



*A newsletter by TST
Cognitive Development
Centre*



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What's *Autism*?

Autism Spectrum Disorder (ASD), commonly referred to as Autism, is a complex developmental brain disorder characterized by challenges with social skills, repetitive behaviours, speech and nonverbal communication, as well as unique strengths and weaknesses. The term "spectrum" represents the wide variation in challenges and strengths owned by each individual with autism. Autism can be diagnosed as early as 18 months and most obvious signs tend to appear between 2 and 3 years of age. Autism is a lifelong, developmental disability that affects how a person communicates and relates with other people. Some autistic people also have learning disabilities, mental health issues or other conditions, which means that people need different levels of support.





Brain Food of the Month Salmon



When your child has *Autism*

Learn about autism

Educate yourself about treatment options, ask questions, and participate in treatment decisions. The more you know about autism spectrum disorder, the better equipped you will be to make informed decisions for your child.

Become an expert on your child

Understand what affects your child. For example, figure out what triggers bad behaviours and what brings out positive response. This will help you in better handling problems and preventing or modifying situations that cause difficulty.

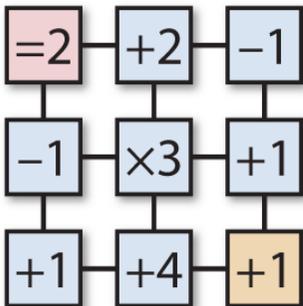
Accept your child for who they are

Enjoy your kid's special quirks, celebrate small successes and stop comparing your kids to others. Stop focusing on how your child is different from other children and practice acceptance.

Don't give up

The course of autism spectrum disorder is impossible to predict. Don't jump to conclusions about what life is going to be like for your child as people with autism have an entire lifetime to grow and develop their abilities.

Fatty acids are required for proper brain structure and function. More than two thirds of the brain's fatty acids are docosahexaenoic acid (DHA), an omega-3 fatty acid found primarily in oily fish. DHA must be obtained from our diet as our bodies are metabolically incapable of making it on our own. This essential fatty acid protects neurons from injury, reduces cerebral inflammation, and helps produce neurotransmitters and essential for quick information transfer. Insufficient DHA is a factor in depression, bipolar disorder, premature brain aging, age-related cognitive decline, brain shrinkage, dementia and Alzheimer.



Calculation *Mazes*

These mazes incorporate an added complexity - as you move between the squares you change the value according to the calculation shown in the square. For example, "=2" means set your total to 2, "-1" means subtract one from your total, and "x2" means multiple your total by 3.

Here's a simple task. Start at the pink square in the top left-hand corner, and find a route to the bottom right-hand corner, ending up with the value 6. (Answer on the last page)

Neuroplasticity:

What you need to know...

1) *What is neuroplasticity?*

Neuroplasticity is the brain's ability to change at any age. It allows neurons to reimburse to brain injury or disease in order to adapt to new situations or changes in one's environment.

2) *Cognitive Growth and Decline?*

Childhood and young adulthood are the time of brain growth which indicates that young people are constantly learning new things. Older adulthood are often seen as a time of cognitive decline because older people tend to be more forgetful and less inclined to experiencing new things.

3) *Benefit of Neuroplasticity*

Neuroplasticity makes the brain extremely flexible and this where all the learning process takes place. It has the ability to help people recover from brain injury or brain disorder. The science of neuroplasticity has reached implications and potentials for almost every aspect of human life.



The brain has the ability to strengthen the connections between neurons.

4) *Principle of Neuroplasticity*

There are few necessary principles for neuroplasticity to take place. The changes in the brain are mostly limited when it is 'disengaged' in any activities. If one is alert, motivated or indulge in activities, the brain will release neurochemicals that enables the brain to change. The more motivated and harder one tries, the bigger the changes in the brain will occur.

Powerful coordination of the nerve cells increases the reliability of behavioural productions. Try to imagine the sound of a football stadium full of fans clapping at random versus the same people clapping in unison. This is because learning-driven changes in connection improve the cooperation of cells. The brain has the ability to strengthen the connections between neurons representing separate moments that occur at the same time. The brain will have the ability to predict what will happen next and 'flow associatively'.

Initial changes in the brain are temporary. The brain will 'record' the changes and then determine whether it is important enough to make it permanent. The brain decides whether the experience is fascinating enough or if the behavioural outcome is important. This happens because the brain guides memory and controls most learning process. Neuroplasticity is like a two-way street. It is as easy to drive changes that impair memory or mental abilities as it is to improve those impairments.

Student's *Shoutout!* Brain *Teasers*



"Is BrainRx effective? What have you learnt? Do you feel any improvements from before?"

Honestly, those questions are equivalent to asking if my English has improved over the years of reading. On paper and presentation it's hard to quantify. However, unconsciously other not so visible aspects have changed: vocabulary becomes richer, grammar becomes more developed, language depth broadens and capacity to understand literature deepens. All of which cannot be measured black and white.

For the program, all I could say is that the way I processed the world around me has changed for the better, and this change reciprocates into my study life. Learning becomes come what easier, flows and pattern naturally unveils itself, and more complex application of logic in practical work is possible. Learning is more achievable than before"

- Bryan Wee, 21 years old college student

1. When does an Irish potato change its nationality?
2. What English word sounds the same even after you take away four of its five letters?
3. I am always in front of you and yet I am never here. What am I?

Vowel *Unscrambler*

Unscramble the words to find out the occupation

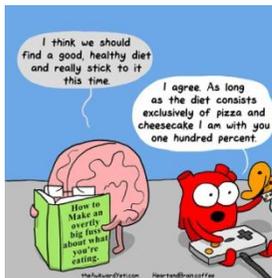
A is for ACCEHIRTT

E is for EEEIGNNR

I is for EEEINPRRTT

O is for ABCEIINORSTT

U is for ADEEKNRRTU



Solutions

Calculation Mazes

Starting with 2 we go down to the "-1" square, giving us 1, right to "x3" giving us 3, then up to "+2" giving us 5. Then "-1", "+1", and "+1" gives us the target total, 6.

Brain Teasers

- 1) When it becomes French fries
- 2) Queue
- 3) The Future

Vowel Unscrambler

Architect, Engineer, Interpreter, Obstetrician, Undertaker

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