The principals' associations of Ontario are pleased to welcome you to the first webinar of three webinars in 2020 pertaining to ASD.





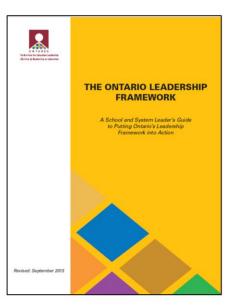


- Welcome to the all participants, from ADFO, CPCO and OPC, to this first of three Webinars on supporting Students with Autism Spectrum Disorder (ASD)
- Remind people they cannot click on links but will receive PDF version afterwards

What is Autism Spectrum Disorder (ASD)?

- This first webinar is one of three learning modules developed to support principals in learning more about ASD from what you need to know, best practices to collaborative partnerships.
- To ensure the best possible learning experience and engagement for this webinar, please allow 45 minutes of your time with opportunity for follow-up questions.

As we move through this webinar please reflect on - What lessons can we develop as principals and vice-principals and/or skill set to support our students with ASD?



This webinar supports the development of the Leadership Practices, particularly those included under the Building Relationships and Developing People column. It also supports the application of the PLRs, particularly Problem-solving expertise and Knowledge of effective school and classroom practices that directly affect student learning.









What is an Autism Spectrum Disorder (ASD)?



Autism Spectrum Disorder (ASD) is a neurodevelopmental disorder



Individual differences among children with ASD are considerable in areas like:

executive functions, language, sensory-motor coordination

Social communication



LEADERSHIP EN ACTION



It is a complex life-long condition that impacts not only the person with ASD, but their families, caregivers and schooling and communities.

Support needs may range from none to very substantial

- A neurological, genetic and lifelong disorder
- 92% of people with Autism have a comorbidity
- Symptoms vs. Developmental Aspects
 - Behaviour from symptomatic aspect vs. behaviour from developmental aspect
 - Data North America to help support the Leaders empathy for the families living with an individual with autism
 - Other considerable differences are visuospatial processing, memory, and nonverbal cognitive performance.
- Deficits in social-emotional reciprocity, ranging, for example, from abnormal social approach and failure of normal back-and-forth conversation; to reduced sharing of interests, emotions, or affect; to failure to initiate or respond to social interactions;
- (2) Deficits in nonverbal communicative behaviors used for social interaction, ranging, for example, from poorly integrated verbal and nonverbal communication; to abnormalities in eye contact and body language or deficits in understanding and use of gestures; to a total lack of facial expressions and nonverbal communication;

(3)	Deficits in developing, maintaining, and understand relationships, ranging, for example, from difficulties adjusting behavior to suit various social contexts; to difficulties in sharing imaginative play or in making friends; to absence of interest in peers.

What is an Autism Spectrum Disorder (ASD) and who does it affect?

- Difficulties in communication and social skills
- Restricted and repetitive behaviours
- Approximately 1-2% of Canadian population
- Approximately 125,000
 Ontarians

Sources: Government of Canada and Autism Ontario

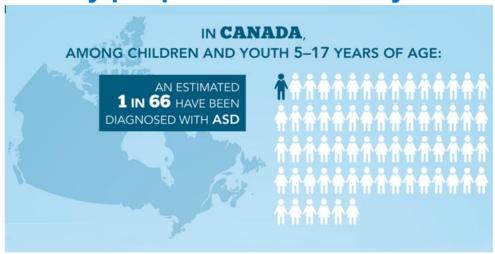


LEADERSHIP



According to the <u>Canadian Medical Association Journal</u>, approximately 1 - 2% of the Canadian population is affected by ASD, which means there are approximately 135,000 Ontarians on the autism spectrum.

How many people are affected by ASD?



National Autism Spectrum Disorder Surveillance (NASS), 2018

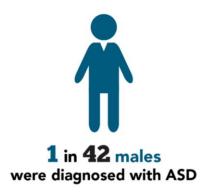


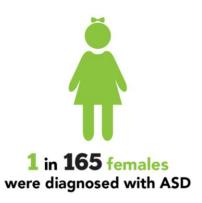
PRINCIPAL ASSOCIATION

- ASD is one of the most common developmental disabilities
- In March 2018, the <u>National Autism Spectrum Disorder Surveillance System</u> (NASS) released the most up-to-date Canadian prevalence rate: 1 in 66 Canadian children and youth (ages 5-17) are diagnosed with Autism Spectrum Disorder (ASD), making ASD one of the most common developmental disabilities. an ASD diagnosis four times more frequently than girls. More than half of children and youth with ASD were diagnosed by age six, and more than 90% received a diagnosis by age 12. Canadian prevalence estimates found in the report are similar to the most recent CDC rates
- approximately 135,000 Ontarians on the autism spectrum
- results impact Canadians living with ASD, their families and caregivers
- the rates of ASD are increasing in Canada and so is the urgency to meet the needs of children, youth and adults on the autism spectrum, and their families
- While we don't know why, we do know that the rate of ASD is increasing and it is
 placing huge demands on the education, healthcare and social service systems
 and highlighting glaring gaps in the supports available.
- More than half of children and youth with ASD were diagnosed by age six, and more than 90% received a diagnosis by age 12. Canadian prevalence estimates found in the report are similar to the most recent CDC rates.

Prevalence Rate

ASD prevalence by sex, 2015







LEADERSHIP



National Autism Spectrum Disorder Surveillance (NASS), 2018

For males, 1 in 42 are diagnosed with ASD and for females, the prevalence is 1 in 165 diagnosed with ASD in 2015

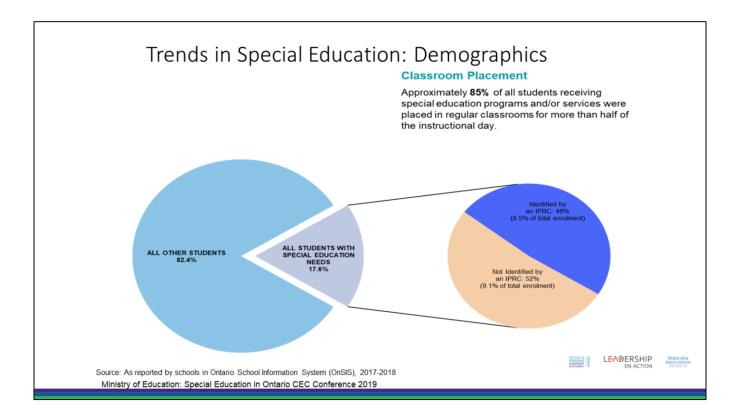
- Boys are almost 4 times more likely to be identified with ASD than girls
- Often girls are underdiagnosed

More than half of children and youth with ASD were diagnosed by age six, and more than 90% received a diagnosis by age 12. Canadian prevalence estimates found in the report are similar to the most recent CDC rates

Moreover, girls are diagnosed with autism at later ages compared to boys. This gender "gap" raises serious questions because many female students with ASD are being overlooked and will not receive the appropriate educational supports and services

- Social communication and pragmatic deficits may not be readily apparent in girls because of a non-externalizing behavioral profile, passivity, and lack of initiative. Girls who have difficulty making sustained eye contact and appear socially withdrawn may also be perceived as "shy," "naive," or "sweet" rather than having the social impairment associated with an autism spectrum disorder.
- Apart from biases in reporting or diagnosis, there is significant evidence to

suggest that multiple biological factors contribute to the sex differences seen in autism. These include genetic and hormonal differences between males and females that may provide a "protective" mechanism for girls and lead to differences in symptoms and vulnerability to the disorder.



Number of students with special education needs in Ontario In 2017-18, school boards reported a total headcount of 355,361 or 17.6% of all students as receiving special education programs and/or services.

Trends in Special Education: Demographics

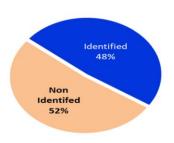
Overview of students receiving Special Education Programs and/or Services, 2017-18

· Students formally identified as "Exceptional" by an IPRC*

	Number of students	Percentage of Panel	Percentage of all students		
Elementary	87,236	6.3%	4.3%		
Secondary	84,700	13.5%	4.2%		
Total	171,936		8.5%		

Students NOT formally identified as "Exceptional" by an IPRC**

	Number of students	Percentage of Panel	Percentage of all students
Elementary	124,222	8.9%	6.1%
Secondary	59,203	9.4%	2.9%
Total	183,425		9.1%



*IPRC - Identification, Placement, and Review Committee

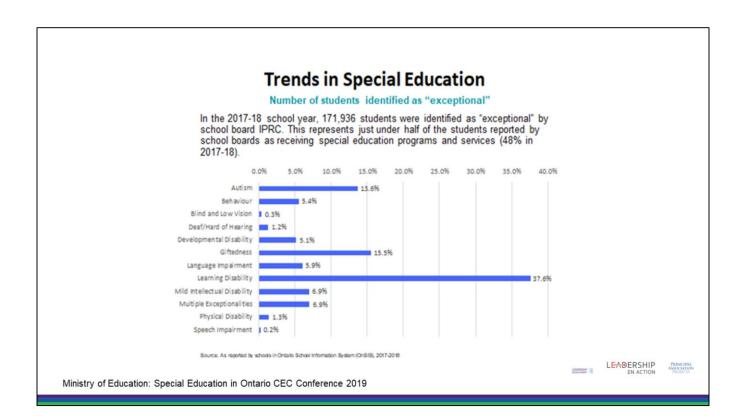
 In total there were 355,361 students receiving special education programs and/or services out of the total of 2,020,245 Junior Kindergarten to Grade 12 students.



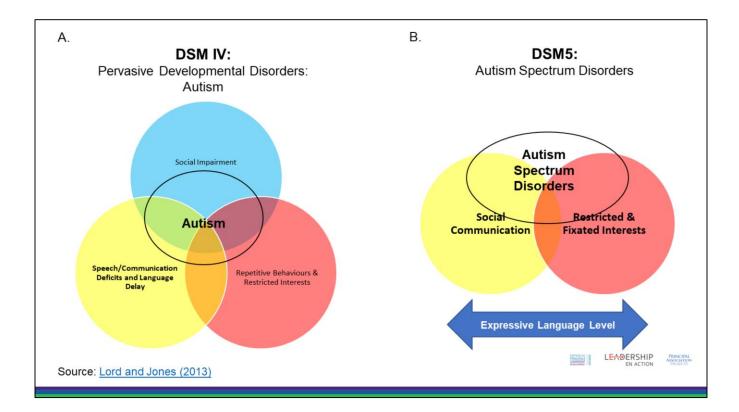
LEADERSHIP



Source: As reported by schools in Ontario School Information System (OnSIS), 2017-2018



Ministry data across the province ASD fastest growing exceptionality across the province



Another way of thinking about it

Despite the changes to the diagnostic terminology, anyone who previously received a diagnosis of Autistic Disorder, Asperger's Disorder, Childhood Disintegrative Disorder, or Pervasive Developmental Disorder Not Otherwise Specified should still meet the criteria for ASD in DSM-5.

It's important to specify at this point that PDD-NOS, Asperger, Rett Syndrome and Childhood Disintegrative Disorder aren't recognize in the new version of the DSM

Autism Spectrum Disorder (DSM-5) ASD with **ASD** without intellectual intellectual disability disability Diagnostic domains: Social communication Restricted interests and repetitive behaviours (RRBs) Rating of Impairment Requires very substantial support Requires substantial support Requires support Specifiers: medial or genetic conditions, age and pattern of onset. Modifiers: intellectual abilities, verbal abilities, and any co-occurring medical/psychiatric problems (e.g. seizures, irritable bowel syndrome, sleeping difficulties, attention/impulsivity problems) dapted from Autism Spectrum Disorder (ASD) 101 PowerPoint presentation, developed by Surrey Place School Support Program (SSP) in September 2013

- In Canada and the United States, the Diagnostic and Statistical Manual of Mental Disorders (DSM) is widely used by clinicians and psychiatrists for the diagnosis
- Under the previous editions of the manual, patients could be diagnosed with Autistic Disorder, Asperger's Disorder, Childhood Disintegrative Disorder, or Pervasive Developmental Disorder Not Otherwise Specified (PDD-NOS),
- DSM-5 now encompasses all four diagnoses under the umbrella of Autism Spectrum Disorder. Additionally, DSM-5 now groups communication and social interaction under a single domain.
- By using a psychiatric diagnostic manual, it's very complex for educators to understand classic autism as compared to autistic traits being part of the symptoms manifested by a student.

ASD – Levels of Severity LEVEL 1 LEVEL 2 LEVEL 3 Requiring Requiring Requiring very substantial support support support

There are three levels of severity. Each will be reviewed in more detail on the following slides.



Severity

Level 1 (requiring support)

Without supports in place:

- · Difficulty initiating social interactions
- Atypical or unsuccessful response to social overtures of others and may appear to have decreased interest in social interactions
- Inflexibility of behaviour causes significant interference with functioning in one or more contexts
- · Difficulty switching between activities







- Tiered Learning All similarities
- Severity levels for ASD
- difficulty initiating social interactions
- Without supports in place, deficits in social communication cause noticeable impairments.
- For example, a person who is able to speak in full sentences and engages in communication but whose to-and-fro conversation with others fails and whose attempts to make friends are odd and typically unsuccessful
- Problems of organization and planning hamper independence
- Ministry of Education focuses on inclusion and least restrictive environments. As the severity of level increase so does the level of support for the student either through the structured environment and/or level of human resource for the student.
- High Functioning/Low Functioning? Terminology
- Compare-contrast
- individuals deemed high functioning often have poor 'adaptive behavior' the ability to perform basic tasks such as brushing teeth, tying shoelaces or taking the bus.
- The term completely disregards the difficulties these individuals have on a day-to-day basis,"

- Autistic people are often classified as high functioning if they have high intelligence quotients (IQs) or excel academically. But neither of those traits can be taken to mean they do well in other facets of their life
- For years, autistic people have objected to the label, as well as its counterpart, 'low functioning,' saying these terms do not reflect how much support they actually need.



Level 2 (requiring substantial support)

Marked deficits:

- Verbal and nonverbal social communication skills
- Inflexibility of behaviour, difficulty coping with change
- Distress and/or difficulty changing focus or action
- Restricted/repetitive behaviours interferes with daily functioning



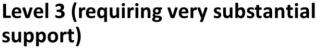




Any child diagnosed with a level 2 will show marked deficits in specific developmental domains. The level of dependency seems to be an important barrier for social communication. For example, autistic individuals which used to be labeled moderate tend to show marked impairments in the social-emotional domain. Some of the key deficits are lack of initiation, making choices and taking any decisions without the constant support of an adult.

At the level 2, professionals need to understand these key components:

- social impairments apparent even with supports in place
- limited initiation of social interactions and reduced or maladaptive responses to social overtures from others
- restricted/repetitive behaviours appear frequently enough to be obvious to the casual observer and interfere with functioning in a variety of contexts
- Autistic individuals with level 2 might be able to speak but often cannot communicate socially



Severe deficits:

- Verbal and nonverbal social communication skills
- Limited initiation of social interactions
- Extreme difficulty coping with change
- Great distress/difficulty changing focus or action
- Restricted/repetitive behaviours markedly interfere with functioning in all spheres of life









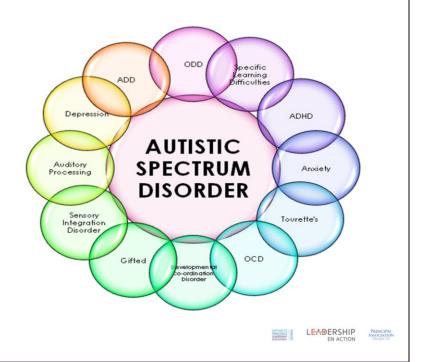
At the level 3, children are often non verbal and very limited with their communication skills. They are often diagnosed with another diagnosis including cognitive delay, Fragile X, Prader-Willi. It's very important to keep in mind that the profile of child shows marked deficits in all developmental domains. Often, professionals will refer to global delay with regards to the child's profile. It's very complex because many professionals are trying to make a clear cut distinction between autism and autistic traits. Because of the high percentage of comorbidity in ASD, it's hard to distinguish between the primary diagnosis and other diagnosis often added by health professionals.

For example, a person with few words of intelligible speech who rarely initiates interaction and, when he or she does, makes unusual approaches to meet needs only and responds to only very direct social approaches

Inflexibility of behaviour, extreme difficulty coping with change or other restricted/repetitive behaviours markedly interfere with functioning in all spheres.

Comorbidity in Autism Spectrum Disorder

 70 to 80 percent of children with (ASD) meet diagnostic criteria for one or more co-occurring (comorbid) disorders



Source: Lane (2015)

Through the development of a leadership skill set -through the lens of Autism - you be able to support any other student in the school - transferable skills

- 70 to 80 percent of children with (ASD) meet diagnostic criteria for one or more cooccurring (comorbid) disorders
- 40 to 50 percent meet criteria for two or more
- The most prevalent comorbid conditions are:
 - anxiety, depression, attention-deficit/hyperactivity disorder (ADHD), disruptive behavior challenges, and chronic tic disorders, all which contribute to overall impairment

Mental Health Diagnoses That Share Similar Symptoms

	Attention Deficit Hyperactivity Disorder (ADHD)	Autism Spectrum Disorder (ASD)	Sensory Processing Disorder (SPD)	Anxiety Disorder	Depression	Bi Polar Disorder	Learning Disability	Substance Abuse	Oppositional Defiant Disorder	Medication Reaction
Impulsivity	~	~	~			~	~	~		✓
Hyperactive	~	~	~	~		~		~		✓
Social Issues	~	~	~	~	~	~	~	~	~	
Poor School Grades	~	~	~	~	~	~	~	~	~	~
Repetitive Behaviours	~	~		~						
Legal Issues	~	~			~	~	~	~	~	
Authority Issues	~	~			~				~	~
Communication Issues	~	~			~	~	~			~
Inattention/Easily Distracted	~	~		~	~	~	~	~		
Not Follow Directions	~	~		~	~	~	~	~	~	
Restlessness	~	~	~	~		~		~		
Lack of Follow Through	~	~		~	~	~	~	~	~	
Lack of Organization	~	~	~	~	~	~	~	~		~
Irritability/Anger Issues	~	~	~			~		~	~	~

In order to determine an accurate diagnosis, age of onset, frequency of symptoms, duration of symptoms, circumstances that symptoms present themselves, and other family/teacher input.

Source: Thompson and Moehrig (2019)

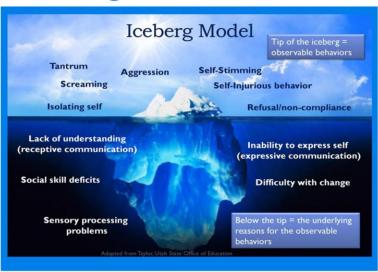


LEADERSHIP



It is not about the diagnosis that drives how we support students - more important is how the student presents in the environment and how we use strategies of support. The overlapping symptoms makes it complex for professionals to prioritize the needs

Things to Remember



Source: https://slideplayer.com/slide/12232059/







- The stage at which functional impairment becomes evident will vary according to characteristics of each child with ASD and also depends on their environment.
- Bring awareness of the pervasiveness of living with someone with autism affects every aspect of life.

Thinking bigger than behaviour is communication Thinking about this when approaching conflicts

- Core diagnostic features are visible in the developmental period, but intervention, compensation, and current supports and difficulties are disguised at least in some of the contexts
- Manifestations of ASDs vary significantly in a severity of the autistic, developmental level, and chronological age.

What's the best approach when supporting students with ASD?

Single Disciplinary	Multi-disciplinary	Interdisciplinary	Transdisciplinary
Highly specialized in	People from different	Integrating methods	Creating a unity of
one disciplinary.	disciplines working	and knowledge from	intellectual frameworks
	together, each drawing	different disciplines,	beyond the disciplinary
	on their disciplinary	using a real synthesis	frameworks.
	knowledge.	of approaches.	
No cooperation with	Not focused on	Focused on problem	Solving problems by
other disciplines.	problem solving but	framing and solving	going beyond
	requires expert	from disciplinary	disciplinary perspective
	opinions.	perspectives.	to involving
			practitioners,
			beneficiaries and non-
			academia.
Development of a new	Members cooperate in	Perspectives are	New knowledge is
detailed discipline.	their contributions but	integrated with	generated through the
	do not integrate their	stronger levels of	use of multi and
	perspectives.	cooperation.	interdisciplinary
			concepts.
	Disciplinary theory	There is a common	Considered as the
	development.	understanding on	highest form of
		methodological	integration of all actors
		approaches,	in a participatory.
		epistemological and	
		ontological	
		perspectives.	

Source: Mumuni et al. (2015)







- What's the best leadership approach when supporting students with ASD? Reflection - where are you right now?
 - Single disciplinary would be one professional is asked to assess the situation either through observations or reviewing the student's portfolio
 - Multidisciplinary refers to a team without real collaboration because it's base on the expert model which means one person provides everyone with recommendations
 - Interdisciplinary is more of a collaborative approach where parents and student are part of the team. Before even determining the needs the team meets to establish a plan. Who does what and when? Who's going to coordinate the process?
 - Transdisciplinary would be a combination of everything but also involves professionals not involved in the school system. A good example would be telepsychiatry where you have the medical, social, educational and family involved in a full assessment of the needs. You could have advocate group participate to be a voice for the parents
- If you can collaborate with a parent who has a child with Autism you'll be able to engage and collaborate with any parent
- Continuum: It's important for everyone to understand that the concept continuum
 refers to the neurodevelopmental profile of the autistic child and not just the level of
 severity. For example, we've seen autistic children plateaud for a period of time
 before showing exceptional progress. We've also seen autistic children showing
 rapid progress then regress because of epileptic seizure.
- Principals to think about these models as they have their school support team meetings.

Impact on Families

Often causes stress:

- Emotional
- Physical
- Financial
- Shift/change in family dynamics

Other sources:

- Minimal understanding of autism
- Inferences
- Obtaining assessments, services, interventions



LEADERSHIP EN ACTION



The Ontario Autism Program Advisory Panel Report (2019) indicates that most families reported that, if given the choice, they would choose clinical services such as ABA (80%), SLP (58%) and OT (58%) for their child (p. 18). Families of adolescents also identified the need for mental health services.

Leadership in Supporting ASD

In supporting students with Special Education Needs three key themes were identified through research

- Relationships
- Communication
- Modelling

In the second webinar of this series, we will address strategies for the implementation of PPM 140 and ABA from the perspective of school leaders.

Source: Sider (2019)



LEADERSHIP



Final words

- Quick polls Please respond to the following questions
- Survey Please complete the survey at the end of this webinar. You will also receive it by email .
- Glossary, references and some will be made available in a PDF format and emailed to you tomorrow.



LEADERSHIP EN ACTION



















CONTACT US

- ADFO www.adfo.org
- CPCO www.cpco.on.ca
- OPC www.principals.ca



- @adfo
- @CPCOofficial
- @OPCouncil







Glossary

Applied Behaviour Analysis (ABA)

The use of behaviour principles and methods to solve practical problems. In other words, it's the attempt to solve behaviour by providing antecedents and/or consequences that change behaviour

Applied Behaviour Analysis Program

A systematic approach to analyzing and changing behaviour. It entails establishment of behavioural objectives; selection and application of valid and reliable measures; regular recording; consistent application of selected procedures based upon principles of behaviour; plus an experimental evaluation of results.

Comorbid disorders

Two or more disorders diagnosed simultaneously in an individual

DSM V

Referred to as the Diagnostic and Statistical Manual of Mental Disorders (DSM–5). Contains disorder criteria that capture the experiences and symptoms of children. Rather than isolating childhood conditions, DSM-5's organization underscores how they can continue to manifest at different stages of life and may be impacted by the developmental continuum that influences many disorders.

Interdisciplinary

A coordinated group of experts from several different fields who work together toward a common business goal. A business might use an interdisciplinary team of professionals to work on a complex project that requires multiple skills sets or areas of expertise in order to succeed

Prevalence Rate

The total number of cases of a disease existing in a population divided by the total population

Transdisciplinary

A coordinated group of experts from several different fields members of the team come together from the beginning to jointly communicate, exchange ideas and work together to come up with solutions to problems.







References

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental health disorders* (5th ed.). Washington, DC: American Psychiatric Association.

Amaral, D. G. (2017, January). Examining the causes of autism. In *Cerebrum: the Dana forum on brain science* (Vol. 2017). Dana Foundation.

Azad, G., & Mandell, D. S. (2016). Concerns of parents and teachers of children with autism in elementary school. *Autism : The International Journal of Research and Practice*, *20*(4), 435–441. doi:10.1177/1362361315588199

Bates, S (2016). Understanding Autism: Below the Tip of the Iceberg. Pleasants County Aides In-Service. Presented by Kimberly D. Kehrer

Berg, K. L., Shiu, C. S., Acharya, K., Stolbach, B. C., & Msall, M. E. (2016). Disparities in adversity among children with autism spectrum disorder: A population based study. *Developmental Medicine & Child Neurology*, 58, 1124–1131. https://doi.org/10.1111/dmcn.13161.

Bolton, P. F., Pickles, A., Murphy, M., & Rutter, M. (1998). Autism, affective and other psychiatric disorders: Patterns of familial aggregation. *Psychological Medicine*, 28(2), 385–395.

Boutot, E. Amanda (2017). Autism Spectrum Disorders: Foundations, Characteristics, and Effective Strategies. Second Edition. Pearson: Boston.

Boutot, E. A. & Hume, K. (2012). Beyond Time Out and Table Time: Today's Applied Behavior Analysis for Students with Autism. *Education and Training in Autism and Developmental Disabilities*, *47*(1), 23-38.

Cooper, J. O., Heron, T. E., & Heward, W. L. (2007). *Applied behavior analysis* (2nd ed.). Upper Saddle River, NJ: Merrill-Prentice Hall.

Danial, J.T. & Wood, J.J. (2013). Cognitive behavioral therapy for children with autism: review and considerations for future research. *Journal of Developmental and Behavioral Pediatrics*, 34(9), 702-715.

DeStefano, F. (2007). Vaccines and autism: evidence does not support a causal association. *Clinical Pharmacology & Therapeutics*, 82(6), 756-759.

Eggertson, L. (2010). Lancet retracts 12-year-old article linking autism to MMR vaccines. *Canadian Medical Association. Journal*, 182(4), E199.

Estes, A., Munson, J., Dawson, G., Koehler, E., Zhou, X., & Abbott, R. (2009). Parenting stress and psychological functioning among mothers of preschool children with autism and developmental delay. *Autism*, *13*, 375-387.

Feinberg, E., Augustyn, M., Fitzgerald, E., Sandler, J., Ferreira-Cesar Suarez, Z., Chen, N...Silverstein, M. (2014). Improving maternal mental health after a child's diagnosis of autism spectrum disorder: Results from a randomized clinical trial. *JAMA Pediatrics*, 168(1), 40-46. doi:10.1001/jamapediatrics.2013.3445.

Giallo, R., Wood, C. E., Jellett, R., & Porter, R. (2013). Fatigue, wellbeing and parental self-efficacy in mothers of children with an Autism Spectrum Disorder. *Autism*, 17, 465-480.







Gobrial, E. (2019). Comorbid mental health disorders in children and young people with intellectual disabilities and autism spectrum disorders. *Advances in Mental Health and Intellectual Disabilities*.

Guerrera, S., Menghini, D., Napoli, E., Di Vara, S., Valeri, G., & Vicari, S. (2019). Assessment of Psychopathological Comorbidities in Children and Adolescents With Autism Spectrum Disorder Using the Child Behavior Checklist. *Frontiers in psychiatry*, *10*, 535.

Hollander, E., King, A., Delaney, K., Smith, C. J., & Silverman, J. M. (2003). Obsessive-compulsive behaviors in parents of multiplex autism families. Psychiatry Research, 117(1), 11–16.

Huguet, G., & Bourgeron, T. (2016). Genetic causes of autism spectrum disorders. In Neuronal and synaptic dysfunction in autism spectrum disorder and intellectual disability (pp. 13-24). Academic Press.

Kiami, S. R., & Goodgold, S. (2017). Support Needs and Coping Strategies as

Predictors of Stress Level among Mothers of Children with Autism Spectrum Disorder. Autism Research and Treatment Volume 2017, Article ID 8685950, https://doi.org/10.1155/2017/8685950

Klein, T. (2012). Consumer corner: Autism for public school administrators: What you need to know. *Science in Autism Treatment, 9*(1), 6-8.

Leaf, J.B., Leaf, R., McEachin, J., Taubman, M., Ala'i-Rosales, S., Ross, R.K., ...Weiss, M.J. (2016). Applied Behavior Analysis is a Science and, Therefore, Progressive. *Journal of Autism and Developmental Disorders*, *46*, 720-731.

Mehling, M. H., & Tassé, M. J. (2016). Severity of autism spectrum disorders: current conceptualization, and transition to DSM-5. *Journal of Autism and Developmental Disorders*, 46(6), 2000-2016.

Mazurek, M. O., Lu, F., Macklin, E. A., & Handen, B. L. (2019). Factors associated with DSM-5 severity level ratings for autism spectrum disorder. *Autism*, *23*(2), 468-476.

Mumuni, Eliasu & O'Reilly, Patrick & Kaliannan, Maniam. (2015). Approaches for Scientific Collaboration and Interactions in Complex Research Projects Under Disciplinary Influence.

National Autism Spectrum Disorder Surveillance System. (2018). Infographic: Autism Spectrum Disorder among Children and Youth in Canada 2018. Retrieved from https://www.canada.ca/en/public-health/services/publications/diseases-conditions/infographic-autism-spectrum-disorder-children-youth-canada-2018.html

National Autism Spectrum Disorder Surveillance System. (2018). Autism Spectrum Disorder among Children and Youth in Canada 2018: A Report of the National Autism Spectrum Disorder Surveillance System. Retrieved from https://www.canada.ca/en/public-health/services/publications/diseases-conditions/autism-spectrum-disorder-children-youth-canada-2018.html

Ofner M., Coles A., Lou Decou M., Do M., Bienek A., Snider J., Ugnat A. (March 2018). Autism Spectrum Disorder among Children and Youth in Canada 2018. Retrieved from https://www.canada.ca/en/public-health/services/publications/diseases-conditions/autism-spectrum-disorder-children-youth-canada-2018.html#a1-1.

https://www.autismontario.com/what-autism/prevalence-rates







Ontario Ministry of Education (2007). *Effective Educational Practices For Students With Autism Spectrum Disorders*.http://www.edu.gov.on.ca/eng/general/elemsec/speced/autismSpecDis.pdf

Ontario Ministry of Education (2017) *Special Education in Ontario (Draft Version, 2017)*. Retrieved 26 March 2020, from http://www.edu.gov.on.ca/eng/document/policy/os/2017/spec ed content.html.

Reichow, B., Hume, K., Barton, E.E. & Boyd, B.A. (2018). Early intensive behavioral intervention (EIBI) for young children with autism spectrum disorders (ASD). *Cochrane Database of Systematic Reviews*, Issue 5.

Reichow, B. (2012). Overview of meta-analyses on early intensive behavioral intervention for young children with autism spectrum disorders. *Journal of Autism and Developmental Disorders*, 42, 512-520.

Roane, H.S., Fisher, W.W. & Car, J.E. (2016). Applied Behavior Analysis as Treatment for Autism Spectrum Disorder. *The Journal of Pediatrics*, 175, 27-32.

Rylaarsdam, L. E., & Guemez Gamboa, A. (2019). Genetic Causes and Modifiers in Autism Spectrum Disorder. *Frontiers in cellular neuroscience*, *13*, 385.

Sider, S (Fall 2019) Lead to Include. *The Register*, Volume 22, Number 1. https://issuu.com/ontarioprincipalscouncil/docs/opc_fall19-aoda-v1?fr=sYWUwYzIyMDQxMg

Smith, T. (2013). What Is Evidence-Based Behavior Analysis? The Behavior Analyst, 36, 7-33.

Speaks, A. (2014). DSM-5 diagnostic criteria. New York: NY. Author retrieved, August, 10, 2014.

Surry Place School Support Program (2013). Autism Spectrum Disorder (ASD) 101 PowerPoint presentation

Szatmari, P., Georgiades, S., Duku, E., Zwaigenbaum, L., Goldberg, J., & Bennett, T. (2008). Alexithymia in Parents of Children with Autism Spectrum Disorder. *Journal of Autism and Developmental Disorders, 38*, 1859-1865.

Taylor, L. E., Swerdfeger, A. L., & Eslick, G. D. (2014). Vaccines are not associated with autism: an evidence-based meta-analysis of case-control and cohort studies. *Vaccine*, *32*(29), 3623-3629.

The Ontario Autism Program Advisory Panel Report (2019). Recommendations for a New Needs-Based Ontario Autism Program. Retrieved from

http://www.children.gov.on.ca/htdocs/English/documents/specialneeds/autism/AutismAdvisoryPaneIR eport 2019.pdf

Thompson, R., & Moehrig, S. (2019). Helping Your Child Cope with ADD/ADHD. Presented at the South Texas Children's Homes Ministries, Victoria, Texas. Retrieved from http://www.sa-mh.com/resources/Documents/MissionFiles/iCare%202019%20V2.pdf.

Tiura, M., Kim, J., Detmers, D. & Baldi, H. (2017). Predictors of longitudinal ABA treatment outcomes for children with autism: A growth curve analysis. *Research in Developmental Disabilities, 70,* 185-197.







Wilkinson, L. A. (2017). A best practice guide to assessment and intervention for autism spectrum disorder in schools (2nd Edition.). London and Philadelphia: Jessica Kingsley Publishers.

Mental Health Diagnoses That Share Similar Symptoms

	Attention Deficit Hyperactivity Disorder (ADHD)	Autism Spectrum Disorder (ASD)	Sensory Processing Disorder (SPD)	Anxiety Disorder	Depression	Bi Polar Disorder	Learning Disability	Substance Abuse	Oppositional Defiant Disorder	Medication Reaction
Impulsivity	~	~	~			~	~	~		✓
Hyperactive	~	~	~	~		~		~		✓
Social Issues	~	~	~	~	~	~	~	✓	✓	
Poor School Grades	~	~	~	~	~	~	~	~	~	~
Repetitive Behaviours	~	~		~						
Legal Issues	~	~			~	~	~	~	~	
Authority Issues	~	~			~				~	✓
Communication Issues	~	~			~	~	~			~
Inattention/Easily Distracted	~	~		~	~	~	~	~		
Not Follow Directions	~	~		~	~	~	~	~	~	
Restlessness	~	~	~	~		~		~		
Lack of Follow Through	~	~		~	~	~	~	~	~	
Lack of Organization	~	~	~	~	~	~	~	~		~
Irritability/Anger Issues	~	~	~			~		~	~	~

In order to determine an accurate diagnosis, age of onset, frequency of symptoms, duration of symptoms, circumstances that symptoms present themselves, and other family/teacher input.

Source: Thompson and Moehrig (2019)

What's the best approach when supporting students with ASD?

Single Disciplinary	Multi-disciplinary	Interdisciplinary	Transdisciplinary
Highly specialized in	People from different	Integrating methods	Creating a unity of
one disciplinary.	disciplines working	and knowledge from	intellectual frameworks
	together, each drawing	different disciplines,	beyond the disciplinary
	on their disciplinary	using a real synthesis	frameworks.
	knowledge.	of approaches.	
No cooperation with	Not focused on	Focused on problem	Solving problems by
other disciplines.	problem solving but	framing and solving	going beyond
	requires expert	from disciplinary	disciplinary perspective
	opinions.	perspectives.	to involving
			practitioners,
			beneficiaries and non-
			academia.
Development of a new	Members cooperate in	Perspectives are	New knowledge is
detailed discipline.	their contributions but	integrated with	generated through the
	do not integrate their	stronger levels of	use of multi and
	perspectives.	cooperation.	interdisciplinary
			concepts.
	Disciplinary theory	There is a common	Considered as the
	development.	understanding on	highest form of
		methodological	integration of all actors
		approaches,	in a participatory.
		epistemological and	
		ontological	
		perspectives.	

Source: Mumuni et al. (2015)