27.920 --> 00:54:29.908 Anybody who might talk today was talking

NOTE Confidence: 0.962393194

00:54:29.908 --> 00:54:31.480 about the heterogeneity of populations.

NOTE Confidence: 0.962393194

00:54:31.480 --> 00:54:32.440 That's the same.

NOTE Confidence: 0.962393194

00:54:32.440 --> 00:54:34.680 And I showed you that was the

NOTE Confidence: 0.962393194

00:54:34.758 --> 00:54:37.058 minority majority is one example.

NOTE Confidence: 0.962393194

00:54:37.060 --> 00:54:39.844 I think we have to, and that was my

NOTE Confidence: 0.962393194

00:54:39.844 --> 00:54:41.020 first talk this morning was Kerim.

NOTE Confidence: 0.962393194

00:54:41.020 --> 00:54:42.780 I think he's there in the back row.

NOTE Confidence: 0.962393194

00:54:42.780 --> 00:54:44.820 We should really go to developmental

NOTE Confidence: 0.962393194

00:54:44.820 --> 00:54:46.180 approaches and longitudinal trajectories.

NOTE Confidence: 0.962393194

00:54:46.180 --> 00:54:48.539 I think that's the only way forward.

NOTE Confidence: 0.962393194

00:54:48.540 --> 00:54:50.094 I fell short of showing you

NOTE Confidence: 0.962393194

00:54:50.094 --> 00:54:51.660 that was the physical activity,

NOTE Confidence: 0.962393194

00:54:51.660 --> 00:54:55.140 but I think that's what matters.

NOTE Confidence: 0.962393194

00:54:55.140 --> 00:54:56.100 I'd like to wrap up,

NOTE Confidence: 0.962393194

00:54:56.100 --> 00:54:58.417 it's not a diagnostic or prognostic tool.

NOTE Confidence: 0.962393194

00:54:58.420 --> 00:55:01.059 It does have some public health relevance,

NOTE Confidence: 0.962393194

00:55:01.060 --> 00:55:02.772 but I would say.

NOTE Confidence: 0.962393194

00:55:02.772 --> 00:55:03.200 Occasionally,

NOTE Confidence: 0.962393194

00:55:03.200 --> 00:55:06.610 and sometimes even sort of coincidentally,

NOTE Confidence: 0.962393194

00:55:06.610 --> 00:55:11.320 but it does as many other fancy techniques.

NOTE Confidence: 0.962393194

00:55:11.320 --> 00:55:13.198 These are the students that helped

NOTE Confidence: 0.962393194

00:55:13.200 --> 00:55:13.636 Ryan Mitzler.

NOTE Confidence: 0.962393194

00:55:13.636 --> 00:55:15.380 I want to mention him because he does

NOTE Confidence: 0.962393194

00:55:15.431 --> 00:55:17.048 much of my imaging in the Netherlands

NOTE Confidence: 0.962393194

00:55:17.048 --> 00:55:18.520 and students who did these papers,

NOTE Confidence: 0.962393194

00:55:18.520 --> 00:55:20.160 and of course the participants.

NOTE Confidence: 0.962393194

00:55:20.160 --> 00:55:21.040 Thank you very much.

NOTE Confidence: 0.86864562

00:55:27.190 --> 00:55:27.830 Thank you so much, honey.

NOTE Confidence: 0.86864562

00:55:27.830 --> 00:55:29.862 I will just say that we do have

NOTE Confidence: 0.86864562

00:55:29.862 --> 00:55:31.469 time after the presentation.

NOTE Confidence: 0.86864562

00:55:31.470 --> 00:55:33.162 So if anyone would like to stay in the

NOTE Confidence: 0.86864562

00:55:33.162 --> 00:55:34.708 room and continue the conversation,

NOTE Confidence: 0.86864562

00:55:34.710 --> 00:55:36.306 we're free until 2:30.

NOTE Confidence: 0.86864562

00:55:36.306 --> 00:55:37.902 And but any burning

NOTE Confidence: 0.86864562

00:55:37.902 --> 00:55:39.630 questions for Doctor Tamar

NOTE Confidence: 0.9352219

00:55:49.360 --> 00:55:51.276 that was that was pretty interesting to me.

NOTE Confidence: 0.9352219

00:55:51.280 --> 00:55:53.206 And I just wonder your thoughts

NOTE Confidence: 0.9352219

00:55:53.206 --> 00:55:56.040 about how far do you go on

NOTE Confidence: 0.9352219

00:55:56.040 --> 00:55:59.808 restrictive public policy to?

NOTE Confidence: 0.9352219

00:55:59.808 --> 00:56:03.690 Get the good for for young children

NOTE Confidence: 0.9352219

00:56:03.690 --> 00:56:05.670 who can't protect themselves.

NOTE Confidence: 0.9352219

00:56:05.670 --> 00:56:09.710 So for instance you know it's good to

NOTE Confidence: 0.9352219

00:56:09.710 --> 00:56:12.635 keep lead away from babies and and young

NOTE Confidence: 0.9352219

00:56:12.635 --> 00:56:15.070 children but when you start talking

NOTE Confidence: 0.9352219

00:56:15.070 --> 00:56:17.520 you know dietary and cultural things,

NOTE Confidence: 0.9352219

00:56:17.520 --> 00:56:18.510 just your thoughts.

NOTE Confidence: 0.9352219

00:56:18.510 --> 00:56:19.990 How how far do you go with this?

NOTE Confidence: 0.9352219

00:56:19.990 --> 00:56:23.389 Do you do you, you know say that's it,

NOTE Confidence: 0.9352219

00:56:23.390 --> 00:56:25.130 fruits and vegetables and

NOTE Confidence: 0.9352219

00:56:25.130 --> 00:56:27.150 Mediterranean diet for everyone or.

NOTE Confidence: 0.946446386923077

00:56:28.010 --> 00:56:29.230 That's an interesting one.

NOTE Confidence: 0.946446386923077

00:56:29.230 --> 00:56:31.873 So that's sort of the whole public health

NOTE Confidence: 0.946446386923077

00:56:31.873 --> 00:56:35.526 school of Harvard debates that every day

NOTE Confidence: 0.946446386923077

00:56:35.530 --> 00:56:37.818 and seriously does if it's good to to

NOTE Confidence: 0.946446386923077

00:56:37.818 --> 00:56:40.076 zoom in on an example because otherwise

NOTE Confidence: 0.946446386923077

00:56:40.076 --> 00:56:42.594 I'm going to give a sort of overreaching,

NOTE Confidence: 0.946446386923077

00:56:42.594 --> 00:56:44.130 I would be struggling.

NOTE Confidence: 0.946446386923077

00:56:44.130 --> 00:56:45.888 That's a little evening thing debate.

NOTE Confidence: 0.946446386923077

00:56:45.890 --> 00:56:48.410 If you take the dietary example,

NOTE Confidence: 0.946446386923077

00:56:48.410 --> 00:56:51.930 I am in favor. Of restricting

NOTE Confidence: 0.946446386923077

00:56:51.930 --> 00:56:55.230 soda and sweet drinks in schools.

NOTE Confidence: 0.946446386923077

00:56:55.230 --> 00:56:57.430 We have seen now that

NOTE Confidence: 0.946446386923077

00:56:57.430 --> 00:56:59.630 that is really so obesity,

NOTE Confidence: 0.946446386923077

00:56:59.630 --> 00:57:02.185 making so much diabetes down the road.

NOTE Confidence: 0.946446386923077

00:57:02.190 --> 00:57:04.506 I think we should go there.

NOTE Confidence: 0.946446386923077

00:57:04.510 --> 00:57:06.827 Many of the others like no sweets,

NOTE Confidence: 0.946446386923077

00:57:06.830 --> 00:57:07.710 which are also, you know,

NOTE Confidence: 0.946446386923077

00:57:07.710 --> 00:57:09.790 sugar is bad, but I would be very,

NOTE Confidence: 0.946446386923077

00:57:09.790 --> 00:57:11.874 very hesitant.

NOTE Confidence: 0.946446386923077

00:57:11.874 --> 00:57:14.786 I think the best way to do it

NOTE Confidence: 0.946446386923077

00:57:14.786 --> 00:57:17.175 is to think carefully with the

NOTE Confidence: 0.946446386923077

00:57:17.175 --> 00:57:19.200 schools should sell them but.

NOTE Confidence: 0.946446386923077

00:57:19.200 --> 00:57:21.195 To forbid them, perhaps a sugar tax.

NOTE Confidence: 0.946446386923077

00:57:21.200 --> 00:57:22.862 But other than that I think

NOTE Confidence: 0.946446386923077

00:57:22.862 --> 00:57:24.360 very little is evidence based.

NOTE Confidence: 0.946446386923077

00:57:24.360 --> 00:57:26.320 So much of these things are not causal.

NOTE Confidence: 0.946446386923077

00:57:26.320 --> 00:57:26.850 We changes.

NOTE Confidence: 0.946446386923077

00:57:26.850 --> 00:57:28.705 You know look at the history of

NOTE Confidence: 0.946446386923077

00:57:28.705 --> 00:57:30.600 the Harvard schools of department

NOTE Confidence: 0.946446386923077

00:57:30.600 --> 00:57:32.400 of petition advice for diet.

NOTE Confidence: 0.946446386923077

00:57:32.400 --> 00:57:34.080 You know that's a funny changing thing.

NOTE Confidence: 0.946446386923077

00:57:34.080 --> 00:57:36.425 You know nuts and that and oils

NOTE Confidence: 0.946446386923077

00:57:36.425 --> 00:57:37.720 and meat and alcohol.

NOTE Confidence: 0.946446386923077

00:57:37.720 --> 00:57:39.320 Just look at the alcohol.

NOTE Confidence: 0.946446386923077

00:57:39.320 --> 00:57:40.881 You know 20 years ago I was

NOTE Confidence: 0.946446386923077

00:57:40.881 --> 00:57:42.257 taught in Rotterdam alcohol is

NOTE Confidence: 0.946446386923077

00:57:42.257 --> 00:57:43.557 better than any concentration.

NOTE Confidence: 0.946446386923077

00:57:43.560 --> 00:57:44.920 You come to Harvard and they say no,

NOTE Confidence: 0.946446386923077

00:57:44.920 --> 00:57:46.996 but of alcohol is very good.

NOTE Confidence: 0.946446386923077

00:57:47.000 --> 00:57:48.600 Now they have to sort of change that,

NOTE Confidence: 0.946446386923077

00:57:48.600 --> 00:57:52.345 but it took them 15 years to

NOTE Confidence: 0.946446386923077

00:57:52.345 --> 00:57:54.120 really come to a conclusion there.

NOTE Confidence: 0.946446386923077

00:57:54.120 --> 00:57:57.420 So that encouraging of your

NOTE Confidence: 0.946446386923077

00:57:57.420 --> 00:57:58.360 glass of red wine

NOTE Confidence: 0.91061238

00:57:58.360 --> 00:57:59.780 is now gone. You know, you have to

NOTE Confidence: 0.91061238

00:57:59.780 --> 00:58:01.480 have it was a bad conscience tonight,

NOTE Confidence: 0.87985364

00:58:02.760 --> 00:58:04.080 but I think still think,

NOTE Confidence: 0.87985364

00:58:04.080 --> 00:58:04.840 still think you should.

NOTE Confidence: 0.87985364

00:58:04.840 --> 00:58:07.152 So I'd be very, very restrictive,

NOTE Confidence: 0.87985364

00:58:07.152 --> 00:58:09.480 very, very cautious,

NOTE Confidence: 0.87985364

00:58:09.480 --> 00:58:12.036 but I wouldn't shy away from a few measures,

NOTE Confidence: 0.87985364

00:58:12.040 --> 00:58:13.000 very, very cautious.

NOTE Confidence: 0.87985364

00:58:13.000 --> 00:58:15.674 But sometimes I think soda, we got it.

NOTE Confidence: 0.87985364

00:58:15.674 --> 00:58:17.106 Sugars, we've got it.

NOTE Confidence: 0.87985364

00:58:17.110 --> 00:58:18.952 So restrict the sugars in a

NOTE Confidence: 0.87985364

00:58:18.952 --> 00:58:20.782 creative way and for not forbid

NOTE Confidence: 0.87985364

00:58:20.782 --> 00:58:22.590 but tax it and don't have it. Yeah,

NOTE Confidence: 0.96641844

00:58:24.830 --> 00:58:27.830 just really quickly. Perhaps relatedly,

NOTE Confidence: 0.96641844

00:58:27.830 --> 00:58:29.552 you know when you talk about your

NOTE Confidence: 0.96641844

00:58:29.552 --> 00:58:31.228 trans fatty acid decline over time,

NOTE Confidence: 0.96641844

00:58:31.230 --> 00:58:33.090 I was thinking about PER and

NOTE Confidence: 0.96641844

00:58:33.090 --> 00:58:33.710 polyfluoroloco substances.

NOTE Confidence: 0.96641844

00:58:33.710 --> 00:58:36.013 You know, these forever chemicals and and.

NOTE Confidence: 0.96641844

00:58:36.013 --> 00:58:37.854 You know, what we've seen in with

NOTE Confidence: 0.96641844

00:58:37.854 --> 00:58:39.634 some pilot data there is that

NOTE Confidence: 0.96641844

00:58:39.634 --> 00:58:41.434 there's a patterning by income level,

NOTE Confidence: 0.96641844

00:58:41.440 --> 00:58:44.478 a patterning by income level per country.

NOTE Confidence: 0.96641844

00:58:44.480 --> 00:58:46.256 I'm just wondering the decline in

NOTE Confidence: 0.96641844

00:58:46.256 --> 00:58:48.239 trans fatty acids that you described,

NOTE Confidence: 0.96641844

00:58:48.240 --> 00:58:50.076 was there a patterning by SES?

NOTE Confidence: 0.96641844

00:58:50.080 --> 00:58:51.680 Did you observe A steeper? No.

NOTE Confidence: 0.931627828571429

00:58:51.680 --> 00:58:53.472 We see much less of that patterning

NOTE Confidence: 0.931627828571429

00:58:53.472 --> 00:58:55.160 in the US than in the US.

NOTE Confidence: 0.931627828571429

00:58:55.160 --> 00:58:57.644 In the US, every environmental exposure

NOTE Confidence: 0.931627828571429

00:58:57.644 --> 00:59:00.042 is highly socially patterned to an

NOTE Confidence: 0.931627828571429

00:59:00.042 --> 00:59:01.737 extent that sometimes escapes me.

NOTE Confidence: 0.931627828571429

00:59:01.740 --> 00:59:02.898 I don't quite know, you know,

NOTE Confidence: 0.931627828571429

00:59:02.900 --> 00:59:04.615 why are they having so much more?

NOTE Confidence: 0.931627828571429

00:59:04.620 --> 00:59:06.447 And then I hear they have different

NOTE Confidence: 0.931627828571429

00:59:06.447 --> 00:59:07.978 hair products and this and that.

NOTE Confidence: 0.931627828571429

00:59:07.980 --> 00:59:09.898 It's very hard for me to understand.

NOTE Confidence: 0.931627828571429

00:59:09.900 --> 00:59:11.380 In the Netherlands, for example,

NOTE Confidence: 0.931627828571429

00:59:11.380 --> 00:59:13.820 I'll tell you, organo phosphates,

NOTE Confidence: 0.931627828571429

00:59:13.820 --> 00:59:15.050 which is pesticides,

NOTE Confidence: 0.931627828571429

00:59:15.050 --> 00:59:17.510 were higher in the high SES

NOTE Confidence: 0.931627828571429

00:59:17.510 --> 00:59:19.459 because they ate more fruit.

NOTE Confidence: 0.931627828571429

00:59:19.460 --> 00:59:21.737 So in in the US we looked at the

NOTE Confidence: 0.931627828571429

00:59:21.737 --> 00:59:23.699 same thing and lo and behold,

NOTE Confidence: 0.931627828571429

00:59:23.700 --> 00:59:28.890 organo phosphates are lower in high SES.

NOTE Confidence: 0.931627828571429

00:59:28.890 --> 00:59:30.465 I don't understand the US

NOTE Confidence: 0.931627828571429

00:59:30.465 --> 00:59:32.438 enough to understand why that is

NOTE Confidence: 0.931627828571429

00:59:32.438 --> 00:59:33.770 such a ubiquitous pattern.

NOTE Confidence: 0.931627828571429

00:59:33.770 --> 00:59:35.465 In the Netherlands,

NOTE Confidence: 0.931627828571429

00:59:35.465 --> 00:59:38.770 it's much less so people live.

NOTE Confidence: 0.931627828571429

00:59:38.770 --> 00:59:41.890 I don't know as many reasons.

NOTE Confidence: 0.931627828571429

00:59:41.890 --> 00:59:43.290 I don't quite understand that.

NOTE Confidence: 0.931627828571429

00:59:43.290 --> 00:59:44.186 So in the Netherlands?

NOTE Confidence: 0.931627828571429

00:59:44.186 --> 00:59:45.130 No, not always,

NOTE Confidence: 0.931627828571429

00:59:45.130 --> 00:59:47.650 although some of some of the chemicals,

NOTE Confidence: 0.931627828571429

00:59:47.650 --> 00:59:48.858 yes, very much so,

NOTE Confidence: 0.931627828571429

00:59:48.858 --> 00:59:52.869 but not as not as dramatic as here.

NOTE Confidence: 0.931627828571429

00:59:52.870 --> 00:59:55.246 I think you're trans fatty policy

NOTE Confidence: 0.931627828571429

00:59:55.246 --> 00:59:58.229 example is one of the most profound

NOTE Confidence: 0.931627828571429

00:59:58.230 --> 01:00:00.151 statements in support of integrating

NOTE Confidence: 0.931627828571429

01:00:00.151 --> 01:00:01.356 the research and policy says

NOTE Confidence: 0.931627828571429

01:00:01.356 --> 01:00:02.870 Thank you so much for sharing.

NOTE Confidence: 0.931627828571429

01:00:02.870 --> 01:00:04.347 I definitely want to find out more

NOTE Confidence: 0.94226628

01:00:04.350 --> 01:00:05.550 about that and track that

NOTE Confidence: 0.94226628

01:00:05.550 --> 01:00:06.750 and try to replicate that.

NOTE Confidence: 0.941168397272727

01:00:07.300 --> 01:00:08.560 My question for you is building

NOTE Confidence: 0.941168397272727

01:00:08.560 --> 01:00:09.660 on all that you've done,

NOTE Confidence: 0.941168397272727

01:00:09.660 --> 01:00:11.860 especially in the area of policy,

NOTE Confidence: 0.941168397272727

01:00:11.860 --> 01:00:13.340 what do you see next?

NOTE Confidence: 0.941168397272727

01:00:13.340 --> 01:00:16.470 What do you see is the next area that

NOTE Confidence: 0.941168397272727

01:00:16.470 --> 01:00:18.540 you could be pursuing building out?

NOTE Confidence: 0.941168397272727

01:00:18.540 --> 01:00:19.788 What does policy mean?

NOTE Confidence: 0.941168397272727

01:00:19.788 --> 01:00:22.460 Because when I when I looked at the data,

NOTE Confidence: 0.941168397272727

01:00:22.460 --> 01:00:24.460 I thought back to let.

NOTE Confidence: 0.941168397272727

01:00:24.460 --> 01:00:25.900 Because in the United States there's

NOTE Confidence: 0.941168397272727

01:00:25.900 --> 01:00:28.400 definitely an association with with

NOTE Confidence: 0.941168397272727

01:00:28.400 --> 01:00:30.305 low income and and lead in your

NOTE Confidence: 0.941168397272727

01:00:30.305 --> 01:00:31.655 pipes and in your drinking water.

NOTE Confidence: 0.941168397272727

01:00:31.655 --> 01:00:33.780 So what is on your horizon

NOTE Confidence: 0.941168397272727

01:00:33.780 --> 01:00:37.100 next in the space of of poverty

NOTE Confidence: 0.9503171

01:00:38.340 --> 01:00:40.180 and research and policy?

NOTE Confidence: 0.8521864125

01:00:42.140 --> 01:00:44.972 Yeah there's there's in my school and in

NOTE Confidence: 0.8521864125

01:00:44.972 --> 01:00:48.136 my world thinking too 2 lines of research.

NOTE Confidence: 0.8521864125

01:00:48.140 --> 01:00:49.580 One is always which we have.

NOTE Confidence: 0.8521864125

01:00:49.580 --> 01:00:53.590 You know can you dissect. Why poverty?

NOTE Confidence: 0.945617048636363

01:00:56.230 --> 01:00:58.390 What makes poverty relate to behavioral

NOTE Confidence: 0.945617048636363

01:00:58.390 --> 01:01:00.175 and new developmental cognitive school

NOTE Confidence: 0.945617048636363

01:01:00.175 --> 01:01:01.909 achievement problems or do you just

NOTE Confidence: 0.945617048636363

01:01:01.909 --> 01:01:03.990 think you know it's money. That's it.

NOTE Confidence: 0.9352219

01:01:08.110 --> 01:01:12.176 You know I am it's I think those

NOTE Confidence: 0.9352219

01:01:12.176 --> 01:01:14.270 two are are totally separate.

NOTE Confidence: 0.9352219

01:01:14.270 --> 01:01:16.508 I think we should fight LED

NOTE Confidence: 0.9352219

01:01:16.508 --> 01:01:18.290 and environmental things really

NOTE Confidence: 0.9352219

01:01:18.290 --> 01:01:21.590 more better and full force.

NOTE Confidence: 0.9352219

01:01:21.590 --> 01:01:22.955 Lead is just I can't yeah we've

NOTE Confidence: 0.9352219

01:01:22.955 --> 01:01:24.405 discussed that I don't need to say that

NOTE Confidence: 0.9352219

01:01:24.405 --> 01:01:25.948 no none of us can believe that it's

NOTE Confidence: 0.9352219

01:01:25.948 --> 01:01:27.544 still around as a public house hazard.

NOTE Confidence: 0.9352219

01:01:27.550 --> 01:01:29.230 It should be gone.

NOTE Confidence: 0.9352219

01:01:29.230 --> 01:01:30.910 It's just not acceptable.

NOTE Confidence: 0.9352219

01:01:30.910 --> 01:01:33.566 At the same time I think make very

NOTE Confidence: 0.9352219

01:01:33.566 --> 01:01:36.734 clear that as long as we have these

NOTE Confidence: 0.9352219

01:01:36.734 --> 01:01:38.790 substantial poverty gradients that

NOTE Confidence: 0.922488011724138

01:01:41.310 --> 01:01:43.654 that is a policy taxing and that's you

NOTE Confidence: 0.922488011724138

01:01:43.654 --> 01:01:46.071 know beyond me to to do much about the

NOTE Confidence: 0.922488011724138

01:01:46.071 --> 01:01:47.870 but it's clearly something that has

NOTE Confidence: 0.922488011724138

01:01:47.870 --> 01:01:50.348 to be addressed because I think with.

NOTE Confidence: 0.922488011724138

01:01:50.348 --> 01:01:52.938 Addressing LED, you will not

NOTE Confidence: 0.922488011724138

01:01:52.940 --> 01:01:54.300 substantially address the poverty

NOTE Confidence: 0.922488011724138

01:01:54.300 --> 01:01:56.000 inequality in this country as

NOTE Confidence: 0.922488011724138

01:01:56.000 --> 01:01:57.697 much as I think it's important,

NOTE Confidence: 0.922488011724138

01:01:57.700 --> 01:01:59.980 but it's completely different thing.

NOTE Confidence: 0.922488011724138

01:01:59.980 --> 01:02:01.380 And you see that in

NOTE Confidence: 0.941691228571429

01:02:03.660 --> 01:02:08.098 we all know that, you know homelessness.

NOTE Confidence: 0.941691228571429

01:02:08.100 --> 01:02:11.228 I'm yeah, the the the extent of homelessness

NOTE Confidence: 0.941691228571429

01:02:11.228 --> 01:02:14.081 in Boston and other areas is just so

NOTE Confidence: 0.941691228571429

01:02:14.081 --> 01:02:16.500 dramatic and such a health hazard.

NOTE Confidence: 0.941691228571429

01:02:16.500 --> 01:02:17.739 I don't know why that's not addressed.

NOTE Confidence: 0.941691228571429

01:02:17.740 --> 01:02:20.372 I really fail to see that could

NOTE Confidence: 0.941691228571429

01:02:20.372 --> 01:02:21.940 easily be addressed. Wonderful.

NOTE Confidence: 0.9452853

01:02:21.940 --> 01:02:22.765 Well, just in the interest

NOTE Confidence: 0.9452853

01:02:22.765 --> 01:02:23.260 of everyone's time,

NOTE Confidence: 0.9452853

01:02:23.260 --> 01:02:24.868 if anyone would like to stay on,

NOTE Confidence: 0.9452853

01:02:24.868 --> 01:02:26.180 please do wait in the room.

NOTE Confidence: 0.9452853

01:02:26.180 --> 01:02:27.900 We can continue this conversation.

NOTE Confidence: 0.9452853

01:02:27.900 --> 01:02:29.340 And but just please do join

NOTE Confidence: 0.9452853

01:02:29.340 --> 01:02:30.500 me again in thanking Dr.

NOTE Confidence: 0.9452853

01:02:30.500 --> 01:02:31.660 Kmar for his presentation.

NOTE Confidence: 0.902486077

01:02:34.260 --> 01:02:36.130 Yeah. Sorry to talk so

NOTE Confidence: 0.902486077

01:02:36.130 --> 01:02:38.000 long and see you later.