Science AMA Series: Hi reddit, I'm Dr Ashok Jansari, a neuropsychologist at Goldsmiths, University of London. I research individuals with face-blindness and so called 'super recognisers', who have an almost superhuman ability to recognise faces. AMA!

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Abstract

Hi reddit! I first became interested in facial recognition when one of my patients mistook me for George Michael, of Wham fame. While somewhat flattering and very funny, it also provided an insight into how people with acquired brain injury can struggle to recognise faces. This condition, known as 'prosopagnosia' or face-blindness, can prevent otherwise healthy people from recognising the faces of famous people, friends, loved ones, and even themselves. It can either be 'acquired' through brain damage or can be a developmental condition that someone has had all their lives. A famous case of the former is 'The man who mistook his wife for a hat' documented by Oliver Sacks. Interestingly Oliver Sacks himself then found out that he probably had the developmental variant of the condition! My research into both developmental and acquired prosopagnosia helps us to understand how face-processing works in healthy people. More recently, I've been collaborating on a project to identify so-called 'super-recognisers' – people on the opposite end of the facial recognition spectrum. Super-recognisers exhibit near super-human facial recognition abilities and can often remember faces that they have only seen fleetingly years before or schoolmates that they haven't seen since childhood with relative ease. Through this work, I am collaborating with London's Metropolitan Police using super-recognisers in the force to track down criminals from the most indistinct CCTV images - indeed, the Met are the first police force in the world to use super-recognisers to fight crime! Take the test and find out if you could be a 'super recogniser'. If you get over 85% you could be at the top end of the facial recognition spectrum. I will be back at 2:30 BST (9:30 am ET)to answer your questions, Ask Me Anything! Here's proof I'm here. I'll be answering your questions shortly! OK FOLKS, I'M GOING TO CALL IT A DAY. THANKS SO MUCH FOR TAKING PART IN THIS DISCUSSION. And thanks for all of those who did the test - you really contributed to science because your results will be part of my database which adds to our knowledge. I will reply to everyone who has emailed me but that might take a couple of days. I will look at this thread again and see if there are questions I can answer. Hope you found this useful and thanks again :-)

the WINNOWER

REDDIT

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DR_ASHOK_JANSARI R/SCIENCE

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CORRESPONDENCE:

DATE RECEIVED:
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How old are people usually when they are diagnosed with face blindness? Is it apparent in the very young? Thank you for doing this AMA.

paralacausa

That's an interesting question. In fact, there is no specific age of diagnosis - so for example, I have worked with some people who have had very successful jobs who only realised they had

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developmental face-blindness in their 40s, 50s and sometimes later. They may always have thought they had a problem but until they hear that it is a specific condition, they may put it down to something else. Also, often, people might have an intuition that they are not 'great' at recognising their friends or family and just become good at things like recognising people by their voices, clothing, hairstyle, etc.. So basically the condition can be 'masked' until someone hears of the term 'face-blindness' - so this is why I am very passionate about doing public engagement like this to spread awareness.

Is it possible to improve your "face vision" or are people mostly set for life?

Cristaly

Yes, generally it is possible to improve face recognition by looking at internal features of faces - too many people rely on what we call 'variant properties' that change such as facial hair, glasses, hair styles, etc. - these change so much that if you rely on them you will find it difficult. But concentrating on the 'invariant properties' such as the eyes, the distance from the nose, etc., you are more likely to remember faces since these properties don't change.

Are super recognisers able to analyse pictures of very young children who are now adults and accurately match them up?

agpc

In fact, we have developed a test EXACTLY to look at this - and if you are interested in taking the test, send me an email to a.jansari@gold.ac.uk and I will send you a link to do the test.....

I have difficulty recognizing casual acquaintances when they are out of the context I know or are used to seeing them in. If I see them in a suit, and I'm used to seeing them in jeans, I sometimes take a bit (usually when I hear their voice or see them move) before I recognize them. I also have a horrible sense of direction and a poor ability to visualize or remember numbers (I'll scramble 284 as 248). Are all of these symptoms related?
I have an awesome verbal/oral memory and a fairly well developed abstract/analogy memory and perception.

EnIdiot

If you see my response to u/paralacausa you will see that people with face-blindness tend to use methods to recognise someone that aren't the standard main ones that everyone else uses - so they might rely on hair styles, facial hair, clothing, voice and even walking gait. This is why you would have more difficulty recognising someone out of context and in different clothing because you have become accustomed to using clothing as a way to recognise people - this is quite common for people with face-blindness.

if you got a low score and think you might have prosopagnosia.

1. What would count as a "low" score on the test? Or low enough to have a good chance of having prosopagnosia? Under 50? What's an average score on that through random guessing?

2. Is there a reason every face on the test is that of a white dude? (Though I think there was like, one lone latino guy.) Does that affect how other races who are more familiar with their own race score on the test? Is there any significant variation in average recognition abilities in white people vs non-

white people? How do you think they would score on a test of all black women, or all asian dudes?

BUTTHOLESPELUNKER

A score of 50 would be very low - I think anything that is 60 or below is a low score. The more data we get, the more representative it is which allows us to get better diagnostic criteria. If you were particularly interested, then email me at a.jansari@gold.ac.uk and I can work out our latest cut-off score.

Good point about all the faces being white - there is in fact, something known as an Own Race Effect whereby people are GENERALLY better at recognizing people from their own race than those from other races. We are actually doing research on this issue in my group. However, for the test that you have done, we wanted to keep it simpler with just the white faces. And guess what? Those faces aren't real - they are all computer generated!

Are "super recognisers" better than existing facial recognition technologies? What can such technologies learn from these individuals in order to better automate processes like looking at CCTV images for hours?

firedrops

Good question. During the London riots of 2011, there were 5000 people that the Metropolitan Police were looking for and the ONLY evidence they had was CCTV. They published stills from these videos on their internal system and asked their officers to have a look at the faces (separated by region of crime) to see if they recognised any from their particular area of work. Doing this, 4000 of the individuals were identified which in itself was amazing since it was the first time that CCTV had been used as a forensic tool. More interestingly, the average police officer recognised between 2 and 3 suspects while VERY EXPENSIVE facial recognition software that the police force had invested in recognised just ONE of the 5000 suspects - showing that AVERAGE officer in the Metropolitan Police is better than very expensive facial recognition software ;-) But this is also how they found the super-recognizers because some of the officers were recognizing dozens of people. And one of them (who I do research on now) recognised 183 people!!!!!!!

This shows us that the human brain is exceptional this ability and unless we use biometric data such as iris shape and pupil dilation that some very sophisticated security systems use, generally face-recognition software is rather poor..... The human brain rocks :-)

Are there similarities between super-recognizes and people with face-blindness?

jonhasglasses

Interesting question - rather than similarities, we would look at differences but basically they would be along the same dimension. So for example, if you see my answer to the question by u/__Viper__ about patterns, you will see that we think that super-recognizers might be particularly good at 'holistic' or 'configural processing'. This is actually because a couple of decades of work has shown us that people with face-blindess are particularly POOR at this. So basically, at a number of different levels, we think that these two groups lie at opposite ends of a spectrum with everyone else sitting in between. Also, given that people with face-blindness probably have weaknesses physically in an area called the 'fusiform gyrus', that is where we are looking to see if the supers are particularly well developed here.

I consider myself quite good at recognizing faces. But I can't always remember their names. Is this different than being a "super recogniser" ?

furism

Very good question! Names and faces are TOTALLY unrelated. A name is just a verbal label that we attach to a visual object. If we think about a receptacle for drinking water out of, in English, we call it a 'glass' whereas in Italian they call it a 'bicchiere' - same object but different random verbal labels. Similarly, with human faces, the name is just a verbal label that we attach to it. I'm actually an identical twin so there are two versions of me, one called Ashok and another called Ajit - verbal labels for two virtually identical physical entities :-) So face memory and name memory are not one and the same thing.

http://imgur.com/cFxyhRX

Just got 85%!

Question: How rare is the ability to be a super recogniser? I've always prided myself on being able to remember faces but I wasn't aware there was an actual term for it

Duality_NA

At the moment we think it might be between 1 and 2 per cent of the population - we are trying to test as many people as possible across the spectrum to see what reliable statistics we have.

Thanks for doing an AMA. I was wondering about the impact of sleep or lack thereof on facial recognition.

I can't remember faces for the life of me. I worked in a restaurant for a few months and had to look up names on the schedule every day to recognize who I was working. I'm not bad with names.

I've dated women and been seriously concerned that I might lose them in a crowed area because despite spending most of my time with them I don't trust myself to ID her face.

I also smoke a lot of weed and wonder if that has an impact?

edit: for clarification, I work a graveyard shift and have for the last five years. I can definitely feel the strain on my brain from a weird sleep schedule.

BaseAttackBonus

Eek, I've never heard of a connection between sleep and face memory ability. There is certainly work that has shown that sleep is incredibly important for a process known as 'consolidation' which is effectively the 'fixing' of experiences that you have had during the day into some sort of longer lasting memory that you will have access to the following day. If sleep is disrupted, this can affect verbal memory (for remembering verbal information that you have been exposed to) - however, I don't think anyone has done this for sleep.

As for the weed question, not a clue I'm afraid - interesting research question if we could get ethical approval to run such a study!!!!

I have a friend who might be a super-recogniser. I encouraged her to take the test! Is it a recruitment tool? Like, would the London police offer her a job if she was one? Like Professor X recruits mutants?

The only problem is that she lives in Toronto. It's funny because her recognizing random people she met years ago at a party is her superpower, but we joke that it is totally useless.

Sullyville

Well I think that EVENTUALLY in some professions it could become a recruitment tool but it's rather early for that to happen. But certainly, in the work that I'm helping with with London's Metropolitan Police (which is the first work in the world to use super-recognizers), if someone is shown to be a super-recognizer, they are being strategically deployed.

redditWinnower

Is this something that I can then cite?

This is so weird, I never thought this was a thing. I've always known that I am extremely gifted with recognizing faces. Even if years go by and the person has aged significantly, I can still recognize a persons face and pinpoint to where I knew/saw them. Friends and family have even recognized this about me and they call it my useless superpower, because it very much is useless and even embarrassing sometimes. I can't tell you how many times, where I'll talk to someone and be like "Hey [name], we briefly met 10 years ago while you were out on a morning jog". 9/10 times I'm met with the *creeped out face*.

Wow... so this is a thing. What do people with this ability typically do for work?

FlandersFlannigan

This is SUCH a new research area that we are only just beginning to map it. So at the moment, there aren't any particular careers that are linked. But the work that I'm involved in with the Metropolitan Police in London IS using the super-recognizers in specific situations where recognizing known suspects are thought to be present. Eventually, I can imagine that in security situations where you need to have at least average to good face-recognition, the tests might become more prevalent - ulimately, if you were going to hire a chef, you would want to know that the person can cook so if you are going to hire a security person who needs to keep some people out, you would want to make sure that they can recognise faces well.....

First of thank you for doing this! I'm an aspiring clinical neuropsychologist. This is fascinating to me.

I'm curious about what kind of incidents or circumstances you've seen induce or bring on a facial recognition issue. Obviously concussion and contusion make sense, but what else?

kngsbstn

You are most welcome! An interesting question :-) The patients have I have worked with have had a variety of 'eitiologies' (biological causes) including viral encephalitis, brain haemorrhage and stroke caused actually by cardiac problems. So quite varied - however, the damage needs to be quite specific

in a particular part of the right hemisphere.

I should add here that there are two forms of face-blindness: - Acquired Prosopagnosia where the person was perfectly OK at recognising faces and then due to some form of brain injury, they have now 'acquired' the condition and now can't recognise ONCE FAMILIAR faces. - Developmental Prosopagnosia where the person has always had the condition and up til now, we have not been able to see any brain damage that could have caused the problem.

Are there any tests for face-blindness? I have a very hard time distinguishing and remembering faces. It would be interesting if there was a scale ranging from face-blindness to super-recognizers, if it was 1-100 I think I'd rate about 35.

goldilocks22

Yes, there are some tests but there is no ONE definitive test. If you take my test (see the link in the intro), I can compare you to the people who are already on our database.

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This is what we are trying to develop - there is no ONE test for face-blindness but the one that is above in my Intro is my attempt to create one. This test is for BOTH face-blindess and super-recognition. So please do try it out if you think you have a problem with recognising faces.

Were you able to find some sort of pattern between the super recognisers that indicates how these people have gained such an ability?

__Viper__

The work on super-recognition is EXTREMELY new in research terms - the first paper was published in 2009 which in research terms is barely an eyeblink! So we are still mapping the 'ability' to try to work things out. But we think that these people are particularly good at what we call 'configural' or 'holistic' processing which is 'seeing the whole' - generally, for most objects, we use a piecemeal analysis called 'featural processing' where we add up the visual jigsaw. So for example, a chair is actually a flat part with four protruding bits going vertically underneath it and then another vertical bit at the back coming upwards from the back of the flat bit - we add all this information together to 'work out' that it's a chair that we are looking at. However, for human faces we don't think that we do this - instead we see the whole. We still don't understand how this process works but we are pretty sure that the human brain treats the human face as a 'special object' using this special form of processing - it probably evolved as a survival thing because of the importance of faces as we became social creatures. Given that we think that this form of processing is special for faces, we are pretty sure that it is this form of processing that is PARTICULARLY strong in super-recognizers.

Long test. I got 93/114, but my ADHD kicked in towards the end of the test.

What can you say about the comorbidities (i hope I am using it right) of the prosopagnosic and the super-reckognizers?

ilrasso

Interesting question but at the moment, we don't know anything about the co-morbidities I'm afraid. Worth looking into though....

If the ability to recognize faces is unique to certain animal species, does the presence of this ability correspond with the amount of social interaction the species performs?

TBone_Filthy_McNasty

Good question. I don't know the work on other species but at the end of the day, there will be a species-specific specialisation. Ultimately, for humans, the human face has become a 'special object' that we are particularly interested in - therefore we effectively become experts at recognising this object compared to chairs for example. But we know that people who develop specific expertise with other classes of objects demonstraet some of the specific effects that we find with human faces - so for example, some dog breeders perform on recognition of individual dog faces similarly to the way we perform on recognition of human faces.

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What are some of the "symptoms", for lack of a better word, of being a "Super Recognizer" that you've been able to ID?

Maybe Im reading too much into it but I may be/have that. Ive been able to, for a long time, recognize people I havent seen in years (such as school mates like you stated in your post) or recognize say, an actor who was a background/one off character in a film I saw a long time ago and be able to point them out in another film where they are also a background/side character.

Im sure other people can do this as well but I figured Id never get another chance to ask about this!

Thank you!

Nixplosion

You are 'full of symptoms'! Yes, those are basically the things that people tell us - that they recognise people that they only knew as kids, that an actor who has a bit part in the background of a scene is recognised, that they meet someone very very fleetingly and then remember them totally out of context a few years later. So you sound like a super :-) Have you done my test yet?

This is really interesting.

Of course super-recognition sounds like a super power, but I imagine it's not that simple.

Have you learned something about the negative effects super-recognisers could experience due to their way of perceiving other people?

Of psychological or social nature, that maybe even affects their day-to-day lives in some way?

bavarian_creme

Interesting question - in some areas of research where people have an 'ability' that others don't have, we look to see if this comes at the 'cost' of something else. So for example, I used to work in the field of synaesthesia (multi-sensory perception) in which people might see words in colour or taste days of the week, etc.. Research started to show that while these people had enhanced skills in SOME areas, they might have been weaker in others. Since super-recognition is at a very early stage of research, it is difficult to comment whether there are any weaknesses associated with the ability at the moment.

Hi Dr. Jansari. My wife claims i have this or maybe some form of it. I would like to lay out a few scenarios and if you could comment on any of them i would greatly appreciate it.

1. I am a fairly smart guy with a good general memory and I recognize my friends and family but my wife showed me a picture of our son (who is now 17 months old). The picture was from 16 months side by side with the picture from 5 months. I recognized the pic from 16 but not the one from 5 months. To her it is plainly obvious that the 5 month old baby pic looks just like the 16 month pic.
2. Also if you showed me 50 different pics of matt damon and 50 different pics of marky mark. I would likely get a greater than 50% of them wrong as to who is who (they look the same to me or close enough).
3. If my wife (known/been with for 15 years) / daughter (13 years old), or anyone really has been away from me for a week (or even less time) i cannot paint a picture of them in my head but i dont have any problem recognizing them when i pick them up from the airport.

Are any of these forms of face blindness and is this something that needs to be checked out i.e. leads to other things later in life? I did whack my head a few times growing up, never had checks for concussions. Could this be why i have a hard time remembering anyones name unless i hang out with them for at least a week straight daily?

blueskydiver76

Hello blueskydiver,

Very interesting post. It DOES sound like you may have some form of face-blindness because each of the things that you point you are effectively symptoms that we associate with developmental face-blindness. Have you done my test yet to see how you fare? We have a number of other tests beside the one in the Intro to try to find the locus of the problem.

At the moment, we have no reason to believe that face blindness is related to any other health problems so please don't worry.

If you have any other questions, feel free to email me directly toa.jansari@gold.ac.uk

What's one of the most incredible things you've come across while doing all this?

TiddlyWalnut

hmmmm, I worked with a patient who confabulated who had memories that never existed such as being the commander of the space shuttle even though he was a postman. He talked to me about alien abductions that had happened to him and I was trying to work out a cognitive explanation for why he had these bizarre memories.

another quite fascinating thing is called 'alien hand sign' where a person has no control over one of their arms as if an alien has taken it over....

Hi,

When I was studying Psychology in college (have a BA), I conducted a mock experiment on the relationship between the frontal lobe, occipital lobe, and fuciform face area in experts and non experts. My hypothesis was that the fuciform face area would activate in high-level experts when working in their area of expertise (Ex. Chess master observing a chess game). Have you conducted any research relating to the function of this tiny brain area in experts, rather than its function to facial recognition? If so, I'd love to hear your thoughts and results.

vanderjud

lovely question - I've heard of work that has shown that the fusiform gyrus is activated in people who are very good at chess - this implies that the cognitive abilities used in face recognition (seeing the whole rather than the parts) is common to chess where it is not where each individual piece is, but their relationships. however, I have not done any research on the area myself - yet....

Does face blindness affect a patient's ability to recognize his or her reflection?

burncenter

generally yes - my patient with acquired prosopagnosia could not recognise his own face