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## Children with autism have distinctive patterns of brain activity

Researchers say they have identified a unique 'signature' of autism in the brains of children with the condition

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Alok Jha, science correspondent

[guardian.co.uk](http://guardian.co.uk), Monday 15 November 2010 20.00 GMT

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Children with autism had reduced activity in specific brain regions. Photograph: Corbis

The pattern of brain activity in children with autism spectrum disorder (ASD) is markedly different from that of children without the condition, according to a new brain-imaging study.

The work, which shows that ASD has a "signature" in the brain, may lead to a better understanding of which parts of the brain the condition interferes with and how some people, despite having a high genetic risk of developing the condition, manage to compensate for its effects.

ASD is a genetically influenced condition that affects the development of children's brains, with symptoms that include difficulties with social communication, interaction and imagination.

Hundreds of genes may contribute to the condition and scientists believe that individual cases of ASD could correspond to different patterns of genetic variation, which could lead to measurable differences in the way that the brains of autistic children function.

Dr Martha Kaiser and Professor Kevin Pelphrey of Yale University led a team of researchers that explored this idea by studying how children's brains responded to videos of people moving around them.

"As intrinsically social creatures, humans typically exhibit robust visual sensitivity to other people's movements," they write today in the journal Proceedings of the National Academy of Sciences.

"This is well illustrated by the discovery that point-light displays (ie videos created by placing lights on the major joints of a person and filming them moving in the dark), although relatively impoverished stimuli, contain sufficient information to identify the kind of motion being produced (eg walking, dancing, reaching) as well as the identity of the agent."

Previous research found that two-year-olds with autism did not turn to face point-light displays of "biological motion".

In their study, Kaiser and Pelphrey placed 62 children aged from 4 to 17 years old into functional magnetic resonance imaging (fMRI) scanners and monitored their brain activity as they watched a point-light display of biological motion and another of scrambled dots.

In the group, 25 children had ASD, 20 were the siblings of children with ASD but did not display any symptoms themselves, and the remainder were "typically developing" children.

The researchers identified three signatures of brain activity that corresponded to the different children's responses to the point-light displays.

Relative to the other groups, there was reduced activity in specific brain regions in children with ASD when they were watching biological motion compared with scrambled motion.

These included the right amygdala and the ventromedial prefrontal cortex, areas which other research has identified as having changed activity in adults with ASD.

The researchers found additional brain regions that showed reduced activity in both the siblings group and the ASD group, relative to the typically developing group.

They interpreted this result as a reflection of the underlying genetic vulnerability that the siblings group might have to ASD.

The scientists also found what they called "compensatory activity" in the siblings group – brain regions that were working harder than normal and might be helping the children overcome their increased genetic risk of ASD.

These included the right posterior temporal sulcus and the ventromedial prefrontal cortex, which have been implicated in social perception and social cognition.

"These regions might reflect the absence of additional genetic or environmental factors that confer risk for ASD," the researchers wrote.

"Alternatively, they could represent a process through which brain function was altered over development to compensate for an increased genetic risk to develop ASD."

Dorothy Bishop, a professor of developmental neuropsychology at Oxford University, said: "This is a potentially interesting study that looks for brain markers of underlying abnormality in children with autism in response to viewing dot patterns that indicate biological motion."

But she added: "More controversially, the authors also propose that other brain regions are under-responsive to biological motion in siblings of children with autism, as well as in those with autism.

"Yet other regions are reported to be overactive in the siblings, and this is interpreted as compensatory activity.

"Since these siblings had no subclinical symptoms of autism, and were selected to have no other relatives with any autistic features, they are unlikely to constitute a group with strong genetic risk for autism, and so this aspect of the results is puzzling and it would be important to replicate it in another sample."

The researchers themselves admitted that further studies would be needed to determine the precise functions of the "compensatory" brain activity that they had identified.

But if confirmed, they said, these could "represent important targets for treatments and provide a measure of the effectiveness of intervention, as well as a better understanding of the mechanisms through which successful treatments function".

## Comments in chronological order (Total 36 comments)

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 Staff

 Contributor



**AxisofEvil**

16 November 2010 2:26AM

In their study, Kaiser and Pelphrey placed **62** children aged from 4 to 17 years old into functional magnetic resonance imaging (fMRI) scanners and monitored their brain activity as they watched a point-light display of biological motion and another of scrambled dots.

In the group, 25 children had ASD, 20 were the siblings of children with ASD but did not display any symptoms themselves, and the remainder were "typically developing" children.

So is that statistically significant?

Will this be in next weeks Bad Science?

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**TobySaunders**

16 November 2010 2:32AM

Some pot strains have positive effects treating autism.

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**Molly001**

16 November 2010 7:43AM

@ AxisofEvil

So is that statistically significant?

It could well be. Do you know anything about statistics?

Suppose that the scientists had flipped one coin 25 times and it came up heads 25 times (children with ASD) , and flipped another coin 17 times and it came up tails 17 times (children without ASD).

Would you argue that the scientists needed to flip each coin the number of times in an opinion poll (typically >1200) to show statistical significance in the distribution of the flips?

There might or might not be "bad science" in the generalisations from the study, but there isn't any information in this puff piece to suggest anything about lack of statistical significance.

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**sparclear**

16 November 2010 9:49AM

Bewildering language in the article for any parent trying to research. Brain diagrams and decoding before it could help them at all.

Furthermore it seems to me that there are many kinds of autistic disorders, and they have varying impacts on families.

Adjusting to having children in this range requires support on an individual basis, although more is known nowadays (than 50 years ago, when my relevant siblings were born) about how parents can help both themselves and their child. Offering these children unconditional love is unusually challenging, as all humans are programmed to feel rewarded and proud when they see their child respond lovingly in turn. The research would be more helpful if it explored this aspect, I felt, because being lovingly parented can make someone's unique talents develop into a future ABILITY which will be valuable lifelong.

If the diagnosis can open doors at playgroups and schools to give teachers a way of encouraging the growing brain, the child gets the best chance of coping socially, too. Expending research energy on brain scan evidence seems crude and I hope it won't lead to little children having to undergo frightening investigations or suggestions that psychotropic medicine is a necessary 'fix'.

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**pseudosp1n**

16 November 2010 9:53AM

Here's a question. Do you ever see identical twins where one is autistic and one isn't? It seems to me this is the experiment they would like to do and using siblings is the closest they can get.

Observing the different regions that light up when autistic labelled and non-autistic labelled brains perform certain tasks doesn't, in itself, tell us much. We already know they are different, we'd like to know why they are different. Is it a difference in the brain material (genetic, or some physiological development thing), or is it a difference in the way the person has developed (a psychological thing)?

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**sparclear**

16 November 2010 12:04PM

@pseudosp1n

I believe it's very common for one twin's birth weight to be a bit more, s/he gets born first, and goes ahead into the world more confidently thereafter.

When test-tube babies were first researched the huge numbers of twin conceptions didn't match with the average numbers of live twin births in a wider population.

Researchers concluded that our bodies often conceive twins, but less frequently implant them for full gestation. One of the twin groups of cells gets quietly "miscarried", or dispersed. Some mothers give birth to both babies successfully but not uncommonly one of them is weaker and soon dies.

What would lead to answers to your questions though? Both my mother and aunt gave birth to children we'd now call "spectrum". They complicated things by drinking plenty of alcohol, also during WW2 both had been given plenty of vaccinations as a serving members of the armed forces. Perhaps it will gradually emerge that several factors are relevant.

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**Obgeektor**

16 November 2010 3:04PM

TobySaunders

16 November 2010 2:32AM

Some pot strains have positive effects treating autism.

LINK PLEASE... Personally, I just like to get high in general (not around big crowds mostly). But I do find it helps focus my concentration on tasks I already know how to do (ASD and ADHD have frequent co-morbidity apparently).

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**Dorya**

16 November 2010 4:13PM

Perhaps having a sibling who is autistic causes a specific set of activities in the brain?

Perhaps the combined genetic inheritance of the two parents involved presents a specific risk to all their children that hasn't occurred in either family before? Perhaps autism is the result of specific virus which is harboured in the hospital where they were born? Perhaps consuming a specific foodstuff in pregnancy causes autism (Gin? Chocolate? Oysters? Raspberries?) Perhaps it's caused because of something the father wore/ ate/ smoked/ drove?

You have to have a very big study before you can start make pronouncements about causes.

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**tallstone88**

16 November 2010 5:29PM

As an autistic person myself, I find the comments in the article and the readers a mixture of saddening and enraging. I am not "ill", i do not see the world the same way as you do. I do not need treatment to become like you. I am who I am, and my brother is the same as I am. We are both "different" to the casual observer. From associated issues with autism I am destined to have horrendous handwriting and poor interpersonal skills (emotional intelligence etc), for the rest of my life.

Or so I was told. True the handwriting is still bad, but the computer age is upon us and its a blessing. I have a natural ability at mathematics, and excelled at it and all things logical (computing, physics). My unique personality has offended a large number of people but endeared me to others, and have strong friendships. I don't have the hundreds of friends on facebook that I couldn't tell you who they are or where I met

them. I have dozens (50-100) and can name them all, tell you all their vitals (date of birth, telephone number etc.), and am often used by them for impartial, direct advice. Now who's ill?

So, dearest medical profession, diversity is what will get us, as a race, off this planet and solving its problems. Please stop trying to fix what doesn't need to be fixed and focus on stopping me dying instead.

I am aware that some severely autistic people have issues in life, however I have a hunch that they are just confused as to what they see in life because it makes no sense. Sadly, just as you cannot explain to a blind person what red is, we will never be able to know what they see, or how they see it.

After having a very late diagnosis of my condition (mid 20's), I stopped fighting my inherent weaknesses, found something that my strengths were suited to and more than quadrupled my salary.

Something to think about.

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**[MoneoSoniaLeto](#)**

16 November 2010 6:31PM

more junk science

people are people

tallstone88 kudos to you I salute that post

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**[Diodorus](#)**

16 November 2010 6:38PM

@tallstone 88

OK I'm convinced. You're not ill, you're just a smug git.

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**[alexjane](#)**

16 November 2010 6:40PM

tallstone88

My son is on the spectrum. He's fantastic. I hope he grows up with your attitude. Great post.

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**[cephalus](#)**

16 November 2010 6:41PM

Alas, the study tells us nothing. MRI or PET scans do no more than show differential blood flows, a cellular activity proxy for relevant brain activity. This alone does not tell us the brains are systemically different. It might suggest, but only suggest, differential attentiveness, something we already knew. How the differences arose and what importance they may have cannot be devined from this line of work, Keeps the lab's lights on, I guess . . .

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**[AnnaConda](#)**

16 November 2010 6:49PM

When my eldest son was a toddler and was diagnosed as on the autistic spectrum, my sister said 'Isn't Bill Gates supposed to be autistic? Can't say it's held him back.' I didn't find it a particularly helpful or sympathetic remark at the time. Your comment (Tallgate) reminded me a bit of that.

Now my son's 14, he doesn't fit the high functioning autism cliché of being a mathematical whizz at all. He is very interested in acting though, and seems to have a very retentive memory for learning lines.

My youngest son is also on the spectrum and his difficulties are a lot more profound. I have to say if there was any way understanding more about how the autistic brain works could help him live a more normal life it would be a great thing.

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**[AnnaConda](#)**

16 November 2010 6:50PM

BTW, I didn't mean your comment was insensitive (Tallgate), I just meant you'd also made a success of your life, on your own terms.

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**[Christo99](#)**

16 November 2010 7:10PM

My daughter is on the spectrum and I wish either there was a way to make other people accepting of her or a way to help her to have the social skills everyone demands.

The study- it does not of itself claim to be anything other than a small study- has some interesting findings worth checking out and seeing if there is anything in them. It's called the scientific method. The media always jump on stuff and then readers bring all kinds of expectations to it. These sort of small - let's try something, bits of research lead to bigger scale and more focussed research or not.

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**GrammaKnows**

16 November 2010 7:43PM

Considering the only area of research that has money being thrown at it is genetics, no matter how much of a stretch it may be, quotes about research results, by necessity include the "possible genetic" buzz words.

So....results of studies published over the last year have shown it is impossible to place the causation of autism on genetic factors. Consistently the genetic differences in ASD children have been shown to be de novo (new) and not present in parents. Leaving environmental factors to be investigated.

This group is small enough to not be statistically significant, but also small enough to do a comparative DNA study on the participants. DNA (genes) are not static, not written in stone. Epigenetic changes occur in whether a gene is or is not expressed given factors ranging from environmental toxins (or absence of toxins), nutrition status, diet, air and water, parental toxic burden, and within the study of epigenetics, even the environmental impacts on the grandparents.

By the same token, gene expression changes over time as shown in twin studies and can show a completely different profile if causes for epigenetic change are reversed. It is highly presumptuous to ascribe "compensatory" assumptions on differences between siblings without even knowing what the impacts to brain development have been in these individuals. It is also presumptuous to declare something as being "possibly genetic" without first examining comparable scans of the child's family tree. The "nature vs nurture" arguments are still alive and well in the world of science with the exception of autism research. In that field it is merely mentioning "possibly genetic" that gets the funding.

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**tadchem**

16 November 2010 7:43PM

Brains are organic. That means genetics plus experience affect their function. "Autistic" brains are brains that function in a way noticeably different from most others. As an 'Aspey' I can testify that my brain works differently. My emotional reactions are not 'directly wired' to my voluntary muscle controls. As a result, my facial expressions are hard to read. (I have no poker tells.)

Conversely, since I don't know how my feelings 'should' affect my gestures, I cannot 'read' others' faces or body language naturally. (I don't make friends easily.)

I am sure it is genetic, and I suspect it is sex-linked as Aspergers' is far more common among men than women.

Delusional schizophrenia involves 'leaking' of normal subconscious musings into the auditory cortex, so sufferers 'hear' voices that don't carry their conscious thoughts.

Other types of autism and 'mental disorders' may be related to different ways the brain can be wired.

Just remember that the difference between a 'talent' and a 'disability' is totally circumstantial.

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**shaun**

16 November 2010 8:10PM

Somehow I think this is just another scientific "fishing" exercise, using those who are not in a position to say no.

There are many grades and different variants of ADS. To find one "catch-all" brain pattern would only be useful if either, a) all the subjects had exactly the SAME problem, or b) that the rest of humanity had ONE particular form of brain usage. (Used their brains in one way only)

Why should someone be forced into group-think, as the ONLY alternative. So I don't like multiple player team sports? cure him. So I don't like TV regulated and regurgitated opinions? cure him. So I'm shy? cure him. So I have a vivid imagination, which I prefer to real life sometimes? ahh? cure him anyway - we must have conformity at all costs.

Why?

OK. I sympathize with those parents and with those who have ADS. But although the going is harder sometimes, (Annaconda, be patient) the alternative "windows on the world" that might appear from different world-views, are the ones that can potentially change the present.

Full disclosure; I fit the description of an ADS, with the addition of imagination, and, I always played silly mid-off at cricket. As far away from the ball as is possible, but I enjoyed the possibility to admire the weather. Alone....ah the pleasure...

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I also suspect that rather than finding out that "millions" have the condition, it would be better to find out if the present crop of psychopaths and militarists who are "Governing" this world have a curable condition, or a recognizable brain pattern. (The old sci-fi idea that you should be able to recognize Hitler - before he "hitled"). I'm not really joking. If one set of parameters can be identified - why not really dangerous ones?

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**msquidnunc**

16 November 2010 9:21PM

@pseudospin

Re:

Here's a question. Do you ever see identical twins where one is autistic and one isn't? Comparing autistic traits between MZ and DZ twins is one way of estimating the heritability and genetic involvement of autism conditions. You do see some identical twin pairs where one has autism and the other does not but this pattern is much more commonly observed in non-identical twins - suggesting a strong role for genetics. See the following studies for more information about this kind of research.

<http://dx.doi.org/10.1016/j.rasd.2007.08.002>

<http://onlinelibrary.wiley.com/doi/10.1002/icd.536/abstract>

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**Olliedeh**

16 November 2010 9:26PM

As an autistic person myself, I find the comments in the article and the readers a mixture of saddening and enraging. I am not "ill", i do not see the world the same way as you do. I do not need treatment to become like you. I am who I am, and my brother is the same as I am. We are both "different" to the casual observer. From associated issues with autism I am destined to have horrendous handwriting and poor interpersonal skills (emotional intelligence etc), for the rest of my life.

Or so I was told. True the handwriting is still bad, but the computer age is upon us and its a blessing. I have a natural ability at mathematics, and excelled at it and all things logical (computing, physics). My unique personality has offended a large number of people but endeared me to others, and have strong friendships. I don't have the hundreds of friends on facebook that I couldn't tell you who they are or where I met them. I have dozens (50-100) and can name them all, tell you all their vitals (date of birth, telephone number etc.), and am often used by them for impartial, direct advice. Now who's ill?

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After having a very late diagnosis of my condition (mid 20's), I stopped fighting my inherent weaknesses, found something that my strengths were suited to and more than quadrupled my salary.

Something to think about.

Agreed. I was 18 when I found out was autistic. Now instead of being slightly weird sometimes and told to stop it, I get a sympathetic oh 'don't worry, I know you're special'. People need to realise autism is just a label used to tag people and, apart from in exceptional cases, means very little apart from greater levels of annoying fake sympathy from others for the 'victim'.

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**shaun**

16 November 2010 9:33PM

I have one further comment. Were the videoed points of light and the real videos both shown to the subjects? Or just those of the former?

Think of seeing three "points" in forest. Two eyes and one for the nose. The question of identification - I can eat it, OR, It will eat me, - is of primordial importance. Even at an early age. How is this done? I actually tried this out on students, using photos taken in a Jungle of Papua New Guinea, here the different photos were of the eyes of people, bodies hidden. I wanted to see what they could *infer* from the situation. My object was to see if students, 15-18year olds, "lost" their "village" abilities/disabilities after attending Western style schools. (Some PNG villagers have a very BAD recognition/ability to resolve 2D images.) Most immediately identified the three *points* that were of interest, irrespective of their abilities when looking at other photos. (One of the original photos was not "posed" but was one in which I found the three points only later, I hadn't seen the person at the moment. All the students spotted him!).

This prompts my question below.

Now, if the ADS (confirmed cases) did not respond to the moving lights there are two possibilities. ie - they were not interested or were "prevented" from reacting by ADS (hypothesis of the scientists) OR they correctly identified the moving lights - and then

"classed" them mentally, almost instantly, as "of no further interest". (it won't eat me).  
(and went off to a more interesting interior subject).

Could the "compensation" mentioned in others be simply of a renewal of other independent mental activity? As far as I can see from the report (and the article says the same) it is hazardous to correlate increased activity in *other* parts of the brain with the same visual stimulus.

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**[msquidnunc](#)**

16 November 2010 9:37PM

The original research is Open Access and can be found here:

<http://www.pnas.org/content/early/2010/11/05/1010412107.full.pdf+html>

AxisofEvil can check the stats for her/himself.

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**[sparclear](#)**

16 November 2010 9:42PM

Well Olliedeh,

I hear you alright, but 50 years ago when no-one bandied the term around, children whose disabilities went unrecognised were punished for their tantrums, and teased by merciless kids in school playgrounds. They got whispered labels like 'simple' 'nutter' and baffled by inappropriate educational challenges, which further alienated them. Finally by the time these miseries had led them to realise they weren't going to blend easily with their peers - to a doctor.

Mental patient label, maybe hospitalisation, in a frightening psychiatric ward and chokka block full of well-meant but crippling pills. Even ECT which further compromised and in some cases permanently hurt their brain. You'll see from this why I believe the term autism opens us to better outcomes, even if there are many more steps yet to this journey.

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**[drumbuie1](#)**

16 November 2010 9:59PM

@shaun yes, exactly - perceiving the world differently is sometimes a survival plus, not a minus.

I also wonder whether changes in childrearing practice have had an effect on child development. The brains of babies left lying in cots looking at mobiles, pushed in buggies facing away from their carers, and frequently put down in front of DVDs and televisions may develop differently from those who are carried on hip or back, petted and dandled, have nursery rhymes sung to them, books read to them and are taught to play simple games (round and round the garden, patacake, patacake, etc).

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[Clip](#)[Link](#)**YummieMummie**

16 November 2010 10:06PM

Personally as a parent I'm relieved that my son has a "label". If he didn't he'd be mercilessly punished by teachers, other parents and such like for being badly behaved (he's not badly behaved, just very eccentric and impulsive, plus he's fixated on hoovers, fans etc.). He just be thought of as mentally retarded and shoved in a class with other "slow" kids and left to drift.

If you don't have a label then no one will help you access the education system or give you a bit of leeway when you are behaving abnormally.

It is a spectrum condition and no one person with autism is the same. Some people can do very well, but others really struggle to fit into mainstream society and will never get a job, get married, etc.

What autistic people need is understanding and tolerance - not sympathy.

Recommend? (4)

[Report abuse](#)[Clip](#)[Link](#)**scollett**

16 November 2010 10:14PM

As a father of 5 children, 4 of them with varying degrees/aspects of autism, I am shocked to see this research was even published!

It seems the populist scientific community are causing parents even more confusion by publishing this 'research'.

62 children!

How is that representative? Especially when 1 in 67 is affected at some level by the condition in the UK alone!

It is an issue which has mainly been ignored by the political parties.

And although they have clout to help parents, which, in turn saves the country money, it is hushed away and conveniently forgotten, and lots of reassuring sounds are made, but nothing is ever done (pass a bill here, pass a bill there...something might give).

There has to be a recognition and empowerment of the parental / guardianship / caring roles of those who look after children and adults with autism, otherwise we will see more tragedies like the mother who jumped off the Humber bridge with her autistic child.

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[Report abuse](#)[Clip](#)[Link](#)**YummieMummie**

16 November 2010 10:14PM

I might also add that my son who is diagnosed with high functioning autistic, ADHD and has epilepsy was:

Breasted for 8 months

Doesn't eat junk food - loves fruit, salad, vegetables, meat etc.

Had a speech delay but didn't watch children's TV till he was 3 years old. (He has a cousin with speech dyspraxia so maybe speech and communication problems are

genetic?)

Was exhibiting signs of autism as a baby before he had the MMR

I had a normal pregnancy and delivery, didn't touch a drop of alcohol. I didn't even take paracetamol. I took folic acid.

My son's father has a genius level IQ and I am degree educated.

My son is very good at tasks involving visual spatial reasoning like building models out of lego, which is interesting because my husband is gifted in science/math and I am talented at drawing (if I say so myself!).

I do wish ignorant people would stop blaming PARENTS for their children having autism, ADHD, etc. I don't get why if you can be born with a toe missing or cerebral palsy, then why you can't also be born with a neurological difference that causes your brain to think differently from the neurotypical brain?

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**Nakor**

16 November 2010 10:35PM

@ tallstone88: I'd like to make 2 points.

1) Finding out more about brain patterns that correlate with different behavior/personality patterns can be part of understanding and respecting human diversity. It's not necessarily about trying to "fix" anyone. For example, as a neuroscientist, I've studied differences between introverts and extroverts, but that doesn't mean I want to change either into the other.

2) As a spectrum, I think its really important to acknowledge the profound differences between folks like you, who can make fulfilling lives for themselves on the terms they choose, and people who are very severely affected, to the point where they cannot perform basic care for themselves or even communicate their wants and needs. "Fix" the former? Not my choice, as people on your end of the spectrum are perfectly capable of making decisions for yourselves. I'd hope that most would take your attitude and be proud of their individuality and unique capabilities. But "fix" a child who can't communicate when they are hungry or cold or thirsty, even with technological assistance? Absolutely. In the absence of their ability to communicate that they prefer their state, it seems incredibly cruel to assume they prefer to be unable to determine when/how their basic needs are fulfilled.

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**Novelist**

16 November 2010 11:08PM

Absolutely agree with Tallstone88. It's the so-called "neuro typicals" who label us "abnormal". Hey you NTs, you're the DUMB ones - if you want a real engineer, for instance, one who gets stuff done, hire an aspie. Most of the geniuses who got humanity all its advances were autistic. To some of us - me for instance - more than half of the population is little more than cabbages, walking around in an unthinking state. The median IQ is 100, which is not very smart.

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**sarahliveshere**

17 November 2010 11:53AM

I have high-functioning Asperger Syndrome, and like many I latch onto any information that may help inform my own understanding and experiences of it. In isolation this article didn't really deliver on that, however, I don't think it was meant to. It just points to an avenue of exploration and some findings that could prove significant with further research. If such research can eventually one day contribute to and improve understanding, awareness, better diagnosis, policy decisions in appropriate care or treatment then perhaps there is merit to this.

A point made by Oliver Sacks is that you can't separate the individual from a particular "disorder": "The patients essential being is very relevant in the higher reaches of neurology, and in psychology; for here the patients personhood is essentially involved, and the study of disease and of identity cannot be disjoined" [*The Man Who Mistook His Wife for a Hat*, Preface].

This is an illustrative point about neurology and identity. Sacks wasn't discussing ASD so please excuse the term "disease".

I thought the bit about "compensatory activity" in non-ASD siblings interesting. My brothers are both non-ASD but I've found that there is something symbiotic when it comes to certain aspects of our relationship. I feel that had I not had siblings I would struggled a lot more growing up (and I struggled aplenty as it was) and I have also wondered if my social development would also have been significantly more impaired. However, whether that's relevant to neurology I have no idea. My assumption is that it's more to do with our experiences growing up.

Recommend? (1)

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17 November 2010 12:44PM

thanks sarahliveshere,

how nice to know someone else reads and enjoys Oliver Sacks, an enormous sense of relief came to me when I first heard the kindness of his tone, after watching the awful treatment our sister received.

Have commented on it before but just to add a note here for anyone with vulnerable family members whose life beyond the childhood home is problematic, the world being a harsh place,

after our parents' death we settled for one of the Camphill Communities. For the last few years very happily I know she gets treated like an equal now, and is surrounded by pals in a safe environment where she has reduced all the wrong medication and is creative & independent in all possible respects.

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17 November 2010 3:20PM

@tallstone

Quite right.

People are generally spooked by high function autism/aspergers.

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**[sarahliveshere](#)**

17 November 2010 5:22PM

@tadchem

I am sure it is genetic, and I suspect it is sex-linked as Aspergers' is far more common among men than women.

Or perhaps women are simply going by undiagnosed? Perhaps even in part because such assumptions abound? Obviously, the issue is much more complex than that but just because a person is either better able to mask or compensate for certain symptoms doesn't mean it doesn't effect them.

[http://www.timesonline.co.uk/tol/life\\_and\\_style/health/article7017168.ece](http://www.timesonline.co.uk/tol/life_and_style/health/article7017168.ece)

(I don't normally endorse the Times but it's an interesting article)

It comes back to my earlier comment that you can't separate the individual from the disorder.

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**[WagTheDogy](#)**

17 November 2010 6:13PM

Personally I have given up trying to 'fit in'.

The effort takes way too much processing. Detracting from my real potential.

In the last 4 years I've earned 400k net. If I spent my time trying to fit in to the baffling social framework I'd probably be working in McDonalds.

P.S kiss my A\*\* if I spook you.

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**[AxisofEvil](#)**

17 November 2010 10:42PM

@msquidnunc

The original research is Open Access and can be found here:

<http://www.pnas.org/content/early/2010/11/05/1010412107.full.pdf+html>

AxisofEvil can check the stats for her/himself.

Well I've tried to check the stats - but the only stats appear to be that various averages of various tests of the small samples of people diagnosed to be 'suffering' from various types of Autistic Spectrum Disorder were fed into fancy brain scanning techniques and after much arduous ad hoc devising it was found to be possible to match the two datasets together.

Doesn't mean that if you tried a different set of people that you would get a similar result.

For instance when political polls are carried out, it is usual to use in the region of 1,000 people and that's just for measuring one variable!

And it's sometimes wrong...

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