

Understanding Social Cognition in Autism | Diverse Intelligences

<https://www.youtube.com/watch?v=xZcLW64hNCs>

Video Transcript

The Templeton World Charity Foundation logo appears, followed by "Stories of Impact" and the Diverse Intelligences logo.

Caption Understanding Social Cognition in Autism

[peaceful piano music]

The word 'AUTISM' fades into view over a background of blurred lights. The video transitions to a close-up of Sue in her office, with the caption 'Dr. Sue Fletcher-Watson, Senior Research Fellow, University of Edinburgh.'

Sue It's very hard to define autism. Autism is a way of being in the world, it's a way of processing the things that come into your body - the lights, and the sounds, and so on.

[sounds of vehicles on the road, cicadas, a dog barking, plates clattering, a crowded restaurant, knocking on the door]

A montage of visuals appears, including blurred lights, hands touching fabric, hands gesturing, a close up of someone's eyes. The video transitions to a close-up of Catherine in her office, with the caption 'Dr. Catherine Crompton, Postdoctoral Researcher, Patrick Wild Centre, University of Edinburgh.'

Catherine Autism affects how you perceive other people and how you interact with other people, differences in how your brain plans and manages activities...

The montage continues, showing a silhouette of a person surrounded by blurred lights, someone's eyes scanning their surroundings, a man walking through a crowded city street.

Sue ...and organising that information and translating it into behaviour, and if that's different from the way it seems most people do it, that's really interesting.

A drone shot over Edinburgh plays and is covered by the words 'Two University of Edinburgh psychologists are conducting research that challenges widely-held opinions on social cognition in autism.'

Caption Two University of Edinburgh psychologists are conducting research that challenges widely-held opinions on social cognition in autism.

Catherine The study that we're running is to look at social intelligence in autism. We were interested to find out whether there are differences in how autistic people interact with other autistic people than to how they interact with non-autistic people.

The door to the room where the research was conducted is shown, with a sign reading 'Research Suite 1 – in use.' The camera moves through the open door to reveal Fiona, Sonny and George (all with the caption of Research Participant) sitting on sofas surrounding a coffee table and talking with Sue.

A close-up of George speaking is shown, intercut with a close-up of Fiona, who is listening.

George Autistic people spend an awful lot of time pretending to be not autistic, because we have to, to survive in society... trying to be like other people and behave the way they do, look the way they do so that people don't call us out on our weakness.

A close-up of Sonny speaking is shown.

Sonny “Oh no, is this person going to see that I'm really weird now? What are they expecting of me?” So doing a lot of, kind of, maybe simulating of what another person might expect, what you should say in that circumstance. It's quite tiring, to kind of, do the masking.

George [out of frame] Always second guessing.

Sonny Yeah.

George is shown speaking as the others listen.

George If I was my authentic autistic self, I'll be fidgeting, moving an awful lot more and it involves a lot less eye contact, because I find that quite painful. I don't know, it's hard not to resort to sort of terms like “acting normal.”

A black-and-white montage is shown of children blinking, fidgeting and playing with toys, alone or accompanied by doctors or parents.

Catherine It used to be that autism was this kind of very rare condition diagnosed in childhood that was kind of really related to slow language development, intellectual disabilities alongside that. As we've kind of progressed through the years, kind of also included those who have normal speech...

The black-and-white montage transitions to a montage in colour, first showing a drone shot of a residential area, followed by clips of children and young people playing or sitting with friends.

Sue ...through to people who have long term partners and friends and children and colleagues, and fantastic relationships but still might find that their interactions are atypical in various ways.

A close-up of Fiona speaking is shown.

Fiona On paper, my life is very successful, although behind that, you know, there were some difficulties, so I didn't know I was autistic till I was 42. So, I've had decades of working at just mirroring what people around me are doing. You know, when I have someone coming around, even for coffee, I have - not mild panic attacks, but I have to really deep breathe, think clearly, not worry, manage anxiety – I think anxiety's a key thing.

A baby playing with toys is shown in the background, while a diagram labelled 'The Autism Spectrum' appears in the foreground. The diagram consists of a bar with a rainbow colour gradient. The bar is divided into three segments, labelled "High Functioning" Autism, Autism, and "Severe" Autism.

Sue We use the phrase "the autism spectrum." Unfortunately, it's become used in a very linear way, so people talk about being "at one end of the spectrum" meaning people whose support needs seems to be very, very high versus people who seem to have less need for support. We really need to think of autism more as a constellation, and that's the term that we're trying to use now.

The 'Autism Spectrum' diagram disappears and is replaced with a picture of stars in the night sky, with the words 'Autism Constellation' over the picture.

[tense music]

Headlines from online news articles appear, titled 'The Rising Rate of Autism in Kids: Is there an autoimmune connection and can diet help?', 'Scientists fear MMR link to autism', 'U.S. autism rate up to 1 in 40 children, CDC says', 'The Real Reasons Autism Rates Are Up in the U.S.: A hard look at whether the rise comes from more awareness, better diagnosis – or something else.'

Voiceover There's been a 119 percent increase in autism since the year 2000, and experts still have no clue what's causing it.

More headlines appear, titled 'Is There Really an Autism Epidemic? A closer look at the statistics suggests something more than a simple rise in incidence', 'Autism: Epidemic or Explosion? (And Why It Matters): We have been here all along.'

Sue The umbrella that contains autism has got a lot bigger. That's probably one of the big drivers of what people think are increasing prevalence rates of autism, but are actually really increasing rates of diagnosis. Certainly, the word "epidemic" is not appropriate. "Epidemic" implies disease, so it plays into various false narratives about autism.

A clip from the show 60 Minutes is shown of people raising their hands in an audience followed by a close-up of three vials containing a dose of the MMR vaccine.

Voiceover There are thousands of parents who are all saying that the MMR is to blame for their children's autism.

A 2008 news clip from The Lead CNN is shown in which a woman (Jenny McCarthy) is sitting across from an interviewer. The text on the bottom of the screen reads 'Backlash over McCarthy's "View" on Vaccines. Critics slam decision to give her a national platform.'

Woman I believe vaccinations triggered Evan's autism.

A poster reading 'Let the parents call the shots' with a drawing of a needle is shown, followed by a group of protestors walking.

Protestors Parents call the shots! Parents call the shots!

Sue The false connection that's made between vaccines and autism, for example - these things have been really disproven in good quality epidemiological studies.

A news clip from CBSN is shown depicting a box of MMR vaccine doses, a vial of one MMR vaccine dose, and a pair of gloved hands placing a needle into the top of the vial. The text on the bottom of the screen reads 'Study: No link between measles vaccine and autism. In 2000, the measles was declared eliminated, but cases have been rising in recent years.'

Voiceover A new large study finds the measles mumps and rubella vaccine does *not* increase the risk of autism.

Caption Disease, Disorder, Disability or Difference?

[hopeful music]

An older woman, younger woman and young girl are shown looking into the camera. Over this image, some family pedigree charts are shown.

Sue We definitely know that autism is genetically mediated, but it's not heritable exactly, so it runs in families, but not in a predictable way.

Catherine I think we'd certainly not say that autism is a disease, at all. In terms of whether we're looking at it as a deficit or a disability, I think that's a very kind of central question to the research that we're doing.

The front cover of the Diagnostic and Statistical Manual of Mental Disorders, or DSM-5, is shown. The book is opened to the first page, which reads 'Autism Spectrum Disorder' with 'Disorder' underlined. The page lists diagnostic criteria for ASD.

Sue "Disorder" is still in the manuals, but I personally hope that we're probably going to move away from that. "Disability" and "difference", I would say yes, both.

Catherine I think it's important to understand that things can be a difference, but still have disabling aspects to them. People can have gastrointestinal issues, and you know, cognitive issues, mental health issues, alongside autism that are very disabling.

A close-up of Sonny speaking is shown.

Sonny Imagine if this is the way you are, but you've been told your whole life that it's a problem, and a disease, and it's wrong, and you're, you know, you're disordered in some way. That's not going to do anyone any good in terms of just actually being a happy person.

Close-ups of Sue, George, and Sonny are shown as they all listen to Fiona speak.

Fiona And none of this is about denying that autism isn't disabling for everyone at some time, so even those that appear the most “less severely” impacted, there are situations where the sensory or social or anxiety which - where you are sort of disabled, and these can vary in severity for different people.

Caption The Experiment

Sue places handfuls of raw spaghetti onto the coffee table in front of Fiona, Sonny, and George. Next to the spaghetti, there are two containers of play-doh.

Sue Okay, so we'll all just make towers. So I'm going to give you each a little handful of spaghetti.

A close-up of hands placing single raw spaghetti strands into balls of play-doh on the table is shown.

Sue We decided to focus in on information transfer, so the way in which people transmit information to each other. Eight people came in, and essentially you would teach the first person in the chain something, and they would demonstrate it to the next person in the chain, and so on, for eight people.

A diagram appears, titled 'Task Chains', which depicts the three types of chains involved in the experiment. The first chain is called '1. Autistic Group', and is represented by eight triangles in a row, with arrows pointing from each triangle to the next one in the chain. The second chain is called '2. Non-Autistic Group', and is represented by eight squares in a row, with arrows pointing from each square to the next one in the chain. The third chain is called '3. Mixed Group', and is represented by eight alternating squares and triangles, with arrows pointing from each shape to the next one in the chain.

Catherine So we've had groups of people who are autistic, we've had groups of people who are non-autistic, and we've had groups of people that have had both autistic and non-autistic people in them, and in those chains we've alternated between a non-autistic person and an autistic person in the chain. One of the inclusion criteria that we had was that people who were participating had to have an IQ of more than 70. The reason that we did that is because this is a very new, very experimental piece of research, and we wanted to minimise the amount of noise in the data.

Close-ups of Sonny and George connecting raw spaghetti strands with play-doh in order to build their towers are shown.

Sue We ran three different tasks down these chains. One of them was building a tower out of spaghetti and play-doh, and actually what we're looking there is for the towers to get better and better, because the first person is kind of experimenting. Ideally the second person would learn a little bit from what they've observed and so they start at a slightly higher level, and so on, and so on.

More close-ups of the spaghetti tower task are shown. Sonny and George are helping each other to hold up unstable spaghetti strands. A close-up of Sonny is shown, who is smiling. Bullet points reading 'Information Transfer', 'Rapport Measures' and 'Outside Evaluators' appear over the footage.

Catherine So we're looking at it from kind of an objective, scientific, data-driven way in the information transfer, from a personal experience way in the rapport measures, and then also, how it looks to an outsider, both kind of a naive outsider and a psychologist.

Caption The Findings

Sue What we found was that an information transfer between autistic people is just as effective as information transfer between non-autistic people.

The page of diagnostic criteria for Autism Spectrum Disorder reappears, where the phrases 'deficits in social communication and social interaction', 'deficits in social-emotional reciprocity', 'deficits in nonverbal communicative behaviours used for social interaction', and 'deficits in developing, maintaining, and understanding relationships' are highlighted.

Catherine Now traditionally, the clinical diagnosis has been, and still is, that autism is - at its core - something that causes real deficits in communication with other people and social interaction. What we've found is that autistic people have just as good interactions with other autistic people as non-autistic people do.

More clips of Fiona, Sonny, and George doing the spaghetti tower task are shown. A close-up of Fiona is shown speaking.

Fiona I mean I think I did the task quite well and it did bring out my competitive spirit and that's what we were talking about [laughs] is who did make the tallest spaghetti tower?

Sonny [building a spaghetti tower] Can someone take this?

The diagram of the 'Task Chains' reappears, and the 'Mixed Group' is zoomed in on. A square labelled 'Non-Autistic' and a triangle labelled 'Autistic' are shown, with an arrow pointing from the square to the triangle. The text on the bottom of the screen reads 'Drop in rapport and data transfer.'

Catherine When we have autistic and non-autistic people together, we see this drop in scores, this drop in rapport, this drop in data transfer.

Two squares labelled 'Non-autistic (neurotypical)' appear under the words 'Non-autistic group' with an arrow pointing from the left square to the right square. The text on the bottom of the screen reads 'High rapport.' Next, two triangles labelled 'Autistic' appear under the words 'Autistic group' with an arrow pointing from the left triangle to the right triangle. The text on the bottom of the screen reads 'High rapport.' Next, one square labelled 'Non-autistic (neurotypical)' and one triangle labelled 'Autistic' appear under the words 'Mixed group' with an arrow pointing from the square to the triangle. The text on the bottom of the screen reads 'Lower rapport.'

Sue So two neurotypical people will experience relatively high rapport, two autistic people will experience relatively high rapport, and a pair of autistic and neurotypical people will have a little bit lower.

More clips of Fiona, Sonny, and George doing the spaghetti task are shown. The towers are getting taller and taller. Sue sits with them, watching the towers get built. Sonny lets go of one tower, which starts to fall to the side, and everyone laughs.

Catherine We found from kind of multiple lines of evidence in our research that it works well, that there is something that supports these interactions with other autistic people that makes them successful and enjoyable, it makes information transfer more accurate. That goes against this idea of a universal deficit in social cognition in autism.

[group laughter]

Caption Neurodiversity

Drawings of brains appear on the screen, along with the word 'Neurodiversity' in the middle of an infinity sign. This transitions to a split screen showing close-ups of two faces, first of an Asian man and a black woman smiling, and then of a white woman and a black man smiling.

Sue I'm really engaged with a kind of concept called "neurodiversity", which is essentially about differences in how our brains work are a natural part of variation, just like ethnic differences or gender differences.

A montage of different scenes plays. First, two girls are shown swinging in a garden, then a father is shown pushing his son in a shopping cart at the supermarket, then a child feeling the brim of their straw hat.

This transitions to a Venn diagram consisting of three circles labelled ADHD, Autism, and Tourette's, over a cartoon of a brain in the background. Each circle partly overlaps with the other two.

Catherine Just because there is a majority of people who perceive the world in one way, it doesn't mean that people with different kind of neuro-divergences are wrong or impaired in the way that they perceive it, and so that would cover things within the neurodevelopmental family such as autism and ADHD and Tourette's.

Fiona is shown speaking and the others are shown listening. There is a close-up of Sonny's hands holding a small animal figurine made out of play-doh.

Fiona To me there's a very big sort of culture, a societal shift, that needs to happen and that is one of we need to be more accepting of people who are different. So, judging and putting hierarchies according to how someone moves and how normal or typical they are - it's very narrow, it's not healthy and I think by trying to get society to be more accepting of people who are different.

A montage is shown depicting a crowded intersection in a big city, a drone shot over a network of motorways, a sped-up clip of baristas and customers in a coffee shop, two people shaking hands, and people sitting around a table in a meeting.

Catherine Yeah, so autistic people have said things like, "You know, when I got my diagnosis and I met other autistic people, I felt much more comfortable, I felt much more confident in speaking to them, and I really felt like I'd found my tribe. They say, "I'm forced to live in this world that is run by non-autistic people, I'm forced to learn how they interact and forced to behave in a way that will suit them, and they don't actually understand me."

A montage shows a group of girls dressed in PE kits handing footballs to each other, a group of people smiling with a poster reading 'Autism Social and Support Network: serving the needs of autistic individuals in the community', two young girls in school uniform hugging each other, two young men sitting next to each other with the logo of the National Autistic Society, a group of people from the Autistic Self Advocacy Network (ASAN) holding posters reading 'Autistic people are speaking. Why aren't you listening?', 'Keep \$\$\$ for autism local. Do not fund Autism Speaks', 'ASAN: Autistic self-advocacy network', 'Nothing about us without us', 'You are perfect the way you are!' and 'Civil rights, not a cure', and a group of people smiling and wearing shirts that say '#GameOn.'

This transitions to clips of schools, children and teachers in classrooms.

Sue Increasingly now, autistic people are setting up their own support networks and groups - after-school clubs, buddy systems that kind of thing. We don't want to put all the autistic people in a kind of ghetto and fence them off from the neurotypical community, but I think we do want to create opportunities for autistic people to be together on their own terms. There are some really clear practical recommendations that we can make, so for example, if you're going to have a lot of autistic kids in a school, you should be thinking about employing some autistic teachers.

George and Sue are shown sitting on the sofa together.

George There are so many autistic adults out there dying to share all this knowledge. Why aren't we getting them in schools? Why aren't we sort of, you know, getting the parents to interact with us?

A close-up of Sonny is shown speaking as the others listen.

Sonny People are scared of difference, and the majority are used to being able to predict the people around them, but when it comes to somebody with a neurological difference, people go, "Wait. I can't predict this person, therefore I'm scared." And it's reasonable to be scared and not be able to predict things, 'cause you don't really know what someone's going to do, but the problem when it comes to, say, the autistic population, for example, is that people start othering us. They start going, "Oh, well, this unpredictability must mean threat. This unpredictability must mean that they don't have any empathy." No! Our motivations are completely understandable, and not that complicated, if you only listened to us. We might do things slightly differently, but the motivations make complete sense if you view them in a non-neurotypical context.

The page of diagnostic criteria for Autism Spectrum Disorder reappears, where the phrases 'deficits in social communication and social interaction', 'deficits in social-emotional reciprocity', 'deficits in nonverbal communicative behaviours used for social interaction', and 'deficits in developing, maintaining, and understanding relationships' are highlighted.

Catherine I think there are some people who still kind of subscribe to the school of thought that in autism there's a universal deficit in social cognition.

Clips of Fiona, Sonny, and George building the spaghetti towers are shown. The camera pans from a poster reading 'The Patrick Wild Centre for Research into Autism, Fragile X Syndrome and Intellectual Disabilities' through Sue's open office door, where you can see her standing at her desk and typing something on the computer.

Sue The fact that we did our study with autistic adults who are, you know, articulate, independent, well-educated people - there will definitely be people in the autism community who feel that our results have limited relevance to, say, their child who needs a lot of support and wouldn't be independently participating in a study like this, and so we do need to develop our work to test whether we see the same patterns in that part of the community and to make it relevant to those families.

Catherine The main reason that we don't view autism as a disease is that we're not looking to cure it. We just want to kind of understand more about autistic people's lives and how we can improve them.

A close-up of Fiona is shown speaking as the others listen.

Fiona We're nowhere near being able to rewire someone's brain, and if you were to rewire someone's brain, well, they wouldn't be them anymore, because, you know, autism is a very implicit part of who someone is. It's not just about a bit of them that you can cure, because it's not a disease, it's not cancer, it's not a little element - it's an implicit part of who someone is.

A phrenology bust is shown, with Catherine typing at her computer in the background, followed by close-ups of Catherine and her keyboard.

Catherine We need to rethink what we mean by social deficits in autism, because we have found that it is a selective deficit that occurs when interacting with non-autistic people, and that's a really important finding that goes, you know, against some of the existing literature.

More clips of Fiona, Sonny, George and Sue building the spaghetti towers are shown. They are helping each other hold up the towers.

Sue We celebrate difference because it enriches our lives. Diverse groups of people create more creative solutions and have more fun together.

A close-up of George is shown speaking as the others listen, as well as everyone building the spaghetti towers.

George I think I'd like to see more autistic people being sort of very openly autistic in public, and I think that's gradually going to filter out into society, to the point where people have more of a clue, and they're more able to kind of go, "Oh, okay, that person's autistic." I'd like to see it be a bit like, you know, people being gay, and it's not really an issue these days, in, you know, this part of the world at least, and it's just - it's about acceptance, and - but I think people need to meet autistic people for that to happen. I think we need lots of autistic role models.

Sue [out of frame] Oh, no! I broke the spaghetti!

The Diverse Intelligences logo appears, followed by the Templeton World Charity Foundation and the link, templetonworldcharity.org. Credits are given to the University of Edinburgh, CBSN, CNBC, CNN, 60 Minutes Australia, ITV: Girls with Autism, and Real Stories. The last text reads, 'to learn more about this study, visit: dart.ed.ac.uk.'