

Asperger's in the therapy room – 4

In the fourth of his series of articles about working with clients who have been, or may be, diagnosed with Asperger syndrome, **PETER FLOWERDEW** continues his look at the psychology of Asperger's.

THE EMPATHISING-SYSTEMISING THEORY explains the social and communication difficulties in autism and Asperger syndrome by reference to delays and deficits in empathy, while explaining the areas of strength by reference to intact or even superior skill in systemising.

Empathy

- *Cognitive empathy*: this encompasses Theory of Mind, or mindreading, the cognitive component of empathy – knowing what is going on.
- *Affective empathy*: this is about having an appropriate emotional reaction to another person's thoughts and feelings – knowing how to respond.

Remember that even when they pick up and decode social cues, many Aspies still do not know how to respond. They are however able to learn this is a cognitive skill and adult Aspies often have an awesome repertoire.

Baron-Cohen offers an Empathy Quotient (EQ), questionnaire on: www.autismresearchcentre.com to be filled out by an adult about themselves, or by a parent about their child. Both cognitive and affective empathy are assessed. (There is a Child EQ, an Adolescent EQ, and an Adult EQ.) Ten examples from the EQ are shown below. If you agreed with items 1 and 3, this would get you two EQ points. If you disagreed with the remaining items, this would give you a total of 10 EQ points.

Examples from EQ Questionnaire:

1. I can easily tell if someone else wants to enter a conversation.
2. I find it difficult to explain to others things that I understand easily, when they don't understand them first time.
3. I really enjoy caring for other people.
4. I find it hard to know what to do in a social situation.
5. People often tell me that I went too far in driving my point home in a discussion.
6. It doesn't bother me too much if I am late meeting a friend.

7. Friendships and relationships are just too difficult, so I tend not to bother with them.
8. I often find it difficult to judge if something is rude or polite.
9. In a conversation, I tend to focus on my own thoughts rather than on what my listener might be thinking.
10. When I was a child, I enjoyed cutting up worms to see what would happen.

(www.autismresearchcentre.com)

In this case, the higher your score, the better your empathy. On this scale, people with autism spectrum conditions score lower than comparison groups.

According to the empathising-systemising theory, autism and Asperger syndrome are best explained not just with reference to empathy (E) (below average) but also with reference to a second psychological factor, systemising (S), which is either average or even above average. So it is the discrepancy between E and S that determines if you are likely to develop autism or Asperger syndrome. To understand this theory better, we need to turn to the concept of systemising.

Systemising

Systemising is the drive to analyse or construct systems. These might be any kind of system. What defines a system is that it follows rules, and when we systemise we are trying to identify the rules that govern the system, in order to predict how that system will behave. These are some of the major kinds of systems:

- *collectible systems* (eg distinguishing between types of stones)
- *mechanical systems* (eg a videorecorder or a window lock)
- *numerical systems* (eg a train timetable or a calendar)
- *abstract systems* (eg the syntax of a language or musical notation)
- *natural systems* (eg weather patterns or tidal wave patterns)
- *social systems* (eg a management hierarchy or a dance routine with a dance partner)

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• *motoric systems* (eg throwing a Frisbee or bouncing on a trampoline).

In all these cases, you systemise by noting regularities (or structure) and rules. The rules tend to be derived by noting if A and B are associated in a systematic way (eg the musical note E is always five tones above the musical note A; or in 1995 the Car of the Year was a Fiat Punto). A second step in systemising is to consider if the evidence allows you to conclude that A causes B (eg turning this electrical switch to the Up position causes this light to go on; or moving the Ayesha hydrangea from acidic to alkaline soil causes its colour to change from blue to pink).

The evidence for intact or even unusually strong systemising in autism and Asperger syndrome is that such children performed above the level that one would expect on a physics test (see Figure 1). Children with Asperger syndrome as young as 8-11 years old scored higher than a comparison group who were older (typical teenagers).

A second piece of evidence comes from studies using the Systemising Quotient (SQ). The SQ is another questionnaire that works in a very similar way to the EQ and AQ. You simply say if you agree or disagree with each statement as a description of you. (There is a Child SQ, an Adolescent SQ, and an Adult SQ. See www.autismresearchcentre.com).

The questionnaire below lists 10 sample questions, each of which is asking you about how interested you are in different systems. If you disagreed with items 5, 7 and 9 below you would get 3 points on the SQ. If you agreed with the remaining items, that would earn you another 7 points on the SQ, making a total of 10. The higher your score, the stronger your drive to systemising. People with high-functioning autism or Asperger syndrome score higher on the SQ compared with people in the general population.

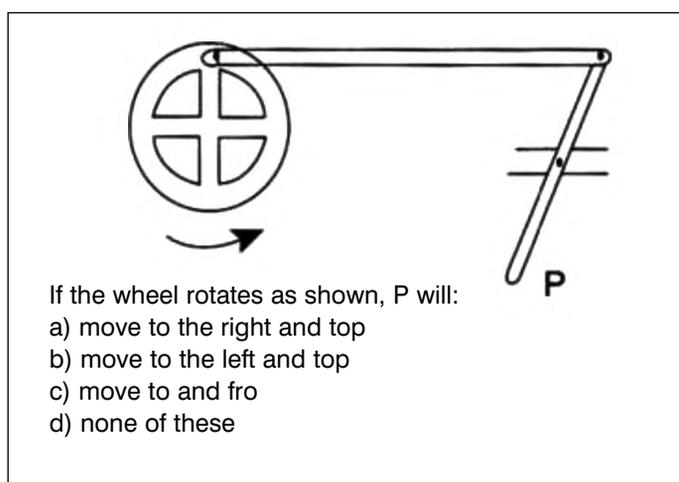


Figure 1: Physics test

Examples from SQ Questionnaire:

1. I find it very easy to use train timetables, even if this involves several connections.
2. I like music or book shops because they are clearly organised.
3. When I read something, I always notice whether it is grammatically correct.
4. I find myself categorising people into types (in my own mind).
5. I find it difficult to read and understand maps.
6. When I look at a mountain, I think about how precisely it was formed.
7. I am not interested in the details of exchange rates, interest rates, stocks and shares.
8. If I were buying a car, I would want to obtain specific information about its engine capacity.
9. I find it difficult to learn how to program video recorders.
10. When I like something, I like to collect a lot of different examples of that type of object, so I can see how they differ from each other.

(www.autismresearchcentre.com)

The strength of the empathising-systemising theory is that it is a two-factor theory that can explain the cluster of both the social and non-social features in autism and Asperger syndrome:

- below-average empathy is a way to explain the social communication difficulties
- average or even above-average systemising is a way of explaining the narrow interests, repetitive behaviour and resistance to change/need for sameness.

This is because when you systemise, it is essential to keep everything constant, and only vary one thing at a time. That way, you can see what might be causing what, rendering the world predictable. And to check if the pattern or rule you have identified is correct or consistent, it is essential to repeat the sequence over and over again.

Just as a spider cannot help but spin webs — that is what they are evolved to do — so (according to this theory) the person with autism or Asperger syndrome just has to systemise everything. That is how their brain works. The content of their narrow interests reflects how they are strongly drawn to systemisable information.

Reconceptualising repetitive behaviour and narrow interests in Asperger syndrome

An advantage of the empathising-systemising theory is that it reconceptualises the repetitive behaviour and narrow interests in people on the autistic spectrum. Whereas the weak central coherence theory sees these as a sign of something missing in the brain (the ability to integrate or perceive at the global level), the idea of strong systemising sees these same behaviours as the result of intelligent behaviour (detailed analysis of systems, however small).

Systemising in Asperger syndrome

Sensory systemising

wearing the same clothes every day
insisting on the same foods each day

Motoric systemising

practising skateboarding moves or frisbee moves
learning knitting patterns

Collectible systemising

collecting the complete set of Warhammer or Pokemon
making lists and catalogues

Numerical systemising

rapid calculation of prime numbers
solving maths problems

Motion systemising

analysing exactly when a specific event occurs in a
repeating cycle
enjoying riding on merry-go-rounds

Spatial systemising

studying maps
developing drawing techniques

Environmental systemising

knowing the names of the DVDs lined up on the
bookshelf, in order
insisting that nothing is moved from its usual position
in the room

Social systemising

learning the names and rank of every person in a
battalion
insisting on playing the same game whenever a child
comes to play

Moral systemising

insisting on other people following social rules
becoming a whistle-blower

Natural systemising

learning the names of every kind of tortoise
learning the Latin names of every plant and their
optimal growing conditions

Mechanical systemising

taking the toaster apart and reassembling it
fixing bicycles

Vocal/auditory verbal systemising

imitating accents
collecting words and word meanings

Systemising action sequences

watching the same movie dozens of times
analysing dance techniques

Musical systemising

mastering an instrument
analysing the musical structure of a song

Reconceptualising 'learning style' in autism spectrum conditions

Like the weak central coherence theory, the empathising-systemising theory is about a different cognitive style (a different style of thinking and learning). Like that theory, it also posits excellent attention to detail (in perception and memory), since when you systemise you have to pay attention to the tiny details. This is because each tiny detail in a system might have a functional role. In one cell phone, which is a mechanical/electronic system, one button may have a completely different function to the same button in a different make or model phone. In a mathematical calculation, changing one number in the sequence will totally change the workings of the system (the answer you get). So details matter.

The difference between these two theories is that: the weak central coherence theory sees people with autism spectrum conditions as drawn to detailed information (sometimes called local processing) for negative reasons, because of an alleged inability to integrate.

The empathising-systemising theory sees this same quality (excellent attention to detail) as being highly purposeful: it is being done in order to understand a system. Attention to detail is occurring for positive reasons: it is in the service of achieving an ultimate understanding of a system (however small and specific that system might be).

The extreme male brain theory

The empathising-systemising theory has been extended into the extreme male brain theory of autism. This is because there are clear sex differences in empathising (females performing better on many tests of this) and in systemising (males performing better on tests of this). Seen in this light, autism and Asperger syndrome can be conceptualised as an extreme of the typical male profile. This view was first put forward by the paediatrician Hans Asperger in 1944.

This theory is effectively just an extension of the empathising-systemising theory. That theory posits two independent dimensions, E (for empathy) and S (for systemising), in which individual differences are observed in the population. When you plot these, five different 'brain types' are seen.

The extreme male brain theory is a relatively new theory that may be important for understanding why more males than females develop autism and Asperger syndrome. It remains in need of further examination.

Statistics: describing properties of sets of results

Baron-Cohen presents his results in a form familiar to those who are interested in the range of results that you get when you measure a particular property, such as height or income, across a large number of examples or subjects. In more technical language, 'a specific

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parameter is sampled across a specified population'.

Statistics are about 'how we say things' about these collections of numbers; hopefully, they are 'interesting things'! Usually the first measure used to describe results would be 'the average value'.

Unfortunately, the language in which these things are talked about is a foreign language to most people, and the language itself becomes a problem; for example, the word 'average', as in 'average income'.

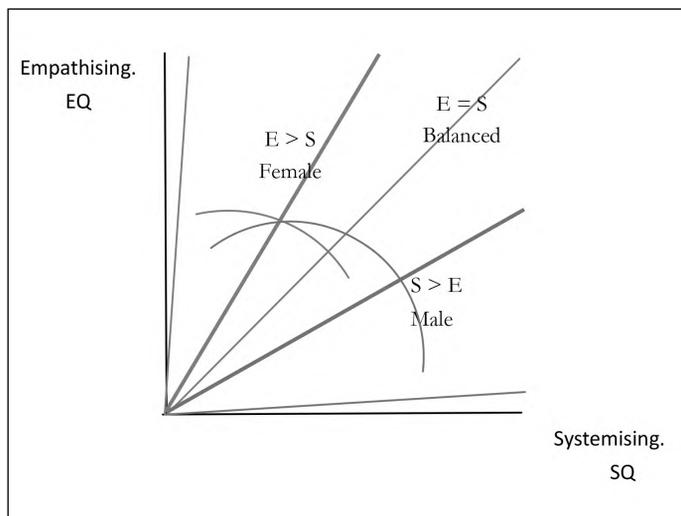


Figure 2: EQ and SQ scores on axes of graph

A mathematician would want to know if that is:

- the mean value – the sum of all the measurements divided by number of measurements
- the median value: half the measurements are smaller than this value and half are higher
- the mode value – the most frequently occurring value – the peak of a graph of the results.

One of five kinds of mind

If we place the EQ and SQ scores on two axes of a graph (see Figure 2), then equal scores on each axis would represent a 'balanced mind', as indicated in the diagram. Typically women score higher on the empathising scale, so their scores would tend to lie above this line; while men typically score higher on the systemising scale, so their scores would tend to lie below this line. This is indicated by the male and female lines and the spread of results is indicated by the associated arcs.

Finally, there are the Extreme Empathisers and the Extreme Systemisers and that last category corresponds to Aspies. So, we can suggest the existence of five kinds of brain; and the results fit this idea quite well (see Figure 3).

The theory is that these brain types are neurobiologically based and the prediction is that more females are likely to have a brain of Type E, and more males are likely to have a brain of Type S. People with autism spectrum conditions, if they are an extreme of the

Extreme Type S	Individuals whose systemising is above average, but who may be challenged when it comes to empathy	$S \gg E$ Equates to Asperger's
Type S	Individuals whose systemising is stronger than their empathy	$S > E$
Type B (for balanced)	Individuals whose empathy is as good (or as bad) as their systemising	$S = E$
Type E	Individuals whose empathy is stronger than their systemising	$E > S$
Extreme Type E	Individuals whose empathy is above average, but who may be challenged when it comes to systemising	$E \gg S$ The intuitive empath. In TA we identify this with 'The Little Professor.' In therapy it may correlate to 'The Highly Sensitive Person'

Figure 3: Brain types predicted by the empathising-systemising theory

male brain, are predicted to be more likely to have a brain of Extreme Type S.

Two dimensions

Reflecting on writings – Attwood, T. (2007); Baron-Cohen, S. (2008); Blakemore J. E., et al. (2009); Mc Gilchrist, I. (2009) – there is a theme of pairings, and putting them together seems significant to me.

Left Brain	Right Brain
Systemising	Empathy
Analytical	Experiential
Narrow focus of attention	Broad focus, vigilant
Dialectic discourse	Dialogic discourse
Detail	Context
Bottom up	Top down
Objective focus	Subjective focus
Male	Female

These pairings will be more understandable when the neurobiological differences between NT and Aspie brains are presented. But first, consideration of the sensory and perceptual differences that may need to be taken into consideration when doing therapy, and how that impacts on the process. This will be considered in the next article.

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**TA and Asperger's –
New TA theory presented and validated
at a workshop event in Bristol**

'It was like Aspies glimpsing that there was a better world and that they can learn the skills and be empowered.'

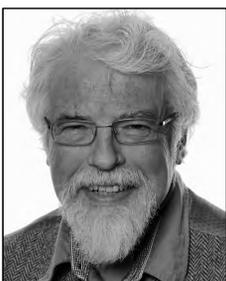
Christine Russell, co-presenter

On 11-13 November 2016, Peter Flowerdew, with Aspie co-presenters Richard Hall and Christine Russell presented, for the first time, a reframing of the standard TA101 material re-framed to describe and model the different mind, personality structure, transactional style and scripting of Aspies; nicknamed 'The Aspie TA101'. This was a two-screen event – standard TA on one screen, the translation to the Aspie-world on the other.

Nearly forty people attended: Parent-Aspie-Children pairs, Aspie-Aspie couples, Aspie-NT couples and individual Aspies, as well as psychotherapy professionals. 'By having this group of attendees and their questions, the workshop connected directly to lived experience, while being grounded in current academic research on Asperger's, and expressed through TA' said Richard Hall.

The objective had been to give NTs an insight into the subjective world of Aspies, and vice versa, and in that way, create a dialog between these two subjective worlds. For that to occur the Aspie TA had to make sense to both the NTs and the Aspies, and it did. The effect was amazing, as evidenced by the quote from Christine above.

Richard and Peter will be presenting this material at the **National Conference on 21 April**; all three will be at the **MIP Conference, in Manchester, on 15 October**; and Peter is presenting at the **European Summer School 13 and 14 May, in Zagreb**.



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