91| Neuropsych Bite: Clinical Case 7 – With Dr. Kira Armstrong

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Speakers: Kira Armstrong, Ryan Van Patten, John Bellone

Intro Music 00:00

Ryan Van Patten 00:17
Welcome, everyone, to Navigating Neuropsychology: A voyage into the depths of the brain and behavior, brought to you by INS. I'm Ryan Van Patten…

John Bellone 00:25

…and I'm John Bellone. Today we welcome Dr. Kira Armstrong back on to NavNeuro. Kira is a board certified neuropsychologist in private practice in Massachusetts. We previously spoke with her about becoming board certified in clinical neuropsychology. You can find that episode at navneuro.com/28.

Ryan Van Patten 00:45

Today Kira presents a case of a 13-year-old with a variety of mental health symptoms although the conversation focuses heavily on autism spectrum disorder, or ASD. We've discussed autism a few times in recent NavNeuro episodes, including a big picture conversation with Sir Simon Baron Cohen in Episode 90, and co-occurrence with intellectual disability with Dr. Jennifer Huffman in Episode 86. We hope that this case example provides a real world clinical perspective on some important issues related to ASD. So, with that, we give you our discussion with Dr. Kira Armstrong.

Transition Music 01:22

Kira Armstrong 01:22

All right. So. I'm going to be presenting on a 13-year-old girl that I tested. This was actually a follow up evaluation. I had tested her three years previously, and at that time diagnosed her with ADHD, a generalized anxiety disorder, and specific learning disorders with impairments in math and written expression. She had a pretty pronounced anxiety and that took a large piece of the discussions that we had and it really went well with ADHD in terms of explaining who she was at the time. So when I saw her for the second evaluation, her mother called to tell me that she was questioning whether or not she might have an autism spectrum disorder on top of what I had identified the first time. At which point I said to the mom, "Yeah. I reread my report and I'm kind of wondering if I miss that, too." [laughs] Because there were a number of “pink flags”, a number of things that, if I had looked at differently, might have led me to that diagnosis at the time.

Moving back to when I was seeing her this time at this point, Josephine Bruin, as I'm calling her, was also having questions about gender identity. The only reason that's really relevant at this point was that we had a conversation about what pronouns and name she wanted me to use. She wanted me to use "Joe" but keep the pronouns as "she" while also wanting school to still call her "they/them". So

including that in the report to set the stage so the teachers knew that we've had that conversation.

Let's see. She lives with her family in a suburban city. Well educated parents. The family history was relevant for dyslexia, ADHD, depression, anxiety, and a recently diagnosed autism spectrum disorder in this patient's aunt, which is what helped the girl start to recognize "Huh. I wonder if this is what's going on." Early development, pregnancy, and medical history were all pretty uncomplicated aside from a history of difficulties with falling asleep when she was younger because of anxiety and more recently because of ADHD. She was just spinning from thing to thing and never really had a good hygiene to put herself to sleep, but that had recently improved. She's taking citalopram for the anxiety, 37 mg of Concerta, as well as a 5 mg dose of Ritalin for the afternoon.

Psychosocial history is the part that, really, when you ask the right questions, when you get into the history well enough, it was easy to start checking boxes in terms of this really does start to sound like an autism profile. She's a sweet caring girl and I should say, one-on-one comes off really mature and introspective. But if you let her go, you can start to see that she's having problems understanding some of the social pragmatics and connecting with me in other ways if we're talking about topics that weren't driven by her. She has friends but most of her close friends are kind of quirky like she is. She has a tendency to speak in a stream of consciousness, which could have been ADHD, which is where I put it the first time. Only the piece that is a little bit different is she talks on and on at you rather than with you and never recognizes when she's boring other people. Even with cues, you know, kind of subtle cues or even more intentional cues, and she just - it goes right over her head. Mom talked about how this non-stop talking can be exhausting and off-putting. And, again, she couldn't tell when people were trying to disengage.

She also was having difficulties with perspective taking and inferential reasoning. When she was younger, if people laughed at what she was doing, she assumed they were laughing at her. She took that personally and offensively. Doesn't notice when social situations aren't working. She had a friend who just stopped talking to her and she didn't even notice for months until somebody asked about her. The questions I didn't ask at the first eval, because I fell prey to some diagnostic overshadowing. I was assuming that had to do with ADHD and anxiety. Had I asked the other questions, though, again, autism would have sprung to mind because she also has a history of intensive interests, somewhat restrictive interests, sensory sensitivities, black and white and rigid thinking, minimal to no imaginative and symbolic play, difficulties with transitions, inferential reasoning and sarcasm.

What was really striking is, when I was talking to her parents, and I said, "Can she understand you? Can she understand your social cues and your sarcasm?" They thought she did. And then they circled back after the interview and found out all the examples that she had no clue that they were joking and she didn't understand why her mom was upset when everybody thought she did. Even though they were already figuring this out, she's so good at faking it that they didn't know. And speaking of faking, I mean, she was an excellent girl to speak to because she had a lot of insight. So she talks about having a hard time with social cues. It's hard to understand if somebody is being jokingly mean or really mean. She tends to be very literal. She also has figured out, interestingly, because the language that she used, which parallels what we talked about in the field, she uses what she calls her "mirroring" behaviors. So what she says is, "I know what they do and I know what's usually acceptable around them, so I mirror their behavior. Like when I'm talking to my therapist, I use dad jokes because he likes dad jokes. But when I'm with my sister and her boyfriend, we make inappropriate jokes because they are like inappropriate jokes." She's figuring out the formula, but she's not doing it intuitively.

She acknowledges avoiding eye contact. She's already figured out she can look a little bit to the left or a little bit to the right and other people don't know, but she's not looking at them. And the reason she doesn't look at the face is she finds it easier to remember something if "I'm not looking at something as complex as the human face", which was such a powerful statement because it's not something that neurotypical people would even say.

Academically, she has a lot of difficulties you'd expect from a kid with ADHD and is starting to have some difficulties with inferential reasoning, but otherwise is a strong student. Teachers love her. She's a good advocate for herself because that's the rules and she's following the rules and making sure nobody else does, too. She's got some good critical thinking skills. She's seen as a creative and thoughtful, talented writer with brilliant ideas, but needing some help with writing, consistent with their previous diagnosis. She does have an IEP that provides some support with written expression and executive functioning, and breaking down tasks and so forth.

That's the background. I don't know how you guys want me to progress from there. I realized I was talking really fast. I apologize if anyone had to slow down their recording to hear me as we talk. [laughs]

John Bellone 09:13
That was great.

Ryan Van Patten 09:14
That was great. I can ask a follow up question or two. John, do you have any first?

John Bellone 09:18

Yeah, you had mentioned “pink flags,” Kira. Maybe it's good to talk through a little bit of what the red or pink flags are for autism. Can you talk a little bit about the diagnostic criteria?

Kira Armstrong 09:32
I'm using the word “pink flags” because that's based on a paper that I co-published or co-wrote earlier this year. The red flags are the things that we normally attribute to autism. So frank and obvious difficulties with eye contact, or difference in prosody and the way that they speak, and their cadence in their interactions, self-stimulatory types of behaviors - things that are outwardly and obviously somewhat atypical. We could talk about some more of the visual stimming types of behaviors and those kinds of things. But pink flags are the little things that go off in my head when I'm thinking, "Huh. This is something that I need to dig in a little bit deeper and I need to kind of get a better sense of where this is coming from." So somebody, for example, doesn't have a lot of friends. I want to know, is that anxiety? Is that ADHD? Or is that difficulties with social pragmatics? It's just a little bit of an idea, something that makes me want to dig deeper.

I'm not going specifically into diagnostic criterion as you had asked, but it's more what are the things that made me sit up a little bit and go, "Huh." Not so much in her but in other cases where parents start talking about, you know, he or she keeps doing the same things interpersonally and doesn't seem to understand why. That's not diagnostic because you hear that with kids who have ADHD all the time, too, right? But it's a pink flag. So the question that follows is, "Do they not understand what they're doing? Or do they not stop themselves from doing it?" Like, do they do it over and over again? But then afterwards, they go, "Oh, shoot, I did it again?" Or do they not even get it? Do they need help understanding why this is a problem [or] why it might be hurtful to somebody else? Can they understand the underlying social pragmatics behind it? Did I answer that?

John Bellone 11:29
Yep. We'll link to that 2021 Roadmap paper that you co-authored in our show notes.

Ryan Van Patten 11:35
So pink flags are more like associated features or nonspecific symptoms, not diagnostic criteria?

Kira Armstrong 11:43
Right. Or they can be diagnostic criterion but they are not specific to autism spectrum. They can overlap to other disorders and you need to figure out the two etiology.

Ryan Van Patten 11:54
Right. You also mentioned diagnostic overshadowing in the context of ASD, ADHD, and maybe a specific learning disorder. Can you talk through that idea of diagnostic overshadowing and how we might avoid it?

Kira Armstrong 12:07
Yeah, it was funny, when I was done, I realized I glossed right over that and didn't explain it. Diagnostic overshadowing is the idea of missing a diagnosis or misattributing a diagnosis due to comorbidities or co-occurring complex issues. ASD, for example, is very often missed in medically complex kids because everything gets blamed on the seizure disorder or whatever else might be going on with the patient - or not blamed, but attributed to. In this case, it was easy to attribute her presentation to ADHD and anxiety because it fit if I didn't scratch the surface to dig a little bit deeper. So the overshadowing was me going, "Yeah, ADHD, anxiety. Boy, this all makes sense. Okay, let's keep going." And I kind of [had to] go "Wait. Hold on." [laughs] "Let's make sure that this isn't also problematic." It can be exacerbated when parents don't get it yet either. So they are describing it in ways - if we take what they say at word value and assume they know what they're talking about, we're going to miss it. So they probably said, "Oh, she's got lots of friends" before, but neither one of us thought to say, "Well, wait", like they did this time, "she calls kids best friends when she's only known them for two days". To get a better sense of what those friendships looked like and how well can she understand the give and take of it all?

Ryan Van Patten 13:42
It's hard with somebody like her who's high functioning with ASD and who has these sophisticated strategies for coping that you describe - mirroring behaviors, looking off to the side rather than making eye contact. The other person in the conversation might not even realize she's not making eye contact, which makes

your job harder. You have to be all the more informed and ask really good questions to get at those specific symptoms.

Kira Armstrong 14:09
Her parents assumed she was making eye contact.

Ryan Van Patten 14:12
Right.

Kira Armstrong 14:12
That's how good she was. Yeah. And her parents assumed that she could understand their sarcasm only to find out that she couldn't, at least not consistently. So, if I'm relying on parent report, then I'm going to miss that.

Ryan Van Patten 14:28
Yep.

Kira Armstrong 14:28
And, of course, eye contact is harder to do with Zoom and gauge on Zoom. So I was lucky in that she was able to verbalize what she was doing too.

Ryan Van Patten 14:37

Right. Well, I'm curious in the second evaluation with her how you approached testing, test selection for ASD. There's the ADOS and other tests, but I also realize you haven't probably had the chance to review every aspect of the case such as the test data. So maybe we can turn the floor back over to you, Kira, and you can fill us in.

Kira Armstrong 15:00

Yeah. I don't personally use the ADOS. I was trained on it but not certified on it. If I have a case where I think an ADOS is necessary, I'm usually going to refer out. There are also a number of questionnaires. Sometimes I use them, sometimes I don't. In this case, the history was so robust that I didn't necessarily feel like I needed it to confirm the diagnosis because it really is a behavioral diagnosis. You're gonna find different people who will - there's different camps in diagnostics and some will say it has to be the ADOS. But I've seen the ADOS used wrong. There's an assumption that the ADOS is a blood test, and just like all of our neuropsych measures, it's not. In some cases, it's really good, especially as part of a battery or

a multidisciplinary team evaluation. But in other cases, it may not necessarily be beneficial. In someone as smart as she is, if it wasn't administered by someone who's savvy, she could have beat it. But a good person who knows the ADOS with high functioning autism could have caught her, I think, with that measure.

So for the diagnostic perspective, in terms of autism spectrum, I relied on the behavioral characteristics and psychosocial history to make that diagnosis. But I still completed a neuropsychological evaluation because we wanted to see how everything else was playing out to help shape the IEP. So you alluded to the fact that she's very bright, but the listeners don't know that yet. So she has a full scale IQ of 129. Most of her skill sets are evenly developed. I gave her the WASI because the school had done an assessment earlier that year. On the WISC her full scale IQ, they didn't report it because of some variability that was associated a little bit with working memory and a slightly decreased processing speed because she's a bit of a perfectionist and likes to be careful and make sure things are okay even though she's also vulnerable to inattentive, impulsive errors.

Looking at her profile as a whole in the context of being an exceptionally bright kid, there's some variability across the scores, but almost all of it can be attributed to her executive dysfunction as well as some of her performance anxiety. So this is a girl who frequently asked clarifying questions, even for information that she should be able to intuitively assume. And not in terms of social pragmatics but in terms of being able to know that, "Yes, you're going to turn the page when you're done with it on Symbol Search" types of things. She was extremely verbose. I couldn't keep up with her responses on vocabulary, for example. I would just write what I had to write and then go on to the next thing. Partly because she's anxious, partly because she can't read social cues when I'm nodding and saying that's good enough, but also because she wants to really put it all out there. Let's see...

John Bellone 18:06
Performance validity was not an issue. [laughs]

Kira Armstrong 18:08
Nooo. [laughs] Oh, no, I didn't really have a concern about performance validity with her. Vocabulary is a scaled score of 18. You certainly saw variability on memory testing, even on her medication, so it's not perfect. We have some below average - or was it low average? Oh, see, I read that other case before this one. So average to above average memory testing as well. But - that's what it was. She also demonstrated difficulties with sustained mental effort. One of the things that I love

about the CMS, despite how old it is, is we still have two stories. She did really well on the first story, she remembered 32 details. On the second story, she remembered 13 and then kindly told me, "Wow, I just zoned out for most of that one." [laughs] I knew exactly what was going on. So she couldn't necessarily sustain her mental effort, even when she knew she had to. Same thing with digits. So she did five digits forward, which was only a scaled score of 8 and four backwards, which is a scaled score of 9 because she realized, "Oh, shoot. I really better focus a little bit harder" and was able to do that. But inconsistencies across the profile.

The other thing that stands out in her profile, but what's consistent with her previous testing is some variability in academics. So math fluency is low average to just barely in the average range and spelling is a significant weakness for her. So a standard score of 77, indicating ongoing need for intervention in that setting. Some of that might be because she used to have some reading difficulties. Some of that might be because she has attentional difficulties and never really memorized or automatized the spelling rules but, regardless, that led to recommendations for intervention for her. And then her written output is a little bit - some errors of spelling and punctuation despite the fact she's been getting services in writing for many years.

John Bellone 20:15
Yeah. It sounds like she's very bright. Some inconsistencies across the testing, some inattention, perfectionistic tendency, but does have some difficulties with some of those academic skills.

Ryan Van Patten 20:29
Was she on Ritalin and Concerta when you tested her?

Kira Armstrong 20:33
She was on the Concerta when I tested her and the citalopram, but not the Ritalin because it's just the booster.

Ryan Van Patten 20:39
I see.

Kira Armstrong 20:40
Yeah.

Ryan Van Patten 20:41
John, any questions? Sorry, Kira.

Kira Armstrong 20:44
I was just going to say I also gave the MASC, which, interestingly, the father said everything was fine. All his T-scores are 57 or lower. He was also not totally on board with the diagnosis of ASD and he was giving me a lot of, "Well, yeah, but…", which was good because it gave me the opportunity to say, "Yeah, but..." right back to him and explained how it worked for her. But both she and her mother were endorsing anxiety that fit in with the rest of her profile.

John Bellone 21:16
Yeah, the MASC is the Multidimensional Anxiety Scale. You also had some teacher reports as well.

Kira Armstrong 21:24
Yeah. I typically use informal teacher reports. They're open ended. And I do that because I find them more useful for getting kids the services they need than something that's a bunch of checkboxes because we get really specific information about how kids are performing and where they're struggling. I kind of alluded to before [her] teachers think very highly of her. They do and are aware of her anxiety. She had been far more anxious the year before, or six months before, the school year before. That's when they put her on citalopram because she was really struggling with her sexual identity and her executive dysfunction which was heightened during remote instruction for COVID. Teachers were aware of that but this year's teachers weren't seeing that. They were seeing her as a well put together kid who was connecting well, and benefiting from her IEP, but a strong student.

Ryan Van Patten 22:25
That issue of remote instruction for children with ASD, even high functioning ASD, is interesting. We may think that, for kids with ASD, they prefer remote instruction where they aren't in so many social situations but, obviously, it's individualized. She preferred in-person school versus remote.

Kira Armstrong 22:47
She preferred in-person and the remote - every school was so different with this, right? But her school's support for organizational skills remotely didn't map on to

what she needed. I found other schools actually did an excellent job with that and so kids, whether they had ASD or not, were actually happier and more successful remotely. But, for her, she couldn't keep track of the demands because it relied a little bit more on her going to portals because her IEP services were a little bit different. And that's where she struggled to keep up.

John Bellone 23:25
Great. You want to give us a couple of your high level impressions, especially in relation to the IEP, and then a couple of recommendations as well?

Kira Armstrong 23:35
Sure. So I think one of the things that was really interesting about this case is walking through it with the family and seeing them really come to understand it more. So asking parents questions during the interview only for them to follow up with her and realize how much they were actually missing. So they thought that she could understand her parents' emotions. Mom brought up this example where “Yeah, she can tell when I'm upset because she asked me the other day. I'd clearly been crying and she asked me if I was okay." When what Joe said to me was, "No, I thought she had been exercising because she was wearing the hat she always wears when she's exercising. I was worried that she was short of breath." Right? So she actually had no clue what was going on and she was using contextual cues rather than facial cues to understand it. So even with them, what they knew and understood, going through the process helped to deepen their understanding of her strengths and weaknesses, which really was quite interesting.

The other thing is that there is some literature in the autism population that does suggest that there's a higher proportion of patients or individuals who also have transgender or sexual identity questions in mind, so she fits into that. That's important because I think that it's not unusual for parents of children with autism to assume that's part of them not understanding social pragmatics, [that] they're figuring themselves out that way, when really it may be that there's some genetic differences in their sexual identity as well and it's not because of their challenges in understanding their place. It's a subtle distinction, but an important distinction. So I think that was an interesting piece of this case, too.

From an intervention perspective, we gave a new diagnosis so the biggest recommendation is for the school to help develop programming to help with social pragmatics. Providing social pragmatic instruction for a student like her can be really challenging because often schools don't have peers that have the same

strengths as well as the weaknesses. So when I write my reports, I usually will emphasize that because what happens is students will reject the service if they feel like they don't belong with the other kids in the group. And of course, the instruction can't be at their level if they have to work to a lower common denominator. So I think that's the biggest piece for her, as well as the understanding she may end up needing instruction for inferential reasoning for reading comprehension and writing, especially when it starts talking about perspective taking or assuming what might happen next, or talking about experiences and generalities with some creative license. Some students with autism have a hard time, "Well, that's not really what happened. I can't write that", you know, and have struggled with that. So it's important for the team to understand that that could be an issue for her. I also recommended a social skills group. She was working with a therapist already and had been for some time, but social skill groups outside of school to help her with social pragmatics as well.

Ryan Van Patten 27:06

Great. Well, I just have one more question. You had mentioned that her dad was skeptical of the autism diagnosis initially and undoubtedly that happens to other clinicians as well. I'm wondering if you can give us some advice or recommendations for other trainees or clinicians who are listening who are in similar situations where a parent or the patient might be skeptical of a particular diagnosis, especially one loaded like ASD, and how you navigate that.

Kira Armstrong 27:36

So I work a little bit differently than most clinicians. I do my first appointment testing the kid and then I do a combined interview/feedback with the parents. Then I finish testing. So a little bit different. And the finishing testing is to get scores, but at that point, I usually have enough data. I say that because when I combine it with my interview it allows me to come across as though I'm still testing the water and still investigating even if I'm pretty darn sure where this diagnosis is. So what I do is I start summarizing symptoms that they report. I use Venn diagrams and so I'll put all the ADHD symptoms in the ADHD circle as unlabeled, and all of the anxiety [symptoms] in the anxiety [circle]. I, you know, talk about how they overlap. But the key is that I get them to confirm and acknowledge all the symptoms that we are talking about first, so we are all on the same page. The only thing that I'm doing that they haven't done yet is label those circles. So that when I get to the point of labeling the circles, it's a lot harder to protest.

Ryan Van Patten 28:59
[laughs]

Kira Armstrong 28:59
Because they've affirmed everything I've said all along. So it's pretty powerful. In fact, I once had one parent say to me, "Wow, you did that so well that I can't even object, can I?"

Ryan Van Patten 29:12
[laughs]

John Bellone 29:12
[laughs]

Kira Armstrong 29:12
And I go, "Right?" Because they feel heard. It's not like "Well, yeah, but..." because I've already listed all their "Yeah, buts..." They know I'm listening and hearing and now it's this label that explains all of that. That's a trick that I use.

Ryan Van Patten 29:31
That's a brilliant approach. Yeah.

John Bellone 29:33
I just wanted to also say, in your report, I know you gave some recommendations for resources and organizations like the AANE's website and the Autism Resource Network, so we'll include those in our show notes as well.

Kira Armstrong 29:48
AANE happens to be in the Boston area, but I was actually using their website when I was in Chicago and I just coincidentally moved here. It really is a good resource regardless of where people live.

John Bellone 30:00
Excellent.

Ryan Van Patten 30:01
Great. Well, I think we can wrap up that case.

Transition Music 30:08

Ryan Van Patten 30:08

Well, that does it for today's conversation. Be on the lookout for upcoming content on culturally informed neuropsychological evaluations with Daryl Fujii, neuropsych rehab after acquired brain injury with Dana Wong, polypharmacy in older adults with Mike Steinman and Matthew Growdon, working memory with Alan Baddeley, and additional clinical case presentations. As always, thanks so much for listening, and join us next time as we continue to navigate the brain and behavior.

Exit Music 30:40

John Bellone 31:04

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Ryan Van Patten 31:15

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