

WEBVTT

NOTE duration:"00:57:37.112000"

NOTE language:en-us

NOTE Confidence: 0.888653218746185

00:00:00.450 --> 00:00:03.370 OK, we'd like to get started.

NOTE Confidence: 0.163024246692657

00:00:04.210 --> 00:00:05.200 Uh.

NOTE Confidence: 0.839655697345734

00:00:06.610 --> 00:00:15.500 We're thrilled that Doctor Aerial Baskin Summers is our lecture today and doctor O'Malley will be introducing her.

NOTE Confidence: 0.895138025283813

00:00:16.040 --> 00:00:17.730 Next week.

NOTE Confidence: 0.808394610881805

00:00:18.350 --> 00:00:21.410 We have a speaker, Flavio Froelich.

NOTE Confidence: 0.64845734834671

00:00:21.940 --> 00:00:23.430 Who?

NOTE Confidence: 0.917921543121338

00:00:24.070 --> 00:00:34.110 This is the 3rd time he's been scheduled for grand rounds of the both of the prior times, natural disasters, hurricanes nor easters.

NOTE Confidence: 0.917880296707153

00:00:34.670 --> 00:01:07.480 Airport strikes things like that kept him away, but it should be a very good, very good grand rounds. He's one of the few people who records brain activity and then delivers uses the brain activity to guide the delivery of transcranial magnetic stimulation. So you can think of it sort of. XO closed loop between brain activity and brain stimulation, which I think a lot of us think is sort of the future where TMS.

NOTE Confidence: 0.886743068695068

00:01:07.480 --> 00:01:28.210 And deep brain stimulation ultimately will go. He's very creative researcher at at University of North Carolina should be a lot of fun and then the following week of a very accomplished cognitive neuro scientist and Noor Imager named Aristotle voidness goes. Who's at the at the.

NOTE Confidence: 0.905501186847687

00:01:28.890 --> 00:01:49.740 Cam H which is the Canadian version of CMHC? It's filiated with the University of Toronto and it's a very interesting, lively,

interdisciplinary, clinical and Research Institute affiliated with the University of Toronto. So those are the next 2 weeks.

NOTE Confidence: 0.883038699626923

00:01:50.890 --> 00:02:06.310 We're all back at work, sees the students are here. It's hard to find a parking spot. You can tell the L Daily News is arriving, so it's clear that it's a new year, so I'll introduce Doctor O'Malley To to introduce our speaker.

NOTE Confidence: 0.915985822677612

00:02:14.450 --> 00:02:31.730 Thank you. It's really my pleasure to introduce our Grand Round Speaker today. Doctor Aerial Baskins Summers and the talk titled her talk. You can see here is so relevant to the work that we do in our with our patients in our clinical services. An in our research.

NOTE Confidence: 0.941085577011108

00:02:32.760 --> 00:02:49.930 Doctor Baskin Summers as a clinical psychologist, an assistant professor of psychology at Yale. She received her bachelors in science from Brown, her PhD from the University of Wisconsin, Madison and completed her predoctoral internship, an fellowship at McLean hospital, Harvard Medical School.

NOTE Confidence: 0.953721582889557

00:02:50.500 --> 00:02:59.100 Her work focuses on identifying and specifying the cognitive emotional, an environmental mechanisms that contribute to antisocial behavior.

NOTE Confidence: 0.950076162815094

00:02:59.980 --> 00:03:12.130 She examines these mechanisms in a wide variety of individuals, including those who suffer from substance use disorders, psychopathy, antisocial personality disorder, and those who engage chronically in risky behavior.

NOTE Confidence: 0.934956908226013

00:03:12.790 --> 00:03:43.040 A guiding principle of her research is that while antisocial behavior may look similar, depending on different context. However, the mechanisms underlying those behaviors can be different in different individuals and to address this question. She uses multiple methods such as electrophysiology neuroimaging behavior and self report to develop novel experimental task assessments. An intervention strategies that consider these differences across individuals.

NOTE Confidence: 0.942568719387054

00:03:43.750 --> 00:03:54.360 Her research shows the importance of distinguishing and targeting the underlying mechanisms that are associated with specific forms of Psycho, Psycho pathology and behavior.

NOTE Confidence: 0.946028113365173

00:03:55.240 --> 00:03:59.360 And this research has powerful implications for the justice system.

NOTE Confidence: 0.945529997348785

00:03:59.880 --> 00:04:06.770 Involved individuals as our current assessments and interventions generally take a one size fits all approach.

NOTE Confidence: 0.950252234935761

00:04:07.670 --> 00:04:24.960 In recognition of her really very important and influential research, she's been awarded several early career awards from the divisions of the American Psychological Association, the American psychological society, and just last week for her interdisciplinary work from the American Society of Criminology.

NOTE Confidence: 0.928628027439117

00:04:25.800 --> 00:04:34.700 So with this, I'd like to turn over the stage to doctor Basque, Basque in Somers. And would you please join me in welcoming her to the podium?

NOTE Confidence: 0.945697784423828

00:04:42.070 --> 00:04:56.240 Well, thank you all for having me. I'm excited to share some of the work we have been doing to understand different manifestations or expressions of disinhibition. The underlying mechanisms and then translating that knowledge into targeted treatments.

NOTE Confidence: 0.930992126464844

00:04:56.880 --> 00:05:27.850 So when I refer to disinhibition what I'm really talking about our behaviors such as aggression, criminality impulsive behavior and substance misuse and I want to start by just giving you a few of the expressions that we look at in the lab and so I'm going to show you 3 different videos. This first video is going to be about a man talking about his experience of feeling confronted by a woman in his reaction to that or feeling threatened in that situation biological. I'll stay here you mean you in prison.

NOTE Confidence: 0.808252274990082

00:05:27.850 --> 00:05:30.820 Hey, what was that about? I assaulted the woman.

NOTE Confidence: 0.872793912887573

00:05:31.370 --> 00:05:33.270 Now because she got up my face. And.

NOTE Confidence: 0.829406559467316

00:05:33.960 --> 00:05:41.580 See act like she's from him and she was talking with. She's arguably not next year. Not this smacked a broken nose. I had so much anger in.

NOTE Confidence: 0.861052274703979

00:05:42.190 --> 00:05:54.040 Stuff me images. I just like a bomb, you know. Have you see a bomb and it just checking just matter of seconds for his bomb blows up and you try to get out there.

NOTE Confidence: 0.834137916564941

00:05:55.150 --> 00:06:00.930 An way I'm going that bomb is gonna blow up. Hear me it where I want baby get away from it.

NOTE Confidence: 0.939224660396576

00:06:02.440 --> 00:06:29.670 So he's talking about this very strong form of reactive aggression feeling. I'm intensely threatened in a moment and then reacting in a way that assaulted a woman. The next video is from the ESPN documentary about OJ Simpson, and you're going to hear people describe how despite knowing of his history of spousal abuse, potentially murdering people that they still felt very drawn into him and wanted to engage with him.

NOTE Confidence: 0.765964210033417

00:06:35.540 --> 00:06:37.140 Buy a lot of our stay out this.

NOTE Confidence: 0.286725133657455

00:06:41.590 --> 00:06:42.510 OK.

NOTE Confidence: 0.927943587303162

00:06:43.080 --> 00:06:46.370 Something takes over when you're in his presence.

NOTE Confidence: 0.586862325668335

00:06:47.760 --> 00:06:48.320 He's.

NOTE Confidence: 0.930442154407501

00:06:49.470 --> 00:06:56.580 Taking you away from the sordid dark reality that you're sitting across from somebody who probably committed murder.

NOTE Confidence: 0.908359289169312

00:07:06.800 --> 00:07:18.240 All that goes away and there's just a sense of wanting to believe him and go with him to this place where everything is still OK.

NOTE Confidence: 0.804769158363342

00:07:20.510 --> 00:07:22.450 The truly writers are not the self.

NOTE Confidence: 0.87914913892746

00:07:23.520 --> 00:07:30.910 Read that Dad want to say I don't like you. I can't stand you. I want to call you names. I wanna throw you right out of here. But you know what.

NOTE Confidence: 0.676885724067688

00:07:34.020 --> 00:07:40.360 Your husband wanted wanted, and I had mentioned to a party.

NOTE Confidence: 0.871781527996063

00:07:41.490 --> 00:07:46.060 His friends would call it the OJ effect. They would say, yeah, you got all Jade.

NOTE Confidence: 0.798532366752625

00:07:46.690 --> 00:07:49.850 Being OJ does being charmed.

NOTE Confidence: 0.936088562011719

00:07:50.450 --> 00:07:59.540 The confusion that you feel after you've been in his presence. I don't think he was not guilty, but I was in touch with the fact that I wanted to think he was not guilty.

NOTE Confidence: 0.755148112773895

00:08:00.440 --> 00:08:04.250 OJ damn you, I like you. Damn you.

NOTE Confidence: 0.640972971916199

00:08:16.190 --> 00:08:20.130 OJ Simpson. You're charming.

NOTE Confidence: 0.934744954109192

00:08:21.060 --> 00:08:22.420 You can get into your head.

NOTE Confidence: 0.769521832466125

00:08:23.900 --> 00:08:25.600 And you know you like it.

NOTE Confidence: 0.830092549324036

00:08:26.160 --> 00:08:28.030 It is no way around.

NOTE Confidence: 0.938778281211853

00:08:29.360 --> 00:08:43.590 In this last video is a clip from the HBO documentary about Robert Durst and you're going to hear that wall on the run for potentially murdering his landlord. He finds himself in a Wegmans and you'll see what he did in there.

NOTE Confidence: 0.915179073810577

00:08:44.590 --> 00:08:47.020 Let's see if this can actually work this time.

NOTE Confidence: 0.93004298210144

00:08:55.680 --> 00:09:00.060 It was always piecing together these shreds of information.

NOTE Confidence: 0.922747910022736

00:09:01.000 --> 00:09:07.830 It was hazy, but it began to tell a story about this guy. Who of course was an enigma.

NOTE Confidence: 0.957546591758728

00:09:16.100 --> 00:09:25.020 58 year old Robert Durst was arrested here at Wegmans grocery store in Hanover Township after allegedly trying to steal a hoagie.

NOTE Confidence: 0.886415183544159

00:09:26.020 --> 00:09:33.980 I think we were kind of in the same boat as everybody else that had the knowledge of this case whatsoever. How in the hell could have been as stupid?

NOTE Confidence: 0.911688566207886

00:09:39.430 --> 00:09:48.400 He just kind of got cold look all the color ran out of his face and he just stared at me and he said I'm the same another word until I speak to an attorney.

NOTE Confidence: 0.899571716785431

00:09:52.700 --> 00:09:58.860 Police searched his rental car outside and found 2 loaded guns.

NOTE Confidence: 0.836672008037567

00:09:59.810 --> 00:10:01.550 Some marijuana.

NOTE Confidence: 0.935024321079254

00:10:02.050 --> 00:10:20.060 \$38,000 in cash and an ID for one Morris Black. Why would a guy with \$520 in his pocket and \$37,000 in the trunk walk into a Wegmans and steal sandwich?

NOTE Confidence: 0.939525425434113

00:10:21.360 --> 00:10:55.570 So just in case you're not familiar, Wegmans sandwiches are about 8:50, so I'm pretty sure he had enough money to pay for this. But what you can see across these representations are certainly some commonality's. You know there are hints of aggression there certainly engagement in criminal activity, but there are some unique aspects to how they are displaying their disinhibition. Whether that might relate to the role of emotions in their behavior or the form of impulsive it that they are displaying. So these just very briefly represent the heterogeneity that we see as it relates to disinhibited behavior.

NOTE Confidence: 0.922740280628204

00:10:55.900 --> 00:11:09.550 And so I just want to make this a little bit more concrete. By contrast ING 2 types that we tend to focus on in the lab quite a bit, one. I'll refer to as a Psycho Pathic presentation or Psych Opathy and the other will call externalising only.

NOTE Confidence: 0.942344427108765

00:11:10.110 --> 00:11:40.670 So to start with Psych Opathy, it's believed that the early diagnostic precursors are the combination of conduct disorder and the new DSM specifier, limited pro social emotions which relates to callous and unemotional behavior. So about 3 to 4% of kids will have a diagnosis of conduct disorder and 32% of those kids will have this additional specifier. Now. We don't have great lanja tude inal work to know the conversion rate of the kids who start here.

NOTE Confidence: 0.935033798217773

00:11:40.670 --> 00:12:14.580 You might end up to be adults, but we adults with Psych Opathy, but we believe that these are basically a diagnostic risk profile for adult Psych Opathy Psych Opathy in the general population is represented at about 1%, but incarcerated individuals. It's a rate of about 25% and these individuals are very grandiose and charming. They tend to show emotions in a very limited or superficial way and they display lower scores on an effective or emotional empathy measures.

NOTE Confidence: 0.927704155445099

00:12:15.560 --> 00:12:39.600 They also have chronic, impulsive and antisocial behavior, so they engage in high rates of thrill seeking they often report being prone to board a man. That is what Spurs doing something exciting or with an adrenaline rush and they tend to start substance use very early in life and they do it in almost very impulsive way. So if they see something and they want to try it, they will grab on it on to it in the moment.

NOTE Confidence: 0.937826335430145

00:12:40.670 --> 00:12:58.530 They certainly display reactive aggression like we saw and heard about in the 1st video. But what uniquely distinguishes psych opathy from other forms of diagnostic profiles is their tendency towards proactive or premeditated aggression. Something that's more retaliatory and planned out.

NOTE Confidence: 0.942463219165802

00:12:59.430 --> 00:13:10.180 And ultimately what they show is a severe and stable form of aggressive behavior. Again, starting very early in life and then continuing through the lifespan. Antisocial or criminal activity.

NOTE Confidence: 0.948037445545197

00:13:11.330 --> 00:13:25.380 And this is distinguished from an external ising only pathway that starts with conduct disorder by itself. So without the specifier

and about 10% of kids with conduct disorder will grow up to have antisocial personality disorder.

NOTE Confidence: 0.956401705741882

00:13:25.930 --> 00:13:39.380 About 2 to 3% of the general population has a diagnosis of antisocial personality disorder but within incarcerated samples we look at anything from about 50 to 80% of currently incarcerated individuals meet Antisocial diagnosis.

NOTE Confidence: 0.937430679798126

00:13:40.200 --> 00:14:15.210 These individuals, unlike those with Psychopathy Show High emotional reactivity and hostility. They tend to engage in behaviors that are driven by their desire for rewards. Whether that's money or substances, they show more reactive or that kind of quick frustration if aggression. They're very irresponsible and impulsive and certainly engage in any social behavior, and they tend to display more severe forms of substance use disorder. So under the old DSM 4, people with antisocial personality disorder had a greater number of dependants diagnosis.

NOTE Confidence: 0.9360591173172

00:14:15.210 --> 00:14:39.130 Is than other anti social individuals and now under DSM 5 they meet more diagnosis with the severe threshold and this is another factor that distinguishes this externalising pathway from Psychopathy. While Psychopathic individuals might use substances and they might actually have a diagnosis, the severity of their diagnosis is not as great as those with antisocial personality disorder.

NOTE Confidence: 0.946095943450928

00:14:40.130 --> 00:14:48.670 And so to make this a little more concrete in terms of the diagnostic profiles when we talk about Psychopathy what we're really talking about is a combination of these 2 types of traits.

NOTE Confidence: 0.934050619602203

00:14:49.180 --> 00:15:23.710 Often they'll be referred to as factor one traits. These are the interpersonal, an effective traits, the Glibness superficial charm, callousness, shallow affect and then the factor 2 traits. The impulsive behavior and antisocial behavior. And it's really important to keep this diagnostic picture in mind because if we isolate anyone trait by itself, it's hard to distinguish what might be psychopathy from other related disorders. So for example, if we just look at factor one traits by themselves, well, they overlap substantially with the diagnostic picture for narcissistic personality disorder.

NOTE Confidence: 0.932933330535889

00:15:23.790 --> 00:15:28.700 Particularly in terms of the grandiosity and lack of empathy and potential callous behavior.

NOTE Confidence: 0.945038974285126

00:15:29.960 --> 00:16:01.190 If we look at factor 2 traits by themselves, the impulsive in any social traits will those overlap quite a bit with the diagnostic picture for antisocial personality disorder engaging in behaviors without thinking. Engagement in violations of social norms and so one picture from a diagnostic perspective that we have to keep in mind is that when we're talking about Psych Opathy, we really need to be talking about people who are having a combination of both of these traits. And so I think this is a 1st place where there has been some lack of clarity.

NOTE Confidence: 0.930263042449951

00:16:01.340 --> 00:16:11.770 And how people have done research or in clinical settings is not a tuning to the combination of these trades representing Psych Opathy and looking at some of the factors separately.

NOTE Confidence: 0.947428345680237

00:16:13.180 --> 00:16:48.190 And So what? We end up seeing behaviorally across the 2 profiles that I've mentioned is that there certainly overlap. For example, both groups of individuals engage in reactive aggression, engage in criminal activity. But there was also some unique aspects or that's proactive aggression or the nature of their substance use. And so if we just look at behavior by itself, we might be missing an opportunity to understand better what is driving those behaviors in these individuals. And so a principle of our work is to say we need to move away from just looking at the behavior and understand at different levels of an al.

NOTE Confidence: 0.938883662223816

00:16:48.190 --> 00:17:09.660 Sis. What's really driving that behavior? And that will allow us to be able to think about these different profiles or expressions of disinhibition. And so we might be able to look at certain cognitive or affective or emotional features. And there will certainly be some that are similar and then ones that will be unique and then looking at the neural underpinnings of some of those.

NOTE Confidence: 0.941732883453369

00:17:10.340 --> 00:17:28.490 And so to make this clear, I'm going to walk through some of the work we've done with Psych Opathy and contrast that with the external using profile tracing some of the neural data, we have clarifying the cognitive affective features and talking about how that manifests in the particular behavior. Profiles.

NOTE Confidence: 0.935953557491302

00:17:30.420 --> 00:17:53.020 OK, so first I copy as we talked about. We're talking about individuals who are following generally this pathway and given the diversity of people in this audience in the background. I'm going to start

with a spoiler. I'm going to tell you what their issue is an. Then I'm going to go and show you some of the experimental data that we have that demonstrates some of the general ideas that I'm talking about.

NOTE Confidence: 0.934875309467316

00:17:53.790 --> 00:18:14.350 So decades of research have been able to identify their really kind of two things going on in individuals of Psych Opathy. First, they have difficulty attending to contextual cues that often inform our behavior. Help us modify her behavior and they have difficulty than integrating that with their affective or emotional experience.

NOTE Confidence: 0.930555522441864

00:18:15.020 --> 00:18:41.770 So across labs and across decades at this point there is really clear evidence that individuals with psych opathy show diminished sensitivity to emotional information and they fail to learn from punishment. So this has been done in research using I app slides or facial emotions or passive avoidance tasks where you could see that individuals with Psych Opathy or just not responding to emotional information in in the same way as others.

NOTE Confidence: 0.940768420696259

00:18:42.360 --> 00:19:12.860 There is also clear data that individuals with Psych Opathy have an amazing ability to focus on their goal and essentially screen out anything that is peripheral to that goal. So experimentally you might have a task that there is a primary goal, and then there's distracting information and most of us might incorporate that distracting information 'cause it could be useful to know. do I really want to go down this path or not? Psychopathic individuals are so great at focusing on their goal. They show less interference.

NOTE Confidence: 0.912688851356506

00:19:12.860 --> 00:19:14.560 By distracting information.

NOTE Confidence: 0.949490070343018

00:19:15.100 --> 00:19:35.070 To be clear, this isn't driven by problems or differences in executive functions. In general, Psych Opathy shows no differences with things like working memory or inhibitory control or planning abilities and so I'll talk a little bit more about the specific attention abnormalities that seemed to drive this goal. Focus.

NOTE Confidence: 0.939847588539124

00:19:36.330 --> 00:20:10.080 And then the last pattern that we tend to see and work on psych opathy is that they have difficulty bringing together their emotion in their behavior. So we see this decoupling Psychopathic individuals are really good at responding to emotion in the moment when it is their primary focus of attention which very rarely emotion is for us. But experimentally we could get them to do it, but they failed to use that information to change their behavior or

make future decisions. So it's a combination really of this diminished sensitivity. Their exaggerated goal focus.

NOTE Confidence: 0.935807585716248

00:20:10.150 --> 00:20:14.910 That leaves them with a disconnect between a present moment Anna future behavior.

NOTE Confidence: 0.945214331150055

00:20:15.970 --> 00:20:35.570 So I'm going to walk through 2 different studies that allowed us to be able to make some of these conclusions. And if you have any questions, basically that are burning because you have no idea what I'm talking about. You can certainly feel free to interrupt me, but if they're just general questions, I was asked to wait till the end for that.

NOTE Confidence: 0.92105895280838

00:20:38.600 --> 00:21:10.050 Are you defining it on her psychopathy checklist score or in another way? Yes. So most of our research, particularly the research that we do in prisons, are using the life history interview and the Hare psychopathy checklist and so the data. I will show you. Use a continuous score. We also can make diagnostic cut scores following the recommendations and the results come out exactly the same. We Additionally give self report psych opathy measures to be able to look at.

NOTE Confidence: 0.918607532978058

00:21:10.050 --> 00:21:14.760 The validity associated and results are identical with those as well.

NOTE Confidence: 0.923649847507477

00:21:17.470 --> 00:21:29.790 So this study used an instructed fear conditioning task where there were 2 stimuli, a red or green colored box and an upper or lower case N in their presented Sequentially. And I'll show you the stimuli in a moment.

NOTE Confidence: 0.93680214881897

00:21:30.340 --> 00:21:36.230 This study was run in about 145 currently incarcerated males in Westconsin.

NOTE Confidence: 0.934502780437469

00:21:36.850 --> 00:22:07.160 They were told that they would get a chance of receiving an electric shock and they actually did on 15% of the trials, but only when they saw a red box and that they were totally safe when they saw a green box and there were 4 conditions and the goal of these conditions are to manipulate 2 different things. One is focus of attention and mentioned you generally that individuals with Psych Opathy are good at focusing on their goal. So we wanted to see if we made emotion or threat in this instance their goal. Could they respond to it.

NOTE Confidence: 0.934138774871826

00:22:07.720 --> 00:22:38.670 The other thing we manipulated was timing of intentional attentional engagement. So when the goal relevant information comes up, first versus comes up after distracting information and that allows us to tease apart 2 stages of attention. One being early, selective attention that is based generally on perceptual features or instructions and one being late selective attention that relies more on Top down control or other executive function capabilities to sort out information and then select the appropriate response.

NOTE Confidence: 0.930833876132965

00:22:40.020 --> 00:23:03.270 So this is the first type of trial that is called an early threat focus trial. So you're going to see the stimuli and you're going to see a word at the end of the trial and your job is to say whether the word at the end of the trial matches the stimulus you're supposed to pay attention to and the early condition means that the threat relevant information. So in this case the box color will come up first.

NOTE Confidence: 0.87380987405777

00:23:06.700 --> 00:23:10.570 Casey's are red box. The words that read the responses is match.

NOTE Confidence: 0.915023684501648

00:23:11.390 --> 00:23:24.770 The late threat focus condition. You're still supposed to focus on the color of the box and say whether the word at the end matches that color. But now that box is going to come up second after essentially in a relevant but distracting letter stimulus.

NOTE Confidence: 0.927196383476257

00:23:29.420 --> 00:23:45.180 Then we had 2 alternative focus conditions. One same thing was an early condition where your job is to respond to the case of the letter. Is it upper or lower case and the letter in this instance is going to come up first because it's an early condition.

NOTE Confidence: 0.925423502922058

00:23:48.620 --> 00:24:00.010 To be really clear on these trials, the box still can Oh did a threat of shock. So even though shock is not your goal, it's still informative information of whether you might receive a shock or not.

NOTE Confidence: 0.928591191768646

00:24:00.870 --> 00:24:11.490 And then Lastly, a late alternative focus condition where you still are supposed to just focus on the case of the letter. But the box is going to come up first.

NOTE Confidence: 0.930768430233002

00:24:14.090 --> 00:24:42.750 So these are the four conditions that allow us to look at when we ask individuals higher on Psych Opathy to basically do these threat focus conditions. Can they respond to the emotion or the threat of shock versus if the threat of shock is peripheral to their goal? Like in these conditions is that when they're showing the greatest efficiency is and then these allow us to really tease apart what stage of attention might be most problematic for these individuals.

NOTE Confidence: 0.904880940914154

00:24:43.420 --> 00:24:58.330 We've ran this study in 2 different samples, one used fear, potentiated, startle and the other was an image Ng study that we ran within the prison and I'm just going to show you the image in data for now. But the exact same pattern comes out for startle.

NOTE Confidence: 0.937757134437561

00:24:59.230 --> 00:25:14.490 So basically what we found was that individuals with Psych Opathy only showed deficiencies in both startle and amygdala activation. In this early alternative focus condition. When the case, the letter comes up first and your job is to pay attention to that.

NOTE Confidence: 0.928388953208923

00:25:15.080 --> 00:25:23.900 And so we saw that individuals with Psych Opathy showed a reduction in the middle amygdala only when attention was actively engaged in this early stage.

NOTE Confidence: 0.933492183685303

00:25:24.660 --> 00:25:56.290 And they showed increased lateral prefrontal cortex activation only in this condition, and that activation mediated the Association between Psych Opathy, an amygdala activation, and so it seemed to be that when you focus individuals with Psych Opathy on the threat in the threat focus conditions, they were responding neurally. Their behavior was fine. Startle was fine. But when you ask them to focus on their goal early and the threatening information was peripheral to that goal.

NOTE Confidence: 0.954359591007233

00:25:56.290 --> 00:26:00.690 That's when they had the hardest time being able to respond to that information.

NOTE Confidence: 0.930574178695679

00:26:02.280 --> 00:26:32.390 So this began for us to think about what part of attention might be problematic in these individuals. An led to this idea that psych opathy might have problems in what's called an attention bottlenecks. So this is something all of us have. It tends to be mediated actually by the lateral prefrontal cortex that allows us to filter information again based on rules and perception. But that Psychopathic individuals might have a fixed bottleneck. They get really stuck at one point.

NOTE Confidence: 0.942482173442841

00:26:32.390 --> 00:26:40.850 It takes them longer to be able to process information where it might be peripheral to Agholor might be embedded within something complex.

NOTE Confidence: 0.935938596725464

00:26:41.390 --> 00:26:52.430 And so we wanted to test whether this particular issue could relate to more complex emotions beyond just threat processing. And so we did a study looking at Psych Opathy and regret.

NOTE Confidence: 0.932087421417236

00:26:53.090 --> 00:27:07.070 And the basic premise of this study is essentially the same thing as the instructed fear conditioning study, which is when we ask individuals high on Psych Opathy to focus on emotion. In this case, their experience of regret. Can they do it?

NOTE Confidence: 0.949205577373505

00:27:07.620 --> 00:27:12.760 And now the question will be, can they use that information to change or update their behavior?

NOTE Confidence: 0.926244854927063

00:27:13.330 --> 00:27:47.760 And so using this task where that I'll go through in a moment, we're able to dissociate 2 forms of regret. One is retrospective regret. When you learn you could have done something better or differently in some sort of way. And this is commonly what we think about when we think about regret. This is often what is assessed even in the psychopathy checklist of you did something it didn't workout for you. How do you feel about that? But that's different, behaviorally and early from this other aspect of regret called prospective regret.

NOTE Confidence: 0.920595407485962

00:27:47.760 --> 00:27:53.680 And prospective regret is the use of that experience of regret to inform future decisions.

NOTE Confidence: 0.936038315296173

00:27:54.480 --> 00:28:25.390 And so we did this financial decision making tasks where you basically have to pick one of these 2 circles. A ball is going to randomly bounce around and land in a portion of the circle you are going to be told that you 170 points or lost 70 points or 170 points in last 210 points and you're going to rate how you feel about that. Then you're going to rate how you feel about that compared to what you could have gotten. If you picked the other circle and people do this ad times and we look at their performance overtime.

NOTE Confidence: 0.916366457939148

00:28:25.390 --> 00:28:27.250 So this is what this task looks like.

NOTE Confidence: 0.897535741329193

00:28:30.880 --> 00:28:32.570 So I selected this circle.

NOTE Confidence: 0.949511229991913

00:28:35.010 --> 00:28:38.990 I got 70 points. Yay for me. I feel pretty good about that.

NOTE Confidence: 0.925821363925934

00:28:40.710 --> 00:28:43.490 I could have lost 70 points so I feel real good about that.

NOTE Confidence: 0.949418067932129

00:28:46.840 --> 00:28:49.200 And then I just do that over and over again.

NOTE Confidence: 0.955158710479736

00:28:51.250 --> 00:28:54.260 Sometimes I'm asked if I want to change my choice.

NOTE Confidence: 0.934224903583527

00:29:03.110 --> 00:29:24.730 So again, our goal here was to be able to say for individuals with Psych Opathy where part of their diagnostic profile is that they lack regret. Is it true that they truly lack regret or is there something potentially related to these attentional abnormalities were seeing that is making it difficult for them to use regret, information and change their behavior.

NOTE Confidence: 0.933498919010162

00:29:25.430 --> 00:29:58.270 So first this is data looking at partial feedback, which is when you find out what you you received based on your selection. So in the red, you're going to see people who are quote higher on psychopy. This is just one standard deviation above the mean because we ran this continuously and then in blue or people one standard deviation below the mean and So what we see is when you find out what you got on your selection. Individuals with psych opathy actually reported more extreme.

NOTE Confidence: 0.904878258705139

00:29:58.270 --> 00:30:02.440 Affective or a great responses to the value of what they want or lost.

NOTE Confidence: 0.927423238754272

00:30:04.110 --> 00:30:27.600 When we look at the complete feedback. So what you got compared to what you could have gotten if you picked the other circle again, we see that individuals with Psych Opathy in the red, particularly in the more extreme amounts, are showing a greater affect if or retrospective regret rating being influenced by what they could have gotten. If they picked the other circle.

NOTE Confidence: 0.925320148468018

00:30:33.670 --> 00:30:45.580 Expected value was held constant throughout this task as we don't want that to be a confound, partly because we contrasted this with Externalising and individuals with Externalising. A more sensitive to rewards.

NOTE Confidence: 0.910526037216187

00:30:46.960 --> 00:30:48.960 And I will say on that, no.

NOTE Confidence: 0.932277500629425

00:30:49.650 --> 00:31:23.130 Generally, one way to interpret interpret this is that when asked directly how they feel about regret, pleased or disappointed individuals. The Psych Opathy actually over respond. But when we look at that compared to externalising, this kind of significant difference goes away. So it seems to be really that the individual is high on externalising are the ones over responding to regret, but still individuals higher on Psych Opathy were not showing a deficit in their response to regret. So basically there was no difference related to Psych Opathy.

NOTE Confidence: 0.929335713386536

00:31:23.130 --> 00:31:31.440 So when asked directly how they feel, they can do it as it relates to retrospective. Regret. The big question is will do they use that information at all.

NOTE Confidence: 0.926067233085632

00:31:31.990 --> 00:32:02.160 And so that we are able to model the use of that regret signal overtime in the task and what we essentially find is that individuals low in Psych Opathy modulate their responses based on the regret signal. But individuals high-end psychopy essentially show no change throughout the task, and so despite being able in the moment when directly asked to say that they feel pleased or disappointed about what they got or what they could have gotten there, not using that to update their behavior.

NOTE Confidence: 0.941953897476196

00:32:02.840 --> 00:32:21.920 And we're able to relate this type of pattern to engagement in criminal activity and disciplinary infractions within the prison. And so this disconnect between what happens in the moment and what might happen in the future for individuals. Psych Opathy seems to be related to some of their disinhibited behavior.

NOTE Confidence: 0.960472345352173

00:32:22.770 --> 00:32:24.560 Any questions about this stuff?

NOTE Confidence: 0.902068972587585

00:32:27.410 --> 00:32:30.410 So I'm going to contrast that now with external Ising.

NOTE Confidence: 0.948214173316956

00:32:30.960 --> 00:32:51.790 Individuals with externalising remember are following this general diagnostic profile from conduct disorder in childhood to antisocial personality disorder and generally what we see again as a spoiler alert is that these individuals have difficulty managing their emotions and engaging in more controlled behavior.

NOTE Confidence: 0.934895098209381

00:32:52.320 --> 00:33:12.570 And so across labs and decades, the patterns we tend to see is that individuals with antisocial personality disorder show greater emotional reactivity. They overreact to threat. They have poor distrust tolerance and they show altered reward processing. So they tend to over react to the presence of rewards.

NOTE Confidence: 0.948046803474426

00:33:13.160 --> 00:33:22.220 Additionally, these individuals do show pretty pronounced pronounced executive function deficits, particularly inhibition and planning and working memory.

NOTE Confidence: 0.93552702665329

00:33:22.810 --> 00:33:44.090 But what seems to make their behavior worse is actually having dual demands on both of these managing emotions and engaging executive functions. So we see with a variety of studies that when you increase demands on working memory and increase reward value, that is when their behavior actually gets worse.

NOTE Confidence: 0.931837797164917

00:33:45.070 --> 00:34:15.560 And so I'm going to contrast using the unistructured fear conditioning task. What we now see an externalising individuals. So just as a reminder, we have these red and green stimuli. The upper and lower case, an but in this instance, since externalising individuals are supposed to over react to emotion, we might expect that they're going to show differences really in the threat focus condition. When asked directly to attend to the emotion they might have difficulty managing their ability to regulate that response.

NOTE Confidence: 0.940514624118805

00:34:15.560 --> 00:34:25.940 But we didn't have any particular predictions as to what would happen in the alternative focus condition. 'cause this is not particularly demanding. There's no inhibition required, and there's no real working memory.

NOTE Confidence: 0.93741500377655

00:34:28.340 --> 00:34:53.970 And so generally what we saw was just that that individuals who are high on externalising showed hyperactive amygdala and also medial prefrontal cortex activation. But only when their intention was engaged on the threat early in the trial. So they're supposed to attend to the threatening information, the red or the green box that shows up first. And they overreact and we saw the same pattern with their startle response as well.

NOTE Confidence: 0.938539922237396

00:34:55.080 --> 00:35:28.100 What they also showed though, was a reduction in Amygdala and medial prefrontal cortex activation in the late threat focus condition. So their job is still supposed to respond to the color of the box. But there's this kind of irrelevant distractor that comes up first in just that little amount of information seemed to slow their ability to Orient to the relevant information. The color of the box and disrupted their response, and we actually saw though accurate slower response times. Also on this trial.

NOTE Confidence: 0.919217705726624

00:35:28.100 --> 00:35:41.750 Type for individuals high on externalising. So while they might over react to emotion, it's not always expressed in that way and it might depend on irrelevant distractors or demands on working memory that might come up.

NOTE Confidence: 0.936743676662445

00:35:42.480 --> 00:36:05.120 So another study that we recently completed that looked at this was a go. No go flanker task where your job is to respond to the direction of the information that's in the center. So there might be incongruent trials congruent trials and then these were no go trials. So when you saw something like this you are not supposed to respond at all? You're supposed to withhold your response.

NOTE Confidence: 0.93937361240387

00:36:06.590 --> 00:36:39.300 And So what we saw was that individuals with externalising showed reduced dorsal lateral prefrontal cortex activation during the response inhibition trials. This was unrelated to Psych Opathy in any way, and we added a demand of reward. This particular effects just got worse. So again, there's certainly some baseline executive function problems, but what seemed to really be most problematic was the addition of rewarding information. And this particular activation style predicted.

NOTE Confidence: 0.93517678976059

00:36:39.300 --> 00:36:42.610 Physical conflicts with corrections officers in the prism.

NOTE Confidence: 0.935561895370483

00:36:44.700 --> 00:37:09.630 So just briefly what I hopefully have shown you from just two examples is that wall individuals with Psych Opathy an external

ising are showing similar types of behavior engagement in criminal activity and impulsive ity and substance use. The kind of nature of their cognitive and affective profile seems to be different. So for individuals with Psych Opathy.

NOTE Confidence: 0.939248204231262

00:37:10.130 --> 00:37:45.140 We believe that these individuals have the greatest problem attending to contextual cues that they're having difficulty integrating things that are outside their primary goal and again often emotions are not our goal. So like most of you walking around day today are not intending to attend to other peoples emotions. That's not your job but other peoples emotions might inform what you do. So if you're talking to someone in there crying and it's a friend that's going to inform what you do. But you're not sitting there being like my job is to pay attention to how she is.

NOTE Confidence: 0.903017699718475

00:37:45.140 --> 00:37:46.450 Feeling in that moment.

NOTE Confidence: 0.855925619602203

00:37:47.020 --> 00:37:52.190 Unless I guess you're in a session, that might be the exception.

NOTE Confidence: 0.921595752239227

00:37:53.300 --> 00:38:15.550 With externalising what we tend to see is affect if cognitive control deficit. So again, we there's certainly great evidence for executive function problems, but there's also evidence for hyper emotionality and the combination of the two which often is what is reported with a lot of clients is really what gets people into the greatest amount of trouble.

NOTE Confidence: 0.941152274608612

00:38:16.140 --> 00:38:25.720 And that seems to be associated with nearly opposite patterns of Neural functioning in key regions related to attention and related to emotion responding.

NOTE Confidence: 0.938755869865417

00:38:27.000 --> 00:38:31.550 And so our next question and again, I can talk about other examples we have.

NOTE Confidence: 0.931129097938538

00:38:32.180 --> 00:39:05.810 You know a ton of study is that basically show this exact pattern. I just picked a couple to highlight for you. Also, I'm happy to answer questions using other studies, but really we were left with this question of OK. We know that they are engaging in behaviors that are costly to them, costly to society. Individuals with Psych Opathy in externalising disproportionately account for the costs of crime in the United States because they're a city of 8 at a faster rate, they often get referred to treatment, but as I will mention in a second are not necessarily responsive to most traditional therapies.

NOTE Confidence: 0.937503099441528

00:39:06.050 --> 00:39:20.550 But we have a really good sense of what is driving their behavior through. Lots of work of individuals and so the next question is, what can we use that information in any way that could be helpful for addressing their problematic behavior.

NOTE Confidence: 0.930028855800629

00:39:21.530 --> 00:39:27.540 And so I want to talk a bit about some of the treatment research that we've been doing.

NOTE Confidence: 0.937304615974426

00:39:28.080 --> 00:39:50.920 And I want to start by just letting you know kind of the state of current treatment evidence for these individuals. Most of the treatments that are being offered are under the kind of General umbrella of cognitive behavioral therapy contingency management. So when a good behavior gets rewarded or mill, you kind of mixed are integrated types of approaches.

NOTE Confidence: 0.935490071773529

00:39:52.330 --> 00:40:26.840 And I will say that the treatment research, particularly in Psych opathy, has some like pretty significant methodological issues. But there are still some patterns that emerge that are concerning for people. So one was Psych. Opathy is OK. There's no effect. The worst affect that people tend to see is actually a negative clinical improvement so that psychopaths don't get better after receiving treatment. They get better at being Psycho Pathic after they received treatment, so they use the cognitive behavioral skills. The emotion regulation skills to better manipulate and con people.

NOTE Confidence: 0.925265848636627

00:40:26.840 --> 00:40:44.050 And that is often related to a faster rate of Reoffending after they received treatment. So individuals with Psych Opathy who never got treatment reoffend at a slower rate than individuals. A Psych Opathy who do get treatment, generally not our goal of treatment, right?

NOTE Confidence: 0.94253808259964

00:40:44.640 --> 00:41:12.330 With antisocial personality disorder, I think we actually do have some better treatments that exist, particularly contingency management. When there's comorbidity with substance use disorders, this is actually a pretty effective. It's just not implemented as widely as it probably should be. But again, the kind of modal evidence is that individuals with antisocial personality disorder are resistant to most forms of cognitive behavioral therapy.

NOTE Confidence: 0.941862523555756

00:41:13.480 --> 00:41:44.110 And so we had this question of whether it's that these individuals are really untreatable an at this clinical picture is just what

we have to deal with, and we have to just say OK well. This is what it is an move on or is it possible that these individuals are just not receiving the correct treatment that they're not getting the treatments that might be most effective for them and that possibly we can use our knowledge of the cognitive affective abnormalities and the neural abnormalities that these individuals are showing.

NOTE Confidence: 0.935458481311798

00:41:44.110 --> 00:41:59.650 To target and design treatments that allow them to even either circumvent their difficulties or basically train their difficulties or improve their difficulties so that they could better engage with these. Generally very effective treatments.

NOTE Confidence: 0.562145829200745

00:42:00.180 --> 00:42:01.460 Yeah.

NOTE Confidence: 0.923121511936188

00:42:05.360 --> 00:42:08.890 Or do you mean improving some psychological set?

NOTE Confidence: 0.913197755813599

00:42:09.570 --> 00:42:26.660 It depended on those studies so this one was actually related to PCL R Score. This one was reducing offending these studies related to infractions within the facility, so the outcomes tended to vary.

NOTE Confidence: 0.872739434242249

00:42:27.370 --> 00:42:28.520 So they might feel bad.

NOTE Confidence: 0.714784979820251

00:42:29.780 --> 00:42:32.370 They feel great.

NOTE Confidence: 0.826195776462555

00:42:33.520 --> 00:42:34.060 Yes.

NOTE Confidence: 0.773798286914825

00:42:35.790 --> 00:42:37.440 When you say no effect.

NOTE Confidence: 0.825601875782013

00:42:38.330 --> 00:42:39.910 No effect on offense.

NOTE Confidence: 0.946432530879974

00:42:40.960 --> 00:42:47.380 No effect on offending or no improvement or change in their behavior after receiving the treatment.

NOTE Confidence: 0.955194532871246

00:42:49.720 --> 00:42:50.850 Any other questions?

NOTE Confidence: 0.435402065515518

00:42:51.550 --> 00:42:51.870 OK.

NOTE Confidence: 0.929639220237732

00:42:53.560 --> 00:43:14.500 So we designed this study. This is all individuals who are currently incarcerated, who had been referred for substance use treatment within the facility, but hadn't received it yet. And we assessed individuals and divided them into the two groups I've been talking about individuals with Psych Opathy and individuals with what will call externalising only.

NOTE Confidence: 0.945420563220978

00:43:15.030 --> 00:43:24.060 And everyone came into the lab and we did a bunch of tests, including some of the ones that I showed you previously. We measured Physiology. Startle.

NOTE Confidence: 0.852786183357239

00:43:24.580 --> 00:43:31.480 ER, peas. We measure a bit different behavioral tasks, reaction time, decision making.

NOTE Confidence: 0.946149706840515

00:43:32.090 --> 00:44:03.580 And then we sorted individuals into one of two types of trainings and these are both computerized cognitive remediation trainings and I'm happy to talk about some of the limitations of cognitive remediation in general. But I think for these individuals, this might be a reasonable target because some of the individuals that we talked about don't really feel they need treatment. Some of them have difficulty engaging in kind of traditional therapeutic activities because of the.

NOTE Confidence: 0.932804048061371

00:44:04.580 --> 00:44:34.100 Working memory and ovary activity to emotion. Types of problems that we discussed so doing a thought record or doing an exposure requires some amount of executive functions and ability to tolerate distress. And if you're coming in not having a great ability to do it, it might be really hard to engage. So we thought a computerized program would allow us to get around some of the motivation difficulties and allow us to target more directly. Some of the cognitive affective difficulties.

NOTE Confidence: 0.926731646060944

00:44:34.690 --> 00:44:52.500 And so half the individuals with Psych Opathy were randomized into what we called an attention to context training. And I'll go through the Tasks in a moment. So there are 3 computerized task. They took a total of an hour. There were 6 training sessions, so they came in once a week for an hour for 6 weeks.

NOTE Confidence: 0.934866666793823

00:44:53.820 --> 00:45:20.890 They played these games at the end of every single game. They saw a progress bar of how they were doing and they were given a little bit of a Vin yet that tried to connect what they were doing in the task to how to improve their personal lives. And in this case within the facility. So how playing this game might help you interact with the CEOs so you don't get in trouble as much or how it might help you control your emotions. If someone's in your face.

NOTE Confidence: 0.91253536939621

00:45:21.480 --> 00:45:45.850 Half the individuals with externalising were randomized to a treatment that was related to affective cognitive control. Again, 3 computerized tasks once a week for 6 weeks, but half the individuals were randomized to a treatment that wasn't meant for them. So individuals with externalising half of them got the training for Psych Opathy and individuals with Psych Opathy half of them got the training that was meant for externalising.

NOTE Confidence: 0.975576758384705

00:45:47.870 --> 00:45:50.720 This was 124.

NOTE Confidence: 0.812919974327087

00:45:52.080 --> 00:45:53.570 This is also all Mail.

NOTE Confidence: 0.933755815029144

00:45:55.790 --> 00:46:24.340 And so then we brought everyone back to complete post tasks that include the exact same behavior on psychophysiological measures as the pre task one week after training and just because it doesn't fit on the slide. We also 2 months after the training recorded disciplinary infractions that they may have received while in the facility we because they had records. We also were able to compare that to disciplinary infractions that they had 2 months before. They even started this study.

NOTE Confidence: 0.901627898216248

00:46:25.080 --> 00:46:32.810 So I'm just going to describe that ass a little bit and then I'll go through their results. am I doing OK on time? It's 11:15.

NOTE Confidence: 0.922865569591522

00:46:33.880 --> 00:47:05.350 OK, great. So this is the attention to context training and basically in all of these tasks, there is some demand on having to integrate contextual or peripheral information. So we did a reversal learning task where you have to notice the rule. Change associated with earning or losing money. So you start out and this elephant is winning you money and then all the sudden you're not told the contingency switches and this giraffe Loch Ness Monster thing is winning you money and now the elephant is losing you money.

NOTE Confidence: 0.931336462497711

00:47:05.350 --> 00:47:17.730 And so James Blair and colleagues and a variety of other researchers have shown that individuals with Psychopathy really have difficulty with this task. They fail to notice that contextual shift in the contingencies.

NOTE Confidence: 0.931684613227844

00:47:19.020 --> 00:47:42.990 Then we use a context discrimination task where essentially yet to respond to the strings of letters or numbers in different ways. And it depended on the color of the box. So the yellow box indicated one type of response and the green box indicated another type of response. Again, there's data to suggest that individuals with Psychopathy have difficulty modulating their behavior based on the color of the box because they're so focused on what's inside the box.

NOTE Confidence: 0.914801478385925

00:47:43.740 --> 00:48:16.350 And then the last was a gaze detection task that we developed where you had to learn to attend to both the directions of the eyes and the emotion. So, your basic task was to press the right button. If the eyes were looking right and the left button. If the eyes were looking left, but each time you came into play. This game, you were told about your daily target emotion, so today. Your target emotion is fear every time you see a fear face. If the eyes are looking left, you actually have to press the right button. And if the eyes are looking right you actually have to press the left button.

NOTE Confidence: 0.938068389892578

00:48:16.350 --> 00:48:21.660 So in order to do this task Well, you have to integrate both the emotion and the eyes.

NOTE Confidence: 0.8977010846138

00:48:22.560 --> 00:48:33.760 And again we ran this prior to starting on this study and it's been replicated in other labs that individuals with Psychopathy have difficulty with these target of ocean tax.

NOTE Confidence: 0.934325397014618

00:48:34.530 --> 00:48:40.690 So I'll show you their data 1st and then I'll go and describe the flip side with externalizing.

NOTE Confidence: 0.933600842952728

00:48:41.260 --> 00:49:14.270 So this is just the task performance in white. You're going to see attention to context training. This was what was meant for Psychopathic individuals and in Gray, you're going to see the affect of cognitive control training and I'll go through the details of that in a moment. So generally what you see is improvement in individuals with Psychopathy who got the training that was meant for them. And this is positive. But when you start out and you're like really, really bad at something kind of the only way you could

go is up, so we didn't necessarily see this as like I can retire. And it was the most amazing evidence ever.

NOTE Confidence: 0.925051152706146

00:49:14.610 --> 00:49:25.450 But what we can look at is did this relate to changes in the pre post tasks. So those included things like instructed fear, conditioning, Stroop performance.

NOTE Confidence: 0.916674256324768

00:49:26.020 --> 00:50:00.390 Working memory tasks and generally what we saw. It's a small effect, but we saw it was that individuals with Psych Opathy showed improvement, but only if they got attention to context training. And so when we looked at the individual tasks, whereas before they showed a deficit and startle potentiation in that early alternative focus condition, they now no longer were showing that deficit and they didn't show any change if they got the training that was not meant for them. The affect of cognate control training. So again, this is interesting. The suggests that we can target.

NOTE Confidence: 0.935927629470825

00:50:00.390 --> 00:50:28.690 The mechanism that we can move it around a little bit, but what does this mean for their actual behavior? And so this is where we looked at the conduct reports again the conduct reports. We documented them 2 months prior to them starting and then 2 months after they completed the post session. You're going to see on the Y axis, a positive number and that's the absolute value. So the more positive number, the better your behavior was following the training.

NOTE Confidence: 0.936163783073425

00:50:29.270 --> 00:51:00.500 We looked at the number of conduct reports and that's going to come out the same, but I'm going to show you the severity because there are lots of reasons why you might get a conduct report in a facility that have really nothing to do with your actual behavior. But how severe your behavior is is maybe a little less influenced by the sea or the particular situation. So for those that are not familiar, you can get conduct reports for a variety of things you can be standing out of line. You could have an extra pen in your cell.

NOTE Confidence: 0.933698832988739

00:51:00.500 --> 00:51:09.550 And those tend to be pretty minor infractions. And then you can get something for assaulting an officer or shanking someone. And those generally are more severe.

NOTE Confidence: 0.926366806030273

00:51:10.560 --> 00:51:33.870 I think so. What you can see here is that individuals with Psych Opathy you got the attention to context training showed improvement 2 months after they receive the training on the severity. So that

means that they had less severe conduct reports 2 months after the training, but only if they got that attention to context training. Not if they got the affect of cognitive control.

NOTE Confidence: 0.935135960578918

00:51:34.830 --> 00:51:59.490 So again, this provided some promising evidence that if we actually identify what the mechanisms are and target them through these computer games, we can not only change them on tasks, but it might actually address some of their distant disinhibited behavior within the facility. Based on the timing of this data collection, we weren't able to follow people into the community and this is something that we're working on now.

NOTE Confidence: 0.89719545841217

00:52:00.580 --> 00:52:03.010 OK, so for the externalising side.

NOTE Confidence: 0.941213190555573

00:52:03.530 --> 00:52:21.810 All three of these tasks relate to executive functions or managing executive functions in the context of some sort of emotion or reward. So we just use this simple breath holding task where it's measuring distress tolerance. Can you persist beyond the point of feeling uncomfortable?

NOTE Confidence: 0.935013234615326

00:52:22.430 --> 00:52:38.990 Then we had assignment ask which was exercising cognitive control when you're supposed to press the right button for a red box a left button for a blue box but sometimes the red box appeared on the left side of the screen and that creates some sort of cognitive.

NOTE Confidence: 0.926086962223053

00:52:39.520 --> 00:53:01.850 Demand for us. And then we did ago stopped ask where a tone was played at some point during a circle or a square an when you heard the tone you were supposed to inhibit your response and this was in the context of incentives. So you could win \$0.25 or lose \$0.25 for a correct or incorrect response, respectively.

NOTE Confidence: 0.942445874214172

00:53:02.370 --> 00:53:10.720 So all of these targets something about executive functions or something about doing managing emotions in the context of a demand.

NOTE Confidence: 0.927466213703156

00:53:12.140 --> 00:53:28.690 And so we saw a similar pattern. This is now you're wanting to focus on the Gray Bar. 'cause this is the affective cognitive control training individuals who got the training that was meant for them for externalising individuals showed some improvement, although very small on the training across the 6 weeks.

NOTE Confidence: 0.926887392997742

00:53:30.360 --> 00:54:01.390 They also showed some improvement on the pre post ask so where previously they were having difficulty Manning distrust and showing deficits in working memory. Those were not as as extreme what we saw in this particular comparison that I just want to highlight is essentially an iatrogenic effective treatment. So those individuals who got the attention to context training what was meant for Psychopathic individuals. If they were externalising, they got significantly worse.

NOTE Confidence: 0.891060829162598

00:54:01.390 --> 00:54:05.660 So they're distressed, got worse their abilities to engage working memory.

NOTE Confidence: 0.921066045761108

00:54:06.280 --> 00:54:10.040 And we thought about it post talk. It actually kind of made sense.

NOTE Confidence: 0.918734073638916

00:54:10.670 --> 00:54:42.340 There's psych opathy training is about noticing emotion and integrating that and attending to it. Externalising individuals already do that quite a bit and so we essentially took the thing that is kind of a bubbling fire for them. And just like through more gasoline on it, and so I mention this not to, not because we wanted this to happen or that we predicted in anyway, but to highlight that if we're not considering the mechanisms that are driving people's behavior, we actually run the risk of doing harm if we assign them to a treatment.

NOTE Confidence: 0.927343130111694

00:54:42.340 --> 00:54:43.990 It is not really meant for them.

NOTE Confidence: 0.929694652557373

00:54:45.370 --> 00:55:17.540 And then Lastly, we basically saw improvement in severity of conduct reports, but it didn't matter what treatment they got. So it's like just being in this study led to some improvement, meaning reduced severity. And so this is a study that were just running now which is basically to fix this treatment in general and I think when we thought about it and more data were collected. Not all three of our tasks tapped the dual demand issue that I've mentioned, so the Simon task didn't have an emotion or award component.

NOTE Confidence: 0.909922003746033

00:55:17.780 --> 00:55:47.790 The breath holding task is distressed tolerance, but dinner is a man working memory and I had mentioned in the start that individuals with externalising get worse when there is this dual demand. And so we've redesigned the package to be able to have all 3 tasks. Have a dual demand, but also supported. That was when we just looked at the Tasks alone.

The Ghost Stop Task. The only one that had a dual demand performed the best. So when we just looked at that by itself these data.

NOTE Confidence: 0.90659898519516

00:55:47.790 --> 00:55:50.800 For externalising, individuals got much better.

NOTE Confidence: 0.933046400547028

00:55:52.720 --> 00:56:22.910 OK, so in general hopefully what I have explained and demonstrated for you is that individuals with Psychopg, Theon externalising are distinct and costly expressions of disinhibition and that understanding the mechanisms are the causes of those expressions becomes really important and that we really have these 2 very different reasons for why individuals with Psych Opathy an external Ising display their behaviors and that the more we can use that knowledge.

NOTE Confidence: 0.922723770141602

00:56:22.910 --> 00:56:30.070 To then translate it into more personalized treatment is the greatest chance we have at promoting some amount of behavior change.

NOTE Confidence: 0.927877187728882

00:56:31.140 --> 00:56:58.970 And generally this is the model that our lab uses to try and separate out the expression of the behavior that someone is displaying from its cognitive, affective or neural features. And we have just started a whole program of research that's now integrating some environmental experiences like exposure to community violence and child maltreatment to see how those interact potentially change and create more complexity than I even presented today at these different levels.

NOTE Confidence: 0.930034816265106

00:56:59.700 --> 00:57:12.600 And that ultimately I think our greatest chance of addressing issues related to disinhibition comes with integrating this level of understanding into our clinical conceptualizations. Our research in our design of of new treatments.

NOTE Confidence: 0.931128799915314

00:57:13.120 --> 00:57:35.010 So I'll stop there and thank you all for listening. I want to thank my current grad students who are in blue and Gray. Sonali are about to apply to internship, including here, so just heads up, look for their names on the wonderful undergrads who are involved in our research. The Department of Correction here at Connecticut have been very supportive of the work they're doing and you all for listening, so thank you.